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(54) 名稱

抗 VEGF、PDGF 及／或其受體之結合蛋白

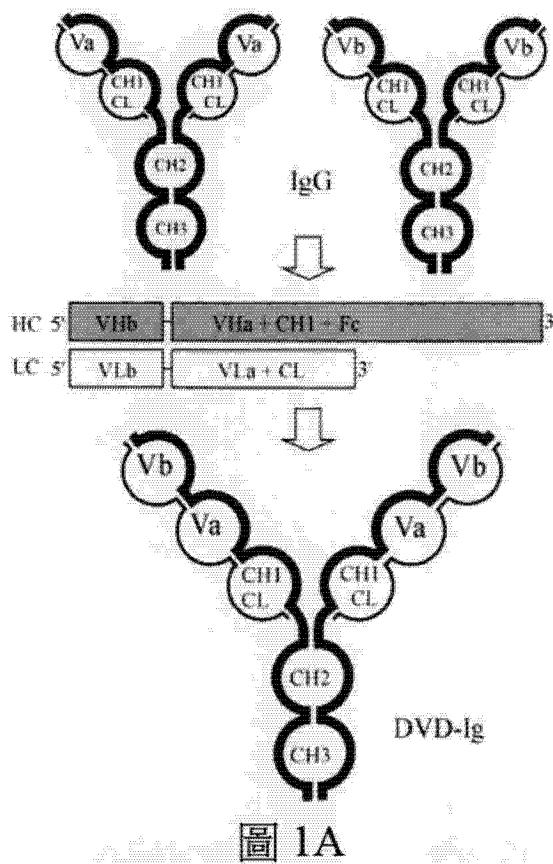
BINDING PROTEINS AGAINST VEGF, PDGF, AND/OR THEIR RECEPTORS

(57) 摘要

本發明揭示結合 VEGF、PDGF 及／或其受體中之一或多者之結合蛋白，包括抗體、CDR 移植抗體、人類化抗體、結合片段、融合蛋白及其雙特异性或多特异性蛋白質。本發明亦揭示製造及使用該等結合蛋白之方法。

Binding proteins that bind one or more of VEGF, PDGF and/or their receptors, including antibodies, CDR-grafted antibodies, humanized antibodies, binding fragments, fusion proteins, and bispecific or multispecific proteins thereof are disclosed. Also disclosed are methods of making and using the binding proteins.

指定代表圖：



發明專利說明書

(本說明書格式、順序，請勿任意更動)

【發明名稱】

抗 VEGF、PDGF 及/或其受體之結合蛋白

BINDING PROTEINS AGAINST VEGF, PDGF, AND/OR THEIR RECEPTORS

本國際申請案主張於 2015 年 6 月 15 日提出申請之美國臨時申請案第 62/175,546 號及於 2016 年 2 月 5 日提出申請之美國臨時申請案第 62/291,964 號的優先權，其各自係全文以引用方式併入本文中。

【技術領域】

本發明係關於結合血管內皮生長因子(VEGF)及/或血小板源性生長因子(PDGF)以及其受體之抗體及其抗原結合片段以及多價及多特异性結合蛋白，及製造及在診斷、預防及/或治療急性及慢性發炎性疾病、癌症及其他病症中使用構築體的方法。

【先前技術】

血管生成(自既有血管系統形成新血管)在許多疾病之發病機制中起作用，包括諸如年齡相關之黃斑變性(AMD)或糖尿病黃斑水腫(DME)等眼部疾病。血管內皮生長因子(VEGF)在調控正常及異常血管生成方面起作用(Ferrara 等人(1997) Endocr. Rev. 18:4-25)。業內(例如在美國專利第 7,169,901 號(其揭示用於抑制 VEGF 誘導之細胞增殖之 VEGF 抗體)及美國專利第 7,070,959 號(其揭示編碼能夠結合 VEGF 之融合蛋白之經分離核酸分子)中)提供若干抗 VEGF 劑。

用當前可用之治療劑靶向 VEGF 並非在所有患者中有效或無法有效地用於與發炎及/或血管生成相關之所有疾病。在抗 VEGF 單療

法後呈現較大非反應者群體，且疾病盛行率將僅隨全球老化群體增加而增加。

用於濕性 AMD 之當前較佳治療係由玻璃體內注射抗 VEGF 劑組成。然而，儘管抗 VEGF 療法會減少脈絡膜新血管形成，但其並不對成熟血管系統之退化具有作用。而且，當前藥劑無法提供抗纖維變性作用，因此一旦發生視網膜結癥，即無法恢復視覺敏銳度。現有治療方案之其他限制包括患者不適、需要重複注射且伴有固有併發症，包括眼內炎、視網膜撕裂及脫落、眼內出血及白內障形成。眼科醫師亟需提供針對大量患者之每月玻璃體內治療及光學同調斷層攝影(OCT)量測。因此，業內對具有較大效能或可較不頻繁地遞送且仍達成最佳效能之 AMD 治療劑存在顯著的醫療及經濟需要。

血小板源性生長因子(PDGF)係參與調控來自既有血管組織之血管的生長因子。PDGF 結合至新形成之異常血管中周細胞上之受體。此可能藉由例如在眼部病症(例如濕性 AMD)期間提供保護性周細胞包膜而有助於異常血管之新血管形成。

業內已知多種經改造蛋白質，例如抗體、片段及能夠結合兩種或更多種抗原之多特異性結合蛋白。該等多特異性結合蛋白可使用細胞融合、化學偶聯或重組 DNA 技術來產生。業內已知多種多特異性結合蛋白結構且許多結構及方法具有不同的缺點。

業內已使用四源雜交瘤(quadroma)技術產生雙特異性抗體。雙特異性抗體亦可藉由化學偶聯兩個不同的 mAb 來產生。其他方式包括用雜雙官能交聯劑偶合兩個親代抗體、產生串聯單鏈 Fv 分子、雙價抗體、雙特異性雙價抗體、單鏈雙價抗體及二-雙價抗體。另外，業內已闡述在 IgG 之重鏈中包含兩個 Fab 重複且能夠結合四個抗原分子之多價抗體構築體(參見 PCT 公開案第 WO 01/77342 號及 Miller 等人 (2003) J. Immunol. 170(9):4854-61)。

美國專利第 7,612,181 號(其全文以引用方式併入本文中)提供能夠以高親和力結合兩種或更多種抗原之新穎結合蛋白家族，其稱為雙可變結構域結合蛋白(DVD-Ig 結合蛋白)或雙可變結構域免疫球蛋白(DVD-Ig)。DVD-Ig 分子係可用於同時結合同一分子上之兩個不同表位或兩個不同分子之結合蛋白。DVD-Ig 分子係包含融合至 N 末端恆定區之兩個可變結構域之獨特的結合蛋白。可變結構域可直接彼此融合或經由各類長度及胺基酸組成之合成肽連接體連接。DVD-Ig 結合蛋白可經改造具有完整的功能性 Fc 結構域或以其他方式修飾之恆定結構域，以允許其調介適當效應物功能並展現其他期望性質。DVD-Ig 格式可提供新穎治療模式，此歸因於其可變結構域對之選擇之撓性、兩個抗原結合結構域的定向及連結其之連接體之長度。

因此，儘管 VEGF 單療法在業內已取得一定成功，但業內仍需要在與 VEGF 結合方面展現較佳靶向、效率及/或效能以及參與發炎(例如眼部發炎)之其他路徑(例如 PDGF 路徑)之經改良靶向的構築體。單獨或呈組合形式之該等分子中任一者之經改良靶向可在例如預防、診斷及/或治療病症(例如血管生成、發炎性及/或眼部病症)方面產生改良。而且，儘管業內已提供具有各種優點及缺點之多種結構，但新穎可變結構域序列可進一步改良靶向 VEGF 及/或 PDGF 或其同源受體之結合蛋白之性質。

【發明內容】

本文揭示能夠結合 VEGF 及/或 PDGF 及/或其同源受體之結合蛋白。在一些實施例中，結合蛋白係針對 VEGF 及/或 PDGF 之抗體或其抗原結合片段。在一些實施例中，結合蛋白為雙特異性且能夠結合 VEGF 及 PDGF。在一些實施例中，結合蛋白包含表 A、27-30、38-42、46-50 或 56-58 中任一者之一或多條序列或彼等序列之 CDR 胺基酸殘基。

在各個實施例中，結合蛋白係能夠結合 VEGF 及/或 PDGF 及/或其同源受體中之一或多者之雙特異性或多特異性結合蛋白。在一些實施例中，結合蛋白係使用美國專利第 7,612,181 號(其全文以引用方式併入本文中)中所揭示之結合蛋白框架之雙可變結構域免疫球蛋白(DVD-Ig 或 DVD-Ig 結合蛋白)。

在一些實施例中，DVD-Ig 結合蛋白含有具體第一及第二多肽鏈，其各自包含包括形成結合靶(例如 VEGF 及/或 PDGF 或其同源受體)之功能性結合位點之序列(例如，選自表 A、27-30、38-42、46-50 或 56-58 中所列示之彼等之序列或彼等序列之 CDR 胺基酸殘基)的第一及第二可變結構域。在一些實施例中，結合蛋白之第一及第二多肽鏈各自獨立地包含 VD1-(X1)_n-VD2-C-X2，其中 VD1 係第一可變結構域；VD2 係第二可變結構域；C 係恆定結構域；X1 係連接體；X2 係存在或不存在之 Fc 區；n 係 0 或 1，且其中第一及第二多肽鏈上之 VD1 結構域形成 VEGF、PDGF 或同源受體之第一功能性靶結合位點，且第一及第二多肽鏈上之 VD2 結構域形成 VEGF、PDGF 或同源受體之第二功能性靶結合位點。在一些實施例中，(a)結合蛋白之第一多肽鏈包含 VD1-(X1)_n-VD2-C-X2，其中 VD1 係第一重鏈可變結構域；VD2 係第二重鏈可變結構域；C 係重鏈恆定結構域；X1 係連接體；X2 係 Fc 區；且 n 係 0 或 1 (即，X1 及 X2 存在或不存在，此端視對於每一位置 n 是否獨立地經選擇為 0 或 1 而定)；及(b)結合蛋白之第二多肽鏈包含 VD1-(X1)_n-VD2-C-X2，其中 VD1 係第一輕鏈可變結構域；VD2 係第二輕鏈可變結構域；C 係輕鏈恆定結構域；X1 係連接體；X2 係 Fc 區；且對於 X1 n 係 0 或 1 且對於 X2 n 係 0 (即，Fc 區不存在於第二多肽鏈上)；及(c) 其中第一及第二多肽鏈上之 VD1 結構域形成 VEGF、PDGF 或同源受體之第一功能性靶結合位點，且第一及第二多肽鏈上之 VD2 結構域形成 VEGF、PDGF 或同源受體之第

二功能性靶結合位點。在一些實施例中，VD1 位置形成 VEGF 之結合位點且 VD2 位置形成 PDGF 之結合位點。在一些實施例中，VD1 及 VD2 位置處之 CDR 及/或可變結構域係抗體可變結構域，且恆定結構域係抗體恆定結構域。可在該等 DVD-Ig 結合蛋白結構中納入本文所揭示之 CDR 及/或可變結構域及/或第一及第二多肽鏈序列中之任一者，以形成 VEGF 及/或 PDGF 及/或其同源受體之結合結構域。

在一些實施例中，本文所揭示 DVD-Ig 構築體之第一及第二結合位點皆靶向 VEGF。在一些實施例中，第一及第二結合位點皆靶向 PDGF。在一些實施例中，第一結合位點靶向 VEGF 且第二結合位點靶向 PDGF。在一些實施例中，第一結合位點靶向 PDGF 且第二結合位點靶向 VEGF。在一些實施例中，Fc 結構域存在於一條多肽鏈上且不存在於另一條上，或不存在於兩條多肽鏈上。在一些實施例中，每一多肽鏈上第一及第二可變結構域之序列(即，VD1 及 VD2 位置)獨立地選自表 A、27-30、38-42、46-50 或 56-58 中之序列以形成功能性結合位點。在一些實施例中，第一及第二可變結構域之序列各自含有三個表 A、27-30、38-42、46-50 或 56-58 中所列示之所選序列之互補決定區(即，CDR 1-3)，且以與表中所顯示相同之順序排列，由此形成功能性結合位點(即，結合結構域能夠結合至其靶抗原 VEGF 或 PDGF)。在一些實施例中，使用表中之序列，第一及第二多肽鏈上之成對可變結構域序列(即，第一鏈上之 VD1 序列與第二鏈上之 VD1 序列配對且第一鏈上之 VD2 序列與第二鏈上之 VD2 序列配對)形成結合靶 VEGF 及/或 PDGF 之功能性結合位點。在一些實施例中，結合蛋白能夠結合至 VEGF 及/或 PDGF 且具有經改良之結合親和力及/或中和功效、經改良之活體內效能、經改良之表現及/或經改良之類藥性(例如，熱穩定性、儲存穩定性、溶解度等)。

本文亦揭示製造及使用所主張結合蛋白例如在檢測、抑制、減

輕、預防及/或治療癌症、腫瘤、纖維化、腎病、發炎、年齡相關之黃斑變性(AMD)、濕性 AMD、糖尿病視網膜病變、特徵在於異常 VEGF 及/或 PDGF 表現或活性之其他血管生成依賴性疾病或血管生成非依賴性疾病中的方法。

【圖式簡單說明】

圖 1A 及圖 1B 係雙可變結構域(DVD)結合蛋白構築體之示意圖。

圖 2A 及圖 2B 顯示抗 PDGF-BB 抗體及抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子對 ECM 締合之 PDGF-BB 之反應性。

圖 3 圖解說明根據 HUVEC/MSC 共培養出芽分析抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子對出芽之抑制。

圖 4 係顯示 Rho/huVEGF 轉基因小鼠中視網膜下新血管形成之面積之條形圖。

圖 5 係顯示 Rho/huVEGF 轉基因小鼠中脈絡膜新血管形成之面積之條形圖。

圖 6 係比較不同治療組之未經治療之眼睛中的脈絡膜新血管形成之條形圖。

圖 7 係顯示 Tet/視蛋白/VEGF 小鼠中部分、全部及未脫落眼睛之數量之條形圖。

【實施方式】

血管內皮生長因子(VEGF)係在胚胎發生、骨骼生長及生殖功能期間調控生理性血管生成之信號蛋白。VEGF 之異常表現參與病理性血管生成且與腫瘤、眼內新血管形成病症及其他疾病相關。VEGF 家族成員包括 VEGF-A、胎盤生長因子(PGF)、VEGF-B、VEGF-C 及 VEGF-D。存在 VEGF-A 之源自單個 8-外顯子 *VEGFA* 基因之選擇式剪接的多種同種型。VEGF 之生物效應受多個受體調介，該等受體包括兩個受體酪胺酸激酶，VEGF 受體-1 (VEGFR1)及 VEGF 受體-2

(VEGFR2)，其信號傳導性質不同。當細胞缺氧時，其產生低氧誘導因子(HIF)，其會釋放 VEGF 及其他調介劑從而觸發酪胺酸激酶路徑，使得血管生成(Ferrara 等人(2003) Nat. Med. 9:669-676)。在各個實施例中，本文所揭示之結合蛋白可結合一或多個 VEGF 家族成員，包括交替同種型，及/或可結合一或多個同源 VEGF 受體。

血小板源性生長因子(PDGF)係刺激間葉細胞及某些其他細胞類型之生長、存活及運動性之蛋白質。其在胚胎發育期間及在控制血管形成為成體方面具有重要功能。PDGF 係由兩個 A 鏈(-AA)、兩個 B 鏈(-BB)鏈或該兩者之組合(-AB)構成之二聚體糖蛋白構成。業內存在經由兩個受體 α (PDGFRA)及 β (PDGFRB)調節細胞反應之五種不同的 PDGF 同種型(Heldin (2013) Cell Commun. Sig. 11:97)。PDGF 在驅動未分化間質及一些祖細胞群體之增殖方面起重要作用。過度活性或不適當 PDGF 信號傳導與某些惡性疾病以及特徵在於過度細胞增殖之非惡性疾病及其他發炎性病症的發展相關。在各個實施例中，本文所揭示之結合蛋白可結合一或多種 PDGF 同種型，及/或可結合一或多個同源 PDGF 受體。

結合蛋白

本文揭示能夠結合 VEGF、PDGF 及其同源受體中之一或多者之結合蛋白。在一些實施例中，結合蛋白係抗體或其抗原結合片段。在實施例中，結合蛋白係抗體、單株抗體、鼠類抗體、人類抗體、人類化抗體、雙特異性抗體、嵌合抗體、Fab、Fab'、F(ab')₂、ScFv、SMIP、親和體、厄維體(avimer)、反向抗體、奈米抗體、fynomab、結構域抗體或前述任一者之抗原結合片段。在實施例中，結合蛋白包含能夠結合 VEGF、PDGF 及其同源受體中之一或多者之抗體重鏈可變結構域序列及抗體輕鏈可變結構域序列。在實施例中，結合蛋白包含表 27-30、38-42、46-50 中所揭示之任一結合位點之成對重鏈及輕

鏈可變結構域序列或彼等可變結構域的 CDR 序列。表中可變結構域之 CDR 序列係以粗體來識別。

在一些實施例中，本文所揭示之結合蛋白為雙特異性或多特異性。雙特異性或多特異性構築體可為單價或二價。業內已知多種雙特異性或多特異性構築體(例如，參見 Spiess 等人(2015) *Mol. Immunol.* 67; 95-106)。雙特異性或多特異性構築體包括(但不限於)不對稱雙特異性抗體、不對稱雙特異性 IgG4、CrossMab 結合蛋白、雙特異性抗體、雙特異性結合蛋白、多特異性結合蛋白、DAF (雙作用 Fab 抗體；二合一)、DAF (雙作用 Fab 抗體；四合一)、DutaMab、DT-IgG、隆突於孔洞中(knobs-in-holes)結合蛋白、電荷對結合蛋白、Fab 臂交換結合蛋白、SEED 體、三功能抗體(Triomab) (三功能抗體雙特異性四源雜交瘤或雙特異性瑞莫韋比(removab))、LUZ-Y、Fcab、 $\kappa\lambda$ 體、iMab (創新性多聚體)及正交 Fab。在一些實施例中，雙特異性或多特異性構築體係 DVD-Ig 結合蛋白、IgG(H)-scFv、scFv-(H)IgG、IgG(L)-scFv、scFv-(L)IgG、IgG(L、H)-Fv、IgG(H)-V、V(H)-IgG、IgG(L)-V、V(L)-IgG、KIH IgG-scFab、2scFv-IgG、IgG-2scFv、scFv4-Ig、Zybody 或 DVI-IgG (四合一)。在一些實施例中，雙特異性或多特異性構築體亦可為奈米抗體(或 VHH)、雙特異性串聯奈米抗體、雙特異性三價串聯奈米抗體、奈米抗體-HSA、BiTE(雙特異性 T 細胞銜接物)結合蛋白、雙價抗體、DART (雙親和力重靶向)結合蛋白、TandAb (四價雙特異性串聯抗體)、sc 雙價抗體、sc 雙價抗體-CH3、雙價抗體-CH3、三體、微抗體、微小抗體、TriBi 微小抗體、scFv-CH3 KIH、Fab-scFv、scFv-CH-CL-scFv、F(ab')₂、F(ab')₂ scFv₂、scFv-KIH、Fab-scFv-Fc、四價 HCAb、sc 雙價抗體-Fc、雙價抗體-Fc、串聯 scFv-Fc、Fabsc、bsFc-1/2、CODV-Ig (交叉雙可變免疫球蛋白)、biclomics 抗體或內抗體。雙特異性或多特異性構築體亦包括例如對接

及鎖定(Dock and Lock)結合蛋白、ImmTAC、HSA 體、sc 雙價抗體-HSA、串聯 scFv-毒素、IgG-IgG 結合蛋白、Cov-X-體及 scFv1-PEG-scFv2。在一些實施例中，雙特異性或多特異性構築體係 DVD-Ig 結合蛋白、CrossMab 結合蛋白、雙價抗體、串聯單鏈 Fv 分子、雙特異性雙價抗體、單鏈雙價抗體分子或二-雙價抗體。在一些實施例中，結合蛋白係 DVD-Ig 結合蛋白。例如，參見美國專利第 7,612,181 號(其係全文以引用方式併入本文中)。雙特異性或多特異性構築體可包含 VEGF、PDGF 及/或其受體之一或多個結合位點。雙特異性或多特異性構築體可僅包含 VEGF、PDGF 及/或其受體之結合位點或可包含其他抗原靶之其他結合位點。雙特異性或多特異性構築體可包含例如使用本文所揭示之彼等不同的 CDR 組或可變結構域之針對 VEGF、PDGF 及/或其受體上之一個以上表位之結合位點，以形成靶向不同表位之結合位點。

在各個實施例中，結合蛋白能夠結合 VEGF，且包含 SEQ ID NO: 17 之 CDR 1-3 及 SEQ ID NO: 18 之 CDR 1-3、SEQ ID NO: 19 之 CDR 1-3 及 SEQ ID NO: 20 之 CDR 1-3、SEQ ID NO: 21 之 CDR 1-3 及 SEQ ID NO: 22 之 CDR 1-3、SEQ ID NO: 23 之 CDR 1-3 及 SEQ ID NO: 24 之 CDR 1-3、SEQ ID NO: 25 之 CDR 1-3 及 SEQ ID NO: 26 之 CDR 1-3、SEQ ID NO: 27 之 CDR 1-3 及 SEQ ID NO: 28 之 CDR 1-3、SEQ ID NO: 29 之 CDR 1-3 及 SEQ ID NO: 30 之 CDR 1-3、SEQ ID NO: 31 之 CDR 1-3 及 SEQ ID NO: 32 之 CDR 1-3、SEQ ID NO: 33 之 CDR 1-3 及 SEQ ID NO: 34 之 CDR 1-3、SEQ ID NO: 35 之 CDR 1-3 及 SEQ ID NO: 36 之 CDR 1-3、SEQ ID NO: 37 之 CDR 1-3 及 SEQ ID NO: 38 之 CDR 1-3、SEQ ID NO: 39 之 CDR 1-3 及 SEQ ID NO: 40 之 CDR 1-3、SEQ ID NO: 41 之 CDR 1-3 及 SEQ ID NO: 42 之 CDR 1-3、或 SEQ ID NO: 43 之 CDR 1-3 及 SEQ ID NO: 44 之 CDR 1-3。在

實施例中，結合蛋白能夠結合 VEGF，且包含 SEQ ID NO: 17 及 SEQ ID NO: 18、SEQ ID NO: 19 及 SEQ ID NO: 20、SEQ ID NO: 21 及 SEQ ID NO: 22、SEQ ID NO: 23 及 SEQ ID NO: 24、SEQ ID NO: 25 及 SEQ ID NO: 26、SEQ ID NO: 27 及 SEQ ID NO: 28、SEQ ID NO: 29 及 SEQ ID NO: 30、SEQ ID NO: 31 及 SEQ ID NO: 32、SEQ ID NO: 33 及 SEQ ID NO: 34、SEQ ID NO: 35 及 SEQ ID NO: 36、SEQ ID NO: 37 及 SEQ ID NO: 38、SEQ ID NO: 39 及 SEQ ID NO: 40、SEQ ID NO: 41 及 SEQ ID NO: 42、或 SEQ ID NO: 43 及 SEQ ID NO: 44。能夠結合 VEGF 之該等結合蛋白中之任一者亦可能夠結合 PDGF，且可包含如本文所述之任一 PDGF 結合序列。

在各個實施例中，結合蛋白能夠結合 PDGF，且包含 SEQ ID NO: 1 之 CDR 1-3 及 SEQ ID NO: 2 之 CDR 1-3、SEQ ID NO: 3 之 CDR 1-3 及 SEQ ID NO: 4 之 CDR 1-3、SEQ ID NO: 5 之 CDR 1-3 及 SEQ ID NO: 6 之 CDR 1-3、SEQ ID NO: 7 之 CDR 1-3 及 SEQ ID NO: 8 之 CDR 1-3、SEQ ID NO: 9 之 CDR 1-3 及 SEQ ID NO: 10 之 CDR 1-3、SEQ ID NO: 11 之 CDR 1-3 及 SEQ ID NO: 12 之 CDR 1-3、SEQ ID NO: 13 之 CDR 1-3 及 SEQ ID NO: 14 之 CDR 1-3、SEQ ID NO: 15 之 CDR 1-3 及 SEQ ID NO: 16 之 CDR 1-3、或 SEQ ID NO: 211 之 CDR 1-3 及 SEQ ID NO: 212 之 CDR 1-3。在實施例中，結合蛋白能夠結合 PDGF，且包含 SEQ ID NO: 1 及 SEQ ID NO: 2、SEQ ID NO: 3 及 SEQ ID NO: 4、SEQ ID NO: 5 及 SEQ ID NO: 6、SEQ ID NO: 7 及 SEQ ID NO: 8、SEQ ID NO: 9 及 SEQ ID NO: 10、SEQ ID NO: 11 及 SEQ ID NO: 12、SEQ ID NO: 13 及 SEQ ID NO: 14、SEQ ID NO: 15 及 SEQ ID NO: 16、或 SEQ ID NO: 211 及 SEQ ID NO: 212。能夠結合 PDGF 之該等結合蛋白中之任一者亦可能夠結合 VEGF，且可包含如本文所述之任一 VEGF 結合序列。

在實施例中，結合蛋白係能夠結合 VEGF、PDGF 及其同源受體中之一或多者之雙特異性或多特異性抗體，或能夠結合靶之另一多特異性構築體。在某些實施例中，治療係用已藉由以下方式產生之雙特異性抗體來進行：四源雜交瘤技術(Milstein 及 Cuello (1983) Nature 305(5934): 537-40)、化學偶聯兩個不同的單株抗體(Staerz 等人(1985) Nature 314(6012): 628-31)或在 Fc 區中引入突變之隆突於孔洞中或類似方式(Holliger 等人(1993) Proc. Natl. Acad. Sci. USA 90(14): 6444-6448)。在一些實施例中，多特異性結合蛋白係雙可變結構域免疫球蛋白(DVD-Ig)，例如如美國專利第 7,612,181 號(其係全文以引用方式併入本文中)中所揭示。在實施例中，DVD-Ig 結合蛋白包含一或多個結合位點，該等結合位點包含表 27-30、38-42、46-50 或 56-58 中所揭示之任一結合位點之成對重鏈及輕鏈可變結構域序列或彼等可變結構域之 CDR 序列。例如，VEGF 之結合位點可包含表 27 或 38-42 中任一者之一組成對重鏈及輕鏈可變結構域序列或彼等序列之 CDR 區，而 PDGF 可包含表 28 或 46-50 中之成對重鏈及輕鏈可變結構域序列或彼等序列之 CDR 區。該等序列中一些之 CDR 區顯示於表 A 及表 57 中。

在一些實施例中，本文所揭示之多特異性結合蛋白能夠結合 VEGF 及 PDGF，且允許與組合抗體療法相比較少之注射或較低之活性劑濃度。

在一些實施例中，DVD-Ig 結合蛋白包含各自獨立地包含 VD1-(X1)_n-VD2-C-X2 之第一及第二多肽鏈，其中：VD1 係第一可變結構域；VD2 係第二可變結構域；C 係恆定結構域；X1 係連接體；X2 係存在或不存在之 Fc 區；在第一及第二鏈上 n 獨立地係 0 或 1，且其中第一及第二多肽鏈上之 VD1 結構域形成第一功能性靶結合位點，且第一及第二多肽鏈上之 VD2 結構域形成第二功能性靶結合位點。

在一些實施例中，結合蛋白能夠例如使用表 27-30、38-42、46-50 或 56-58 中任一者之一組成對序列結合 VEGF、PDGF 及其同源受體中之一或多者。在一些實施例中，結合蛋白包含第一及第二多肽鏈上之 VD1 序列(即，第一鏈上之 VD1 序列與第二鏈上之 VD1 序列配對)，該等 VD1 序列一起形成能夠結合選自 VEGF、PDGF 及其同源受體之靶之結合結構域。在一些實施例中，結合蛋白能夠結合 VD1 及 VD2 位置二者處之 VEGF。在一些實施例中，結合蛋白能夠結合 VD1 及 VD2 位置二者處之 PDGF。在一些實施例中，結合蛋白能夠結合 VD1 位置處之 VEGF 及 VD2 位置處之 PDGF。在一些實施例中，結合蛋白能夠結合 VD1 位置處之 PDGF 及 VD2 位置處之 VEGF。

當結合蛋白包含選自表 27-30、38-42、46-50 或 56-58 中之任一者之序列之 CDR 時，CDR 係以藉由表中之序列指定且藉由適宜框架序列分開之順序排列以形成功能性結合位點。選自形成靶之功能性結合位點(例如，VEGF 及/或 PDGF 之結合位點)之表的成對序列或彼等序列的 CDR 可位於第一及第二多肽鏈上之 VD1 或 VD2 位置以形成 VD1 或 VD2 結構域處之結合位點。

本文所揭示之結合蛋白包含能夠結合至第一及第二靶抗原之 VD1 及 VD2 結合結構域。如本文所用，VD1 結構域或 VD2 結構域或 VD1 位置或 VD2 位置可指一條多肽鏈(例如，VD1 重鏈序列)上之可變結構域序列或第一及第二多肽鏈二者(例如，VD1 重鏈序列及 VD1 輕鏈序列)上之可變結構域序列，該等可變結構域序列一起形成功能性結合位點，如論述其之上下文所指示。

在一些實施例中，DVD-Ig 結合蛋白可包含兩條第一多肽鏈及兩條第二多肽鏈，從而在構築體之兩個臂上形成四個功能性結合位點。具有兩個臂、每一臂皆包含第一及第二多肽鏈及兩個功能性結合位點之四鏈結構之實例顯示於圖 1 中。

在實施例中，DVD-Ig 結合蛋白能夠結合 VEGF 及 PDGF，其中 VEGF 之結合位點包含 SEQ ID NO: 17 之 CDR 1-3 及 SEQ ID NO: 18 之 CDR 1-3、SEQ ID NO: 19 之 CDR 1-3 及 SEQ ID NO: 20 之 CDR 1-3、SEQ ID NO: 21 之 CDR 1-3 及 SEQ ID NO: 22 之 CDR 1-3、SEQ ID NO: 23 之 CDR 1-3 及 SEQ ID NO: 24 之 CDR 1-3、SEQ ID NO: 25 之 CDR 1-3 及 SEQ ID NO: 26 之 CDR 1-3、SEQ ID NO: 27 之 CDR 1-3 及 SEQ ID NO: 28 之 CDR 1-3、SEQ ID NO: 29 之 CDR 1-3 及 SEQ ID NO: 30 之 CDR 1-3、SEQ ID NO: 31 之 CDR 1-3 及 SEQ ID NO: 32 之 CDR 1-3、SEQ ID NO: 33 之 CDR 1-3 及 SEQ ID NO: 34 之 CDR 1-3、SEQ ID NO: 35 之 CDR 1-3 及 SEQ ID NO: 36 之 CDR 1-3、SEQ ID NO: 37 之 CDR 1-3 及 SEQ ID NO: 38 之 CDR 1-3、SEQ ID NO: 39 之 CDR 1-3 及 SEQ ID NO: 40 之 CDR 1-3、SEQ ID NO: 41 之 CDR 1-3 及 SEQ ID NO: 42 之 CDR 1-3、或 SEQ ID NO: 43 之 CDR 1-3 及 SEQ ID NO: 44 之 CDR 1-3。在實施例中，VEGF 之結合位點包含 SEQ ID NO: 17 及 SEQ ID NO: 18、SEQ ID NO: 19 及 SEQ ID NO: 20、SEQ ID NO: 21 及 SEQ ID NO: 22、SEQ ID NO: 23 及 SEQ ID NO: 24、SEQ ID NO: 25 及 SEQ ID NO: 26、SEQ ID NO: 27 及 SEQ ID NO: 28、SEQ ID NO: 29 及 SEQ ID NO: 30、SEQ ID NO: 31 及 SEQ ID NO: 32、SEQ ID NO: 33 及 SEQ ID NO: 34、SEQ ID NO: 35 及 SEQ ID NO: 36、SEQ ID NO: 37 及 SEQ ID NO: 38、SEQ ID NO: 39 及 SEQ ID NO: 40、SEQ ID NO: 41 及 SEQ ID NO: 42、或 SEQ ID NO: 43 及 SEQ ID NO: 44。

在實施例中，揭示能夠結合 VEGF 及 PDGF 之 DVD-Ig 結合蛋白，其中 PDGF 之結合位點包含 SEQ ID NO: 1 之 CDR 1-3 及 SEQ ID NO: 2 之 CDR 1-3、SEQ ID NO: 3 之 CDR 1-3 及 SEQ ID NO: 4 之 CDR 1-3、SEQ ID NO: 5 之 CDR 1-3 及 SEQ ID NO: 6 之 CDR 1-3、SEQ ID

NO: 7 之 CDR 1-3 及 SEQ ID NO: 8 之 CDR 1-3、SEQ ID NO: 9 之 CDR 1-3 及 SEQ ID NO: 10 之 CDR 1-3、SEQ ID NO: 11 之 CDR 1-3 及 SEQ ID NO: 12 之 CDR 1-3、SEQ ID NO: 13 之 CDR 1-3 及 SEQ ID NO: 14 之 CDR 1-3、SEQ ID NO: 15 之 CDR 1-3 及 SEQ ID NO: 16 之 CDR 1-3、或 SEQ ID NO: 211 之 CDR 1-3 及 SEQ ID NO: 212 之 CDR 1-3。在實施例中，PDGF 之結合位點包含 SEQ ID NO: 1 及 SEQ ID NO: 2、SEQ ID NO: 3 及 SEQ ID NO: 4、SEQ ID NO: 5 及 SEQ ID NO: 6、SEQ ID NO: 7 及 SEQ ID NO: 8、SEQ ID NO: 9 及 SEQ ID NO: 10、SEQ ID NO: 11 及 SEQ ID NO: 12、SEQ ID NO: 13 及 SEQ ID NO: 14、SEQ ID NO: 15 及 SEQ ID NO: 16、或 SEQ ID NO: 211 及 SEQ ID NO: 212。

在實施例中，DVD-Ig 結合蛋白能夠結合 VEGF 及 PDGF，其中 VEGF 之結合位點包含 SEQ ID NO: 17 之 CDR 1-3 及 SEQ ID NO: 18 之 CDR 1-3、SEQ ID NO: 19 之 CDR 1-3 及 SEQ ID NO: 20 之 CDR 1-3、SEQ ID NO: 21 之 CDR 1-3 及 SEQ ID NO: 22 之 CDR 1-3、SEQ ID NO: 23 之 CDR 1-3 及 SEQ ID NO: 24 之 CDR 1-3、SEQ ID NO: 25 之 CDR 1-3 及 SEQ ID NO: 26 之 CDR 1-3、SEQ ID NO: 27 之 CDR 1-3 及 SEQ ID NO: 28 之 CDR 1-3、SEQ ID NO: 29 之 CDR 1-3 及 SEQ ID NO: 30 之 CDR 1-3、SEQ ID NO: 31 之 CDR 1-3 及 SEQ ID NO: 32 之 CDR 1-3、SEQ ID NO: 33 之 CDR 1-3 及 SEQ ID NO: 34 之 CDR 1-3、SEQ ID NO: 35 之 CDR 1-3 及 SEQ ID NO: 36 之 CDR 1-3、SEQ ID NO: 37 之 CDR 1-3 及 SEQ ID NO: 38 之 CDR 1-3、SEQ ID NO: 39 之 CDR 1-3 及 SEQ ID NO: 40 之 CDR 1-3、SEQ ID NO: 41 之 CDR 1-3 及 SEQ ID NO: 42 之 CDR 1-3、或 SEQ ID NO: 43 之 CDR 1-3 及 SEQ ID NO: 44 之 CDR 1-3；且 PDGF 之結合位點包含 SEQ ID NO: 1 之 CDR 1-3 及 SEQ ID NO: 2 之 CDR 1-3、SEQ ID NO: 3 之 CDR 1-3

及 SEQ ID NO: 4 之 CDR 1-3、SEQ ID NO: 5 之 CDR 1-3 及 SEQ ID NO: 6 之 CDR 1-3、SEQ ID NO: 7 之 CDR 1-3 及 SEQ ID NO: 8 之 CDR 1-3、SEQ ID NO: 9 之 CDR 1-3 及 SEQ ID NO: 10 之 CDR 1-3、SEQ ID NO: 11 之 CDR 1-3 及 SEQ ID NO: 12 之 CDR 1-3、SEQ ID NO: 13 之 CDR 1-3 及 SEQ ID NO: 14 之 CDR 1-3、SEQ ID NO: 15 之 CDR 1-3 及 SEQ ID NO: 16 之 CDR 1-3、或 SEQ ID NO: 211 之 CDR 1-3 及 SEQ ID NO: 212 之 CDR 1-3。在實施例中，VEGF 之結合位點包含 SEQ ID NO: 17 及 SEQ ID NO: 18、SEQ ID NO: 19 及 SEQ ID NO: 20、SEQ ID NO: 21 及 SEQ ID NO: 22、SEQ ID NO: 23 及 SEQ ID NO: 24、SEQ ID NO: 25 及 SEQ ID NO: 26、SEQ ID NO: 27 及 SEQ ID NO: 28、SEQ ID NO: 29 及 SEQ ID NO: 30、SEQ ID NO: 31 及 SEQ ID NO: 32、SEQ ID NO: 33 及 SEQ ID NO: 34、SEQ ID NO: 35 及 SEQ ID NO: 36、SEQ ID NO: 37 及 SEQ ID NO: 38、SEQ ID NO: 39 及 SEQ ID NO: 40、SEQ ID NO: 41 及 SEQ ID NO: 42、或 SEQ ID NO: 43 及 SEQ ID NO: 44；且 PDGF 之結合位點包含 SEQ ID NO: 1 及 SEQ ID NO: 2、SEQ ID NO: 3 及 SEQ ID NO: 4、SEQ ID NO: 5 及 SEQ ID NO: 6、SEQ ID NO: 7 及 SEQ ID NO: 8、SEQ ID NO: 9 及 SEQ ID NO: 10、SEQ ID NO: 11 及 SEQ ID NO: 12、SEQ ID NO: 13 及 SEQ ID NO: 14、SEQ ID NO: 15 及 SEQ ID NO: 16、或 SEQ ID NO: 211 及 SEQ ID NO: 212。

在各個實施例中，DVD-Ig 結合蛋白能夠結合 VEGF 及 PDGF，其中 VEGF 之結合位點包含 SEQ ID NO: 35 之 CDR 1-3 及 SEQ ID NO: 36 之 CDR-1-3，且 PDGF 之結合位點包含 SEQ ID NO: 15 之 CDR 1-3 及 SEQ ID NO: 16 之 CDR 1-3。在實施例中，VEGF 之結合位點包含 SEQ ID NO: 35 及 SEQ ID NO: 36，且 PDGF 之結合位點包含 SEQ ID NO: 15 及 SEQ ID NO: 16。在該等實施例中之任一者中，

VEGF 之結合位點可為如本文所述之外部結合結構域或 VD1 位置，且 PDGF 之結合位點可為如本文所述之內部結構域或 VD2 位置。在各個實施例中，本文所揭示之任一 DVD-Ig 結合蛋白可包含表 55 中所顯示之一或多個 X1 連接體。在實施例中，重鏈上之 X1 連接體係 GS-H10 連接體，且輕鏈上之 X1 連接體係 GS-L10(dR)連接體。在實施例中，重鏈上之 X1 連接體係 GS-H10 連接體，且輕鏈上之 X1 連接體係 GS-L10 連接體。在實施例中，重鏈上之 X1 連接體係 HG 短連接體，且輕鏈上之 X1 連接體係 LK 長連接體。

在各個實施例中，本文所揭示抗體、結合蛋白或 DVD-Ig 結合蛋白中之任一者可包含第一多肽鏈上之人類 IgG (例如，IgG1)重鏈恆定區，該重鏈恆定區包含在位置 234 及 235 處用丙胺酸取代白胺酸亦及視情況(或另一選擇)在位置 435 處用丙胺酸取代組胺酸，其中胺基酸位置係使用 EU 索引編號來編號。在各個實施例中，抗體、結合蛋白或 DVD-Ig 結合蛋白亦可包含第二多肽鏈上之人類 κ 或 λ 輕鏈恆定區。在實施例中，輕鏈包含野生型人類 κ 輕鏈恆定區序列。

在實施例中，DVD-Ig 結合蛋白能夠結合 VEGF 及 PDGF，且包含 PR-1610561 (包含 SEQ ID NO: 131 及 132)。在實施例中，結合蛋白包含第一多肽鏈上包含藉由一或多個胺基酸變化修飾之人類 IgG1 重鏈序列之重鏈恆定區，其中該等變化包含在位置 234 及 235 處用丙胺酸取代白胺酸，且視情況亦包含在位置 435 處用丙胺酸取代組胺酸，其中胺基酸位置係使用 EU 索引編號來編號；及第二多肽鏈上包含人類 κ 輕鏈恆定區序列之輕鏈恆定區。在實施例中，結合蛋白包含在位置 234 及 235 處用丙胺酸取代白胺酸且在位置 435 處用丙胺酸取代組胺酸之 IgG1 恆定區，其中胺基酸位置係使用 EU 索引編號來編號；及第二多肽鏈上包含人類 κ 輕鏈恆定區序列之輕鏈恆定區。在一些實施例中，L234A、L235A 及 H435 突變存在於包含 PR-1610561 (包含

SEQ ID NO: 131 及 132)之 DVD-Ig 結合蛋白中。在一些實施例中，與抗體相比或與缺少恆定區突變之相同結合蛋白相比，攜載恆定區突變之結合蛋白具有比抗體延長的眼部持續時間，但自體循環快速清除(例如，藉由改變 FcRn 識別)。在一些實施例中，較長眼部持續時間允許較不頻繁地投與及/或較少總注射，同時達成與投與抗 VEGF 及抗 PDGF 抗體之組合相比或與投與缺少恆定區突變之結合蛋白相比相當或經改良之效能。在一些實施例中，與投與缺少恆定區突變之結合蛋白相比，攜載恆定區突變之結合蛋白具有增加的由與細胞外基質締合之 VEGF-A 及/或 PDGF-BB 結合調介之 ADCC 及 CDC 效應物功能。在一些實施例中，攜載恆定區突變之結合蛋白並不與一或多個 Fc- γ 受體結合。在一些實施例中，在以靜脈內濃注投藥投與 1 mg/kg、2 mg/kg、3 mg/kg、4 mg/kg、5 mg/kg、6 mg/kg、7 mg/kg、8 mg/kg、9 mg/kg、10 mg/kg 或更大(或其間之任一濃度)後少於 20 小時、25 小時、30 小時、35 小時或 40 小時後，患者中結合蛋白之全身含量下降至可檢測含量以下。

在實施例中，DVD-Ig 結合蛋白能夠結合 VEGF 及 PDGF，其中 VEGF 之結合位點包含 SEQ ID NO: 17 之 CDR 1-3 及 SEQ ID NO: 18 之 CDR-1-3，且 PDGF 之結合位點包含 SEQ ID NO: 1 之 CDR 1-3 及 SEQ ID NO: 2 之 CDR-1-3。在實施例中，VEGF 之結合位點包含 SEQ ID NO: 17 及 SEQ ID NO: 18，且 PDGF 之結合位點包含 SEQ ID NO: 1 及 SEQ ID NO: 2。在實施例中，DVD-Ig 結合蛋白能夠結合 VEGF 及 PDGF，其中 VEGF 之結合位點包含 SEQ ID NO: 39 之 CDR 1-3 及 SEQ ID NO: 40 之 CDR-1-3，且 PDGF 之結合位點包含 SEQ ID NO: 15 之 CDR 1-3 及 SEQ ID NO: 16 之 CDR 1-3。在實施例中，VEGF 之結合位點包含 SEQ ID NO: 39 及 SEQ ID NO: 40，且 PDGF 之結合位點包含 SEQ ID NO: 15 及 SEQ ID NO: 16。在該等實施例中之任一者

中，VEGF 之結合位點可為如本文所述之外部結合結構域或 VD1 序列，且 PDGF 之結合位點可為如本文所述之內部結構域或 VD2 序列。在各個實施例中，結合蛋白可包含表 55 中所顯示之一或多個 X1 連接體。在實施例中，重鏈上之 X1 連接體係 GS-H10 連接體，且輕鏈上之 X1 連接體係 GS-L10(dR)連接體。在實施例中，重鏈上之 X1 連接體係 GS-H10 連接體，且輕鏈上之 X1 連接體係 GS-L10 連接體。在實施例中，重鏈上之 X1 連接體係 HG 短連接體，且輕鏈上之 X1 連接體係 LK 長連接體。在實施例中，結合蛋白能夠結合 VEGF 及 PDGF，且包含 PR-1572102 (包含 SEQ ID NO: 88 及 89)或 PR-1572105 (包含 SEQ ID NO: 94 及 95)或 PR1611292 (包含 SEQ ID NO: 141 及 142)。在實施例中，結合蛋白包含第一多肽鏈上包含藉由一或多個胺基酸變化修飾之人類 IgG1 重鏈序列之重鏈恆定區，其中該等變化包含在位置 234 及 235 處用丙胺酸取代白胺酸，且視情況亦包含在位置 435 處用丙胺酸取代組胺酸，其中胺基酸位置係使用 EU 索引編號來編號；及第二多肽鏈上包含人類 κ 輕鏈恆定區序列之輕鏈恆定區。

在實施例中，DVD-Ig 結合蛋白包含表 56-58 中所揭示之任一 DVD-Ig 結合蛋白之第一及第二多肽鏈。表 56-58 中可變結構域之 CDR 序列以粗體表示且連接體序列以斜體表示。

在實施例中，DVD-Ig 結合蛋白包含以下各項之第一及第二多肽鏈：PR-1563988 (包含 SEQ ID NO: 45 及 46)、PR-1563990 (包含 SEQ ID NO: 47 及 48)、PR-1563998 (包含 SEQ ID NO: 49 及 50)、PR-1564009 (包含 SEQ ID NO: 51 及 52)、PR-1564010 (包含 SEQ ID NO: 53 及 54)、PR-1564011 (包含 SEQ ID NO: 55 及 56)、PR-1564012 (包含 SEQ ID NO: 57 及 58)、PR-1564013 (包含 SEQ ID NO: 59 及 60)、PR-1565031 (包含 SEQ ID NO: 76 及 77)、PR-1565032 (包含 SEQ ID

NO: 78 及 79)、PR-1565035 (包含 SEQ ID NO: 80 及 81)、PR-1572102 (包含 SEQ ID NO: 88 及 89)、PR-1572103 (包含 SEQ ID NO: 90 及 91)、PR-1572104 (包含 SEQ ID NO: 92 及 93)、PR-1572105 (包含 SEQ ID NO: 94 及 95)、PR-1572106 (包含 SEQ ID NO: 96 及 97)、PR-1575832 (包含 SEQ ID NO: 99 及 100)、PR-1575834 (包含 SEQ ID NO: 101 及 102)、PR-1575835 (包含 SEQ ID NO: 103 及 104)、PR-1577165 (包含 SEQ ID NO: 105 及 106)、PR-1577166 (包含 SEQ ID NO: 107 及 108)、PR-1577547 (包含 SEQ ID NO: 109 及 110)、PR-1577548 (包含 SEQ ID NO: 111 及 112)、PR-1577550 (包含 SEQ ID NO: 113 及 114)、PR-1578137 (包含 SEQ ID NO: 116 及 117)、PR-1610560 (包含 SEQ ID NO: 129 及 130)、PR-1610561 (包含 SEQ ID NO: 131 及 132)、PR-1610562 (包含 SEQ ID NO: 133 及 134)、PR-1610563 (包含 SEQ ID NO: 135 及 136)、PR-1611291 (包含 SEQ ID NO: 139 及 140)、PR-1611292 (包含 SEQ ID NO: 141 及 142)、PR-1612489 (包含 SEQ ID NO: 161 及 162)、PR-1612491 (包含 SEQ ID NO: 163 及 164)、PR-1612492 (包含 SEQ ID NO: 165 及 166)、PR-1612495 (包含 SEQ ID NO: 171 及 172)、PR-1612496 (包含 SEQ ID NO: 173 及 174)、PR-1612499 (包含 SEQ ID NO: 177 及 178)、PR-1612500 (包含 SEQ ID NO: 179 及 180)、PR-1612501 (包含 SEQ ID NO: 181 及 182)、PR-1612502 (包含 SEQ ID NO: 183 及 184)、PR-1613183 (包含 SEQ ID NO: 185 及 186)、PR-1613184 (包含 SEQ ID NO: 187 及 188)、PR-1613185 (包含 SEQ ID NO: 189 及 190)、PR-1613190 (包含 SEQ ID NO: 199 及 200)、PR-1565040 (包含 SEQ ID NO: 209 及 210)、PR-1565042 (包含 SEQ ID NO: XX 及 YY)、PR-1565044 (包含 SEQ ID NO: 213 及 214)、PR-1565051 (包含 SEQ ID NO: 215 及 216)、PR-1565083 (包含 SEQ ID NO: 217 及 218)、PR-1565084 (包含 SEQ ID

NO: 219 及 220)、PR-1565085 (包含 SEQ ID NO: 221 及 222)、PR-1565086 (包含 SEQ ID NO: 223 及 224)、PR-1571821 (包含 SEQ ID NO: 225 及 226)、PR-1571823 (包含 SEQ ID NO: 227 及 228)、PR-1575521 (包含 SEQ ID NO: 229 及 230)、PR-1571824 (包含 SEQ ID NO: 231 及 232)、PR-1571825 (包含 SEQ ID NO: 233 及 234)、PR-1571826 (包含 SEQ ID NO: 235 及 236)、PR-1571827 (包含 SEQ ID NO: 237 及 238)、PR-1571828 (包含 SEQ ID NO: 239 及 240)、PR-1571830 (包含 SEQ ID NO: 241 及 242)、PR-1571831 (包含 SEQ ID NO: 243 及 244)、PR-1571832 (包含 SEQ ID NO: 245 及 246)、PR-1571836 (包含 SEQ ID NO: 247 及 248)、PR-1577053 (包含 SEQ ID NO: 249 及 250)或 PR-1577056 (包含 SEQ ID NO: 251 及 252)。

在一些實施例中，結合蛋白(包括 DVD-Ig 結合蛋白、抗體或其片段)能夠結合 VEGF 及/或 PDGF，且與表 27、28、38-42 或 46-50 中任一序列之 CDR 1-3 或與完整可變結構域具有至少約 80%、90%、95%、或 99%同源性。如本文所用術語同源性百分數(%)定義在胺基酸序列變體中在例如使用 BLAST 比對軟體比對該等序列且引入空位及其他間距後相同之殘基的百分比。

在實施例中，結合蛋白具有與一或多個靶至少約 $10^2\text{M}^{-1}\text{s}^{-1}$ 、至少約 $10^3\text{M}^{-1}\text{s}^{-1}$ 、至少約 $10^4\text{M}^{-1}\text{s}^{-1}$ 、至少約 $10^5\text{M}^{-1}\text{s}^{-1}$ 或至少約 $10^6\text{M}^{-1}\text{s}^{-1}$ 之結合速率常數(K_{on})，如藉由表面電漿子共振所量測。在實施例中，結合蛋白具有與一或多個靶約 $10^2\text{M}^{-1}\text{s}^{-1}$ 至約 $10^3\text{M}^{-1}\text{s}^{-1}$ 、約 $10^3\text{M}^{-1}\text{s}^{-1}$ 至約 $10^4\text{M}^{-1}\text{s}^{-1}$ 、約 $10^4\text{M}^{-1}\text{s}^{-1}$ 至約 $10^5\text{M}^{-1}\text{s}^{-1}$ 或約 $10^5\text{M}^{-1}\text{s}^{-1}$ 至約 $10^6\text{M}^{-1}\text{s}^{-1}$ 之結合速率常數(K_{on})，如藉由表面電漿共振所量測。

在實施例中，結合蛋白具有對一或多個靶至多約 10^{-3}s^{-1} 、至多約 10^{-4}s^{-1} 、至多約 10^{-5}s^{-1} 或至多約 10^{-6}s^{-1} 之離解速率常數(K_{off})，如藉由表面電漿子共振所量測。在實施例中，結合蛋白具有與一或多個靶約

10^{-3}s^{-1} 至約 10^{-4}s^{-1} 、約 10^{-4}s^{-1} 至約 10^{-5}s^{-1} 或約 10^{-5}s^{-1} 至約 10^{-6}s^{-1} 之離解速率常數(K_{off})，如藉由表面電漿子共振所量測。

在實施例中，結合蛋白具有與一或多個靶至多約 10^{-7}M 、至多約 10^{-8}M 、至多約 10^{-9}M 、至多約 10^{-10}M 、至多約 10^{-11}M 、至多約 10^{-12}M 或至多 10^{-13}M 之解離常數(K_{d})。在實施例中，結合蛋白具有與其靶約 10^{-7}M 至約 10^{-8}M 、約 10^{-8}M 至約 10^{-9}M 、約 10^{-9}M 至約 10^{-10}M 、約 10^{-10}M 至約 10^{-11}M 、約 10^{-11}M 至約 10^{-12}M 或約 10^{-12}M 至約 10^{-13}M 之解離常數(K_{d})。

在實施例中，結合蛋白係進一步包含藥劑之偶聯物。在實施例中，藥劑為免疫黏附分子、顯影劑、治療劑或細胞毒性劑。在實施例中，顯影劑為放射標記、酶、螢光標記、發光標記、生物發光標記、磁性標記或生物素。在另一實施例中，放射標記係 ^3H 、 ^{14}C 、 ^{35}S 、 ^{90}Y 、 ^{99}Tc 、 ^{111}In 、 ^{125}I 、 ^{131}I 、 ^{177}Lu 、 ^{166}Ho 或 ^{153}Sm 。在另一實施例中，治療或細胞毒性劑係抗代謝物、烷基化劑、抗生素、生長因子、細胞介素、抗血管生成劑、抗有絲分裂劑、蔥環、毒素或細胞凋亡劑或免疫抑制劑。

在實施例中，結合蛋白係結晶結合蛋白且以晶體形式存在。在實施例中，晶體係不含載劑之醫藥受控釋放晶體。在另一實施例中，結晶結合蛋白具有長於結合蛋白之可溶性對應部分之活體內半衰期。在另一實施例中，結晶結合蛋白保留生物活性。

在某些實施例中，本文所揭示之結合蛋白可與本文所揭示抗體、結合蛋白或雙特異性抗體中之任一者競爭結合至 VEGF、PDGF 及/或同源受體。在某些實施例中，本文所揭示之結合蛋白可與包含選自表 27、28、38-42 或 46-50 中所鑑別之 CDR 及/或可變結構域之彼等的抗體、結合蛋白或雙特異性抗體競爭結合。在某些實施例中，本文所揭示之結合蛋白可與 PR-1610561 (包含 SEQ ID NO: 131 及 132) 或包

含 PR-1610561 之 CDR 及/或可變結構域之結合蛋白競爭結合。在某些實施例中，本文所揭示之結合蛋白可與 PR-1572102 (包含 SEQ ID NO: 88 及 89)或 PR-1572105 (包含 SEQ ID NO: 94 及 95)或 PR1611292 (包含 SEQ ID NO: 141 及 142)競爭結合。

根據某些實施例，本文所揭示之結合蛋白可結合至 VEGF、PDGF 及/或同源受體之與本文所揭示抗體、結合蛋白或雙特異性抗體中之任一者相同之表位。在某些實施例中，本文所揭示之結合蛋白可結合至 VEGF、PDGF 及/或同源受體之包含選自表 27、28、38-42 或 46-50 中所鑑別之 CDR 及/或可變結構域之彼等的抗體、結合蛋白或雙特異性抗體所結合之相同表位。在某些實施例中，本文所揭示之結合蛋白可結合至與 PR-1610561 (包含 SEQ ID NO: 131 及 132)或包含 PR-1610561 之 CDR 及/或可變結構域之結合蛋白相同的表位。在某些實施例中，本文所揭示之結合蛋白結合至與 PR-1572102 (包含 SEQ ID NO: 88 及 89)或 PR-1572105 (包含 SEQ ID NO: 94 及 95)或 PR1611292 (包含 SEQ ID NO: 141 及 142)相同之表位。

在某些實施例中，競爭性結合可使用交叉阻斷分析(例如 ANTIBODIES, A LABORATORY MANUAL, Cold Spring Harbor Laboratory, Harlow 及 David Lane 編輯(第 1 版，1988，第 2 版，2014)中所述之分析)來評估。在一些實施例中，當在交叉阻斷分析中測試抗體或結合蛋白使參照抗體或結合蛋白(例如，包含選自表 27、28、38-42 或 46-50 中所鑑別之 CDR 及/或可變結構域之彼等的結合蛋白)與 VEGF、PDGF 及/或同源受體之結合減小至少約 50% (例如，50%、60%、70%、80%、90%、95%、99%、99.5%或更大或其間之任一百分比)時，鑑別為競爭性結合，及/或反之亦然。在一些實施例中，競爭性結合可歸因於共用或相似(例如，部分重疊)之表位或歸因於抗體或結合蛋白在靠近表位處結合之立體阻礙。例如，參見 Tzartos,

Methods in Molecular Biology, 第 66 卷, Epitope Mapping Protocols, 第 55-66 頁, Humana Press Inc. (1998)。在一些實施例中, 可利用競爭性結合對共用相似表位之結合蛋白分組, 例如, 競爭結合之彼等可「分倉」為一組具有重疊或靠近表位之結合蛋白, 而不競爭之彼等位於不具重疊或靠近表位之單獨結合蛋白組中。

在實施例中, 本文所述之結合蛋白經糖基化。舉例而言, 糖基化模式可為人類糖基化模式。

在各個實施例中, 提供包含本文所揭示之結合蛋白及醫藥上可接受之載劑之醫藥組合物。在另一實施例中, 醫藥組合物包含至少一種其他藥劑, 例如用於治療病症之治療劑或診斷劑。舉例而言, 其他藥劑可為治療劑、顯影劑、細胞毒性劑、血管生成抑制劑(包括(但不限於)抗 VEGF 抗體或 VEGF 捕集物)、激酶抑制劑(包括(但不限於) KDR 及 TIE-2 抑制劑)、共刺激分子阻斷劑(包括(但不限於)抗 B7.1、抗 B7.2、CTLA4-Ig、抗 CD20)、黏附分子阻斷劑(包括(但不限於)抗 LFA-1 抗體、抗 E/L 選擇素抗體、小分子抑制劑)、抗細胞介素抗體或其功能性片段(包括(但不限於)抗 IL-18、抗 TNF 及抗 IL-6/細胞介素受體抗體)、胺甲喋呤(methotrexate)、環孢素、雷帕黴素(rapamycin)、FK506、可檢測標記或報導基因、TNF 拮抗劑、抗風濕藥、肌肉鬆弛劑、麻醉藥、非類固醇消炎藥(NSAID)、鎮痛藥、麻醉劑、鎮靜劑、局部麻醉劑、神經肌肉阻斷劑、抗微生物劑、抗牛皮癬藥、皮質類固醇、同化類固醇、促紅血球生成素、免疫球蛋白、免疫抑制劑、生長激素、激素替代藥物、放射性醫藥、抗抑鬱藥、抗精神病藥、刺激劑、氣喘藥劑、 β 激動劑、吸入性類固醇、腎上腺素或類似物、細胞介素或細胞介素拮抗劑。

結合蛋白性質

用作人類治療劑、例如用作消炎劑或腫瘤劑之結合蛋白之研發

及製造可能不僅僅需要鑑別能夠結合至期望靶之結合蛋白。本文所揭示之結合蛋白在以下類別中之一或多者中展現有利性質：(a) 對內部及外部抗原結合結構域二者之結合動力學(結合速率、解離速率及親和力)，(b) 在多種生物化學及細胞生物分析中之功效，(c) 在相關腫瘤模型中之活體內效能，(d) 藥物動力學及藥效學性質，(e) 可製造性(包括在所選細胞系中之蛋白質表現量)、可擴縮性、轉譯後修飾、物理化學性質(例如單體百分比、溶解度及穩定性(固有穩定性、冷凍/解凍穩定性、儲存穩定性等))，(f) 調配物性質，(g) 潛在免疫原性風險，(h) 毒物學性質，及(i) 結合模式及化合價。結合模式及化合價可影響分子之結合性質及細胞功效。

本文所揭示之結合蛋白在上文所列示類別中之一些或每一者中展現有利性質，包括在 VD1 及 VD2 位置二者處之極高結合親和力。

在一些實施例中，本文所揭示靶向 VEGF 及 PDGF 之結合蛋白用於例如在眼部病況(例如 AMD)中減少脈絡膜新血管形成及增加成熟血管系統之退化二者。在一些實施例中，本文所揭示靶向 VEGF 及 PDGF 之結合蛋白同時中和 VEGF 及 PDGF。在一些實施例中，結合蛋白展現以下性質中之一或多者：對 VEGF 及/或 PDGF 之高功效、延長的眼部持續時間及自體循環快速清除。在一些實施例中，結合蛋白為雙特異性且允許單次注射針對兩個靶(VEGF 及 PDGF)之藥劑，從而減小注射體積/頻率，同時仍保留傳統抗體之類藥產品。

在一些實施例中，所揭示之結合蛋白展現與 AMD 之現有治療(例如，Eylea™及/或 Lucentis™)相比優異的活體內效能(例如，在脈絡膜新血管形成或 AMD 之臨床前模型中)。在一些實施例中，所揭示之結合蛋白係 DVD-Ig 結合蛋白且展現較長眼部持續時間。在一些實施例中，DVD-Ig 結合蛋白之重量可為例如 150-200 kDa 或更大，且可提供與較低重量藥劑(例如單株抗體)相比較長之眼部持續時間。在

一些實施例中，本文所揭示之結合蛋白係 DVD-Ig 結合蛋白且具有至少約 4 天、或至少約 4.6 天、或至少約 5 天、或至少約 6 天、或至少約 6.5 天、或更長之眼部半衰期。在一些實施例中，DVD-Ig 眼部半衰期大於具有較小粒徑之抗體或其他構築體之半衰期，同時保留與該抗體類似之更快速全身清除。在一些實施例中，DVD-Ig 結合蛋白在玻璃體內投與 0.25 mg 後具有至少約 4 天(或至少約 4.6 天)之眼部半衰期。

在一些實施例中，所揭示之結合蛋白係 DVD-Ig 結合蛋白且展現經改良之類藥性，包括以下各項中之一或多者：高熱穩定性(例如，大於 50°C、55°C、60°C、61°C、62°C、63°C、64°C 或 65°C 之 $T_{開始}$)、至少約 70 mg/ml、72 mg/ml、74 mg/ml、76 mg/ml、78 mg/ml 或 80 mg/ml 之溶解度、在室溫及 100 mg/ml 之濃度下約 7.2 厘泊之黏度、在通用緩衝液中之有效儲存穩定性及/或高冷凍-解凍穩定性。在一些實施例中，DVD-Ig 結合蛋白在 5°C 或 40°C 下儲存 10 天、15 天、20 天、21 天、22 天、23 天、24 天、25 天或更長時間後在低濃度下並不展現顯著單體百分比變化，及/或在 1 個、2 個、3 個、4 個、5 個或更多個冷凍/解凍週期後在 50-150 mg/ml (或 100 +/-10 mg/ml) 下並不展現顯著聚集增加。

在某些實施例中，在上文所列示類別中之一些或每一者中展現尤其有利性質之結合蛋白係能夠結合 VEGF 及 PDGF 之 DVD-Ig 結合蛋白，其中 VEGF 之結合位點包含 SEQ ID NO: 35 之 CDR 1-3 及 SEQ ID NO: 36 之 CDR-1-3，且 PDGF 之結合位點包含 SEQ ID NO: 15 之 CDR 1-3 及 SEQ ID NO: 16 之 CDR 1-3。在實施例中，VEGF 之結合位點包含 SEQ ID NO: 35 及 SEQ ID NO: 36，且 PDGF 之結合位點包含 SEQ ID NO: 15 及 SEQ ID NO: 16。在實施例中，結合蛋白能夠結合 VEGF 及 PDGF，且包含 PR-1610561 (包含 SEQ ID NO: 131

及 132)。在實施例中，結合蛋白包含第一多肽鏈上包含藉由一或多個胺基酸變化修飾之人類 IgG1 重鏈序列之重鏈恆定區，其中高度變化包含在位置 234 及 235 處用丙胺酸取代白胺酸，且視情況亦包含在位置 435 處用丙胺酸取代組胺酸，其中胺基酸位置係使用 EU 索引編號來編號；及第二多肽鏈上包含人類 κ 輕鏈恆定區序列之輕鏈恆定區。

在某些實施例中，在上文所列示類別中之一些或每一者中展現尤其有利性質之結合蛋白係能夠結合 VEGF 及 PDGF 之 DVD-Ig 結合蛋白，其中 VEGF 之結合位點包含 SEQ ID NO: 17 之 CDR 1-3 及 SEQ ID NO: 18 之 CDR-1-3，且 PDGF 之結合位點包含 SEQ ID NO: 1 之 CDR 1-3 及 SEQ ID NO: 2 之 CDR-1-3。在實施例中，VEGF 之結合位點包含 SEQ ID NO: 17 及 SEQ ID NO: 18，且 PDGF 之結合位點包含 SEQ ID NO: 1 及 SEQ ID NO: 2。在實施例中，結合蛋白能夠結合 VEGF 及 PDGF，且包含 PR-1572102 (包含 SEQ ID NO: 88 及 89) 或 PR-1572105 (包含 SEQ ID NO: 94 及 95) 或 PR1611292 (包含 SEQ ID NO: 141 及 142)。在實施例中，結合蛋白包含第一多肽鏈上包含藉由一或多個胺基酸變化修飾之人類 IgG1 重鏈序列之重鏈恆定區，其中該等變化包含在位置 234 及 235 處用丙胺酸取代白胺酸，且視情況亦包含在位置 435 處用丙胺酸取代組胺酸，其中胺基酸位置係使用 EU 索引編號來編號；及第二多肽鏈上包含人類 κ 輕鏈恆定區序列之輕鏈恆定區。

例如，在一些實施例中，與另一結合蛋白或靶向 VEGF 及 PDGF 之結合蛋白之組合相比，本文所揭示之結合蛋白(例如，PR-1610561、PR-1572102、PR-1572105 或 PR1611292)可展現以下特徵中之一或多者：在人類 VEGF 轉基因小鼠中增強的活體內效能、增強的功效(如例如經由 BIACORE、ELISA 或共培養出芽分析所量測)、經改良之表現(例如，在 HEK293 或 CHO 細胞中)及經改良之類藥性(例如，熱穩

定性、儲存穩定性、溶解度、物理化學性質及/或藥物動力學)。

結合蛋白之製備

在另一態樣中，本發明提供製造結合 PDGF、VEGF 及/或任一或兩個同源受體之結合蛋白之方法。在實施例中，製造結合蛋白之方法包含以下步驟：a) 獲得結合 PDGF、VEGF 或同源受體之第一親代抗體或其抗原結合部分；b) 獲得結合 PDGF、VEGF 或同源受體之第二親代抗體或其抗原結合部分；c) 確定親代抗體或其抗原結合部分之可變結構域之序列；d) 使用彼等可變結構域序列製備編碼本文所述之任一結合蛋白之構築體；及 e) 表現多肽鏈，使得產生結合 PDGF、VEGF 及/或任一或兩個同源受體之結合蛋白。

在本文之任一實施例中，VD1 重鏈可變結構域(若存在)及輕鏈可變結構域(若存在)可來自第一親代抗體或其抗原結合部分；VD2 重鏈可變結構域(若存在)及輕鏈可變結構域(若存在)可來自第二親代抗體或其抗原結合部分。第一與第二親代抗體可相同或不同。

在一個實施例中，第一親代抗體或其抗原結合部分結合第一抗原，且第二親代抗體或其抗原結合部分結合第二抗原。在實施例中，第一及第二抗原為相同抗原。在另一實施例中，親代抗體結合相同抗原上之不同表位。在另一實施例中，第一及第二抗原為不同抗原。在另一實施例中，第一親代抗體或其抗原結合部分結合第一抗原之功效不同於第二親代抗體或其抗原結合部分結合第二抗原之功效。在另一實施例中，第一親代抗體或其抗原結合部分結合第一抗原之親和力不同於第二親代抗體或其抗原結合部分結合第二抗原之親和力。

在另一實施例中，第一親代抗體或其抗原結合部分及第二親代抗體或其抗原結合部分係人類抗體、CDR 移植抗體、人類化抗體及/或親和力成熟抗體。提供多價及/或多特異性結合蛋白之至少一種抗原結合特異性之「親代抗體」可為由表現該抗體所結合抗原之細胞內化

(及/或分解代謝)者；及/或可為激動性、細胞死亡誘導性及/或細胞凋亡誘導性抗體，且如本文所述之多價及或多特異性結合蛋白可展示該等性質中一或多者之改良。另外，親代抗體可能缺少該等性質中之任何一或多者，但在構築為如本文所述之多價結合蛋白時，可獲得其中一或多者。舉例而言，不同的 Fc 突變體可呈現 FcR、FcR- γ 、補體或 C' 結合或延長半衰期。

在各個實施例中，亦提供編碼本文所揭示結合蛋白中之任一者之經分離核酸。本文亦提供包含一或多種核酸之組合物，其中該一或多種核酸編碼編碼本文所揭示結合蛋白中之任一者之核酸。舉例而言，組合物可包含編碼第一多肽之核酸及編碼第二多肽之核酸，其中該等第一及第二多肽一起形成如本文所述之結合蛋白。另一實施例提供包含本文所揭示之經分離核酸之載體(例如，表現載體)。本文亦提供包含一或多種編碼如本文所述之結合蛋白之核酸的載體(例如表現載體)。本文亦提供包含一或多個編碼如本文所述之結合蛋白之載體的組合物。舉例而言，組合物可包含編碼第一多肽之載體及編碼第二多肽之載體，其中該等第一及第二多肽一起形成如本文所述之結合蛋白。在一些實施例中，載體為 pcDNA；pTT (Durocher 等人(2002) *Nucleic Acids Res.* 30(2):e9)；pTT3 (具有額外多選殖位點之 pTT)；pEFBOS (Mizushima 及 Nagata (1990) *Nucleic Acids Res.* 18:17)；pBV；pJV；pcDNA3.1 TOPO；pEF6 TOPO；pBOS；pHybE；或 pBJ。在實施例中，載體係美國專利第 8,187,836 號中所揭示之載體。

在另一態樣中，用本文所揭示之載體轉變宿主細胞。在實施例中，宿主細胞係原核細胞，例如大腸桿菌(*E.coli*)。在另一實施例中，宿主細胞係真核細胞，例如原生生物細胞、動物細胞、植物細胞或真菌細胞。在實施例中，宿主細胞係哺乳動物細胞，包括(但不限於) CHO、COS、NS0、SP2、PER.C6 或真菌細胞(例如啤酒酵母

(*Saccharomyces cerevisiae*)或昆蟲細胞(例如 Sf9)。在實施例中，在單一重組宿主細胞中產生例如具有不同特異性之兩種或更多種結合蛋白。舉例而言，抗體混合物之表現稱為美國專利第 7,262,028 號及第 7,429,486 號中所揭示之 Oligoclonics™ (Merus B.V., The Netherlands)。

在各個實施例中，本文所揭示之結合蛋白可藉由在培養基中在足以產生結合蛋白之條件下培養本文所揭示宿主細胞中之任一者來製備。

一個實施例提供用於釋放結合蛋白之組合物，其中該組合物包含結晶結合蛋白、一種成份及至少一種聚合載劑。在實施例中，聚合載劑係聚(丙烯酸)、聚(氰基丙烯酸酯)、聚(胺基酸)、聚(酸酐)、聚(酯肽)、聚(酯)、聚(乳酸)、聚(乳酸-共-乙醇酸)或 PLGA、聚(b-羥基丁酸酯)、聚(己內酯)、聚(二噁烷酮)、聚(乙二醇)、聚((羥基丙基)甲基丙烯酸醯胺)、聚[(有機)膦氮烯]、聚(原酸酯)、聚(乙烯醇)、聚(乙烯基吡咯啉酮)、馬來酸酐-烷基乙烯基醚共聚物、普魯蘭尼克多元醇(pluronic polyol)、白蛋白、海藻酸鹽、纖維素、纖維素衍生物、膠原、纖維蛋白、明膠、玻尿酸、寡糖、糖胺聚糖、硫酸化多糖或其摻合物及共聚物。在實施例中，該成份係白蛋白、蔗糖、海藻糖、乳糖醇、明膠、羥基丙基- β -環糊精、甲氧基聚乙二醇或聚乙二醇。

本文所提供之結合蛋白(例如 DVD-Ig 結合蛋白)可藉由業內已知多種技術中之任一者來產生。舉例而言，自宿主細胞表現，其中藉由標準技術將編碼 DVD-Ig 重鏈及 DVD-Ig 輕鏈之表現載體轉染至宿主細胞中。儘管可在原核或真核宿主細胞中表現本文所提供之 DVD-Ig 結合蛋白，但 DVD-Ig 結合蛋白較佳係在真核細胞(例如哺乳動物宿主細胞)中表現。

在用於重組表現 DVD-Ig 蛋白之實例性系統中，藉由磷酸鈣介導之轉染將編碼 DVD-Ig 重鏈及 DVD-Ig 輕鏈二者之重組表現載體引入

dhfr-CHO 細胞中。在重組表現載體內，DVD-Ig 重鏈及輕鏈序列各自可操作地連接至 CMV 增強子/AdMLP 啟動子調控元件以驅動基因之高精度轉錄。重組表現載體亦攜載 DHFR 基因，其允許使用胺甲喋呤選擇/擴增來選擇已經載體轉染之 CHO 細胞。培養所選轉變體宿主細胞以允許表現 DVD-Ig 重鏈及輕鏈，並自培養基回收完整 DVD-Ig 蛋白。可使用標準分子生物學技術來製備重組表現載體，轉染宿主細胞，選擇轉變體，培養宿主細胞及自培養基回收 DVD-Ig 蛋白。在一些實施例中，本文亦提供合成 DVD-Ig 結合蛋白之方法，其係藉由在適宜培養基中培養本文所提供之宿主細胞直至合成 DVD-Ig 結合蛋白來實施。該方法可進一步包含自培養基分離 DVD-Ig 蛋白。

DVD-Ig 結合蛋白之特徵在於其可以與習用抗體類似之方式產生及純化。本文所提供全長 DVD-Ig 結合蛋白重鏈及輕鏈之設計主要可組裝成期望雙特異性多價全長結合蛋白。在實施例中，藉由此方法產生之 50%-75% 之結合蛋白係雙特異性四價結合蛋白(例如，DVD-Ig 結合蛋白)。在另一實施例中，藉由此方法產生之 75%-90% 之結合蛋白係雙特異性四價結合蛋白。在另一實施例中，所產生之 90%-95% 之結合蛋白係雙特異性四價結合蛋白。在一些實施例中，至少 50%、至少 75% 及至少 90% 之組裝並表現之雙可變結構域免疫球蛋白分子係期望雙特異性四價蛋白質。

在各個實施例中，本發明提供在單一細胞中表現雙可變結構域輕鏈及雙可變結構域重鏈、從而產生雙特異性四價全長結合蛋白之主要產物的方法，其中包含雙可變結構域輕鏈及雙可變結構域重鏈之主要產物佔所有組裝蛋白之 50% 以上，例如 75% 以上及 90% 以上。

治療及診斷用途

在各個實施例中，本文亦揭示診斷及治療哺乳動物(例如，人類)之方法，其包含向哺乳動物或取自哺乳動物之樣品投與有效量之本文

所揭示組合物之步驟。如本文所述之結合蛋白可用於療法或診斷之方法中。

在一些實施例中，鑒於本文所提供之結合蛋白結合 VEGF、PLGF 及/或其同源受體之能力，可使用該等結合蛋白利用習用免疫分析(例如酶聯免疫吸附分析(ELISA)、放射免疫分析(RIA)或組織免疫組織化學)來檢測彼等抗原中之一或多者(例如，在生物樣品、例如血清或血漿中)。結合蛋白直接或間接地經可檢測物質標記以幫助檢測結合或未結合之抗體。適宜可檢測物質包括各種酶、輔基、螢光材料、發光材料及放射性材料。適宜酶之實例包括辣根過氧化物酶、鹼性磷酸酶、 β -半乳糖苷酶或乙醯膽鹼酯酶；適宜輔基複合物之實例包括鏈黴抗生物素蛋白(streptavidin)/生物素及抗生物素蛋白/生物素；適宜螢光材料之實例包括傘形酮、螢光黃、異硫氰酸螢光黃、玫瑰紅、二氯三嗪基胺螢光黃、丹磺醯氯或藻紅素。發光材料之實例係發光胺且適宜放射性材料之實例包括 ^3H 、 ^{14}C 、 ^{35}S 、 ^{90}Y 、 ^{99}Tc 、 ^{111}In 、 ^{125}I 、 ^{131}I 、 ^{177}Lu 、 ^{166}Ho 及 ^{153}Sm 。

在一些實施例中，揭示治療患有能夠由本文所揭示之結合蛋白結合之靶係有害的病症之人類個體的方法，其包含向人類個體投與本文所揭示之結合蛋白，使得抑制人類個體中靶之活性且緩和一或多種症狀或達成治療。在各個實施例中，治療包含減輕、改良或改善病症之一或多種症狀。治療包括但未必需要治癒(即，完全消除)病症或病症之症狀。

本文所提供之結合蛋白可用於治療患有疾病(例如與增加的血管生成及/或發炎(例如，眼部發炎)相關之彼等)之人類。在實施例中，本文所提供之結合蛋白或其抗原結合部分用於治療自體免疫病症、氣喘、眼部發炎、克羅恩氏病(Crohn's disease)、潰瘍性結腸炎、發炎性腸病(IBD)、胰島素依賴性糖尿病、類風濕性關節炎、骨關節炎、全

身性紅斑狼瘡(SLE)、多發性硬化、敗血症、神經變性疾病或腫瘤病症。在實施例中，本文所揭示之結合蛋白用於治療眼病(例如，血管生成性眼病)。在實施例中，眼病係黃斑變性(例如濕性黃斑變性、乾性黃斑變性、年齡相關之黃斑變性(AMD)、滲出性 AMD)、乾眼、青光眼、糖尿病視網膜病變、糖尿病黃斑水腫、中心性視網膜靜脈阻塞、角膜新血管形成、虹膜新血管形成、新血管形成性青光眼、青光眼之術後纖維化、增生性玻璃體視網膜病變(PVR)、脈絡膜新血管形成、視神經盤新血管形成、視網膜新血管形成、玻璃體新血管形成、血管翳、翼狀胬肉、黃斑水腫、糖尿病黃斑水腫(DME)、血管視網膜病變、視網膜變性、眼色素層炎、乾性角膜結膜炎、眼瞼炎、角膜炎或另一發炎性眼病。

在實施例中，本文所提供之結合蛋白能夠在活體外及活體內中和其抗原靶之活性。因此，該等結合蛋白可用於抑制例如在含有抗原之細胞培養物中、在人類個體中或在具有與本文所提供之結合蛋白交叉反應之抗原之其他哺乳動物個體中的抗原活性。在另一實施例中，提供降低患有抗原活性係有害的疾病或病症之個體中抗原活性之方法。本文所提供之結合蛋白可投與人類個體用於治療目的。在一些實施例中，結合蛋白(例如，DVD-Ig 結合蛋白)投與患者(例如患有濕性 AMD 之患者)，且可具有一或多種選自以下各項之效應：使成熟血管系統退化(例如，經由 VEGF 結合)、減少脈絡膜新血管形成(例如，經由 VEGF 結合)、允許藉由剝離掉周細胞到達血管(例如，經由 PDGF 結合)及/或提供抗纖維變性效應以減少來自結癥之視覺損失(例如，經由 PDGF 結合)。在一些實施例中，結合蛋白對 VEGF 及 PDGF 呈多特異性，且係以與組合抗體療法相比減少的注射次數及/或降低的注射頻率來投與。

術語「抗原活性係有害的病症」涵蓋疾病及其他病症，其中已

顯示抗原在患有該病症之個體中之存在係或懷疑係造成該病症病理生理學之原因或導致該病症惡化之因素。因此，抗原活性係有害的病症係預期降低抗原活性會緩和病症之症狀及/或進展之病症。該等病症可藉由例如患有該病症之個體之生物流體中抗原濃度之增加(例如，個體血清、血漿、滑液等中抗原濃度之增加)來證實。可用本文所提供之結合蛋白治療之病症之非限制性實例包括下文及關於包含結合蛋白之醫藥組合物之部分中所論述之彼等病症。

在一些實施例中，本文所揭示之結合蛋白(例如 DVD-Ig 結合蛋白)可用於組織特異性遞送(靶向組織標記物及疾病調介劑以增強局部 PK，由此提高效能及/或降低毒性)，包括細胞內遞送(靶向內化受體及細胞內分子)、經由生物障壁遞送至例如眼睛或腦之內部(例如，靶向運鐵蛋白受體及 CNS 疾病調介劑以穿過血腦屏障)。結合蛋白亦可用作載體蛋白經由結合至抗原之非中和表位將該抗原遞送至特定位置且亦延長該抗原之半衰期。另外，結合蛋白可經設計以物理連接至植入患者中之醫療裝置或靶向該等醫療裝置(參見 Burke 等人(2006) *Advanced Drug Deliv. Rev.* 58(3): 437-446；Hildebrand 等人(2006) *Surface and Coatings Technol.* 200(22-23): 6318-6324；Drug/ device combinations for local drug therapies and infection prophylaxis, Wu (2006) *Biomaterials* 27(11):2450-2467；Mediation of the cytokine network in the implantation of orthopedic devices, Marques (2005) *Biodegradable Systems in Tissue Engineer. Regen. Med.* 377-397)。

在實施例中，可用本文所揭示之組合物及方法治療或診斷之疾病包括(但不限於)原發性及轉移性癌症，包括乳癌、結腸癌、直腸癌、肺癌、口咽癌、下嚥癌、食管癌、胃癌、胰臟癌、肝癌、膽囊及膽管癌、小腸癌、尿路癌(包括腎癌、膀胱癌及尿路上皮癌)、女性生殖道癌(包括子宮頸癌、子宮癌及卵巢癌以及絨毛膜癌及妊娠滋養細胞疾

病)、男性生殖道癌(包括前列腺癌、精囊癌、睪丸癌及生殖細胞腫瘤)、內分泌腺癌(包括甲狀腺癌、腎上腺癌及垂體腺癌)及皮膚癌以及血管瘤、黑色素瘤、肉瘤(包括源自骨及軟組織之彼等以及卡波西氏肉瘤(Kaposi's sarcoma))、腦、神經、眼睛及腦膜之腫瘤(包括星細胞瘤、神經膠質瘤、神經膠母細胞瘤、視網膜母細胞瘤、神經瘤、神經母細胞瘤、神經鞘瘤及腦脊髓膜瘤)、源自血液惡性病之實體腫瘤(例如白血病)及淋巴瘤(霍奇金氏及非霍奇金氏淋巴瘤二者)。

另一實施例提供結合蛋白於治療疾病或病症之用途，其中該病症係關節炎、骨關節炎、幼年型慢性關節炎、敗血性關節炎、萊姆關節炎(Lyme arthritis)、牛皮癬性關節炎、反應性關節炎、脊椎關節疾病、全身性紅斑狼瘡、克羅恩氏病、潰瘍性結腸炎、發炎性腸病、胰島素依賴性糖尿病、甲狀腺炎、氣喘、過敏性疾病、牛皮癬、皮炎硬皮病、移植物抗宿主疾病、器官移植排斥、與器官移植相關之急性或慢性免疫疾病、結節病、動脈粥樣硬化、散播性血管內凝血、川崎病(Kawasaki's disease)、格雷氏病(Grave's disease)、腎病症候群、慢性疲勞症候群、華格納氏肉芽病(Wegener's granulomatosis)、亨諾-許蘭二氏紫癍(Henoch-Schoenlein purpura)、腎之微觀血管炎、慢性活動性肝炎、眼色素層炎、敗血性休克、中毒性休克症候群、敗血症症候群、惡病質、傳染病、寄生蟲病、急性橫貫性脊髓炎、亨庭頓氏舞蹈症(Huntington's chorea)、帕金森氏病(Parkinson's disease)、阿茲海默氏病(Alzheimer's disease)、中風、原發性膽汁性肝硬化、溶血性貧血、惡性病、心臟衰竭、心肌梗塞、阿狄森氏病(Addison's disease)、散發性 I 型多腺缺陷症及 II 型多腺缺陷症、施密特氏症候群(Schmidt's syndrome)、成人(急性)呼吸窘迫症候群、禿髮、斑禿、血清陰性關節病、關節病、賴特爾病(Reiter's disease)、牛皮癬性關節病、潰瘍性結腸炎性關節病、腸病性滑膜炎、衣原體、耶爾森菌(yersinia)及沙門桿

菌屬(salmonella)相關之關節病、脊椎關節病、動脈粥樣硬化疾病/動脈硬化、特應性過敏症、自體免疫性大疱病、尋常天皰瘡、落葉型天皰瘡、類天皰瘡、線性 IgA 病、自體免疫性溶血性貧血、庫柏(Coombs)陽性溶血性貧血、後天性惡性貧血、幼年型惡性貧血、肌痛性腦炎/良性肌痛性腦脊髓炎(Royal Free Disease)、慢性黏膜皮膚念珠菌病、巨細胞動脈炎、原發性硬化性肝炎、隱原性自體免疫性肝炎、後天性免疫缺陷症候群、後天性免疫缺陷相關疾病、B 型肝炎、C 型肝炎、常見變異型免疫缺陷症(常見易變低伽瑪球蛋白血症)、擴張型心肌病、女性不育、卵巢功能衰竭、卵巢功能早衰、纖維化肺疾病、隱原性纖維化肺泡炎、發炎後間質性肺病、間質性肺炎、結締組織病相關之間質性肺病、混合結締組織病相關之肺病、全身性硬化症相關之間質性肺病、類風濕性關節炎相關之間質性肺病、全身性紅斑狼瘡相關之肺病、皮肌炎/多發性肌炎相關之肺病、休格倫氏病(Sjögren's disease)相關之肺病、強直性脊柱炎相關之肺病、血管炎瀰漫性肺病、含鐵血紅素沈積症相關之肺病、藥物誘發之間質性肺病、纖維化、輻射纖維化、閉塞性細支氣管炎、慢性嗜酸性球性肺炎、淋巴球性浸潤性肺病、感染後間質性肺病、痛風性關節炎、自體免疫性肝炎、1 型自體免疫性肝炎(典型自體免疫或類狼瘡性肝炎)、2 型自體免疫性肝炎(抗 LKM 抗體肝炎)、自體免疫調介之低血糖、患有黑棘皮症之 B 型胰島素抗性、副甲狀腺功能減退症、與器官移植相關之急性免疫疾病、與器官移植相關之慢性免疫疾病、骨關節病、原發性硬化性膽管炎、1 型牛皮癬、2 型牛皮癬、特發性白血球減少症、自體免疫性嗜中性球減少症、NOS 腎病、腎小球性腎炎、腎之微觀血管炎、萊姆病、盤狀紅斑狼瘡、特發性或 NOS 男性不育、精子自體免疫病、多發性硬化(所有亞型)、交感性眼炎、繼發於結締組織病之肺動脈高血壓、古巴士德氏症候群(Goodpasture's syndrome)、結節性多動脈炎之

肺表現、急性風濕熱、類風濕性脊柱炎、斯提耳病(Still's disease)、全身性硬化症、休格倫氏症候群、高安氏症(Takayasu's disease)/動脈炎、自體免疫性血小板減少症、特發性血小板減少症、自體免疫性甲狀腺疾病、甲狀腺功能亢進症、甲狀腺腫自體免疫性甲狀腺功能減退症(橋本氏病(Hashimoto's disease))、萎縮性自體免疫性甲狀腺功能減退症、原發性黏液性水腫、晶狀體源性眼色素層炎、原發性血管炎、白癩風急性肝病、慢性肝病、酒精性肝硬化、酒精誘發之肝損傷、膽汁淤積、特應性肝病、藥物誘發之肝炎、非酒精性脂肪性肝炎、過敏症及氣喘、B 群鏈球菌(group B streptococci) (GBS)感染、精神病症(例如，抑鬱症及精神分裂症)、Th2 型及 Th1 型調介之疾病、急性及慢性疼痛(不同形式之疼痛)、及諸如肺癌、乳癌、胃癌、膀胱癌、結腸癌、胰臟癌、卵巢癌、前列腺癌及直腸癌等癌症及血液惡性病(白血病及淋巴瘤)、無 β 脂蛋白血症、手足發紺、急性及慢性寄生性或感染性過程、急性白血病、急性淋巴母細胞性白血病(ALL)、急性髓樣白血病(AML)、急性或慢性細菌感染、急性胰臟炎、急性腎衰竭、腺癌、心房異位性搏動、AIDS 癡呆複合症、酒精誘發之肝炎、過敏性結膜炎、過敏性接觸性皮炎、過敏性鼻炎、同種異體移植物排斥、 α -1-抗胰蛋白酶缺陷症、肌萎縮性脊髓側索硬化症、貧血、心絞痛、前角細胞變性、抗 cd3 療法、抗磷脂症候群、抗受體超敏性反應、主動脈及外周動脈瘤、主動脈壁夾層形成、動脈性高血壓、動脈硬化、動靜脈瘤、共濟失調、心房顫動(持續性或突發性)、心房撲動、房室傳導阻滯、B 細胞淋巴瘤、骨移植排斥、骨髓移植(BMT)排斥、束支傳導阻滯、伯基特氏淋巴瘤(Burkitt's lymphoma)、燒傷、心律不整、心臟頓抑症候群、心臟腫瘤、心肌病、體外循環發炎反應、軟骨移植排斥、小腦皮質變性、小腦病症、紊亂性或多源性房性心動過速、化學療法相關之病症、慢性骨髓性白血病(CML)、慢性酒精中毒、慢性

發炎性病狀、慢性淋巴球性白血病(CLL)、慢性阻塞性肺病(COPD)、慢性柳酸中毒、結腸直腸癌、充血性心臟衰竭、結膜炎、接觸性皮炎、肺源性心臟病、冠狀動脈疾病、庫賈氏病(Creutzfeldt-Jakob disease)、培養陰性敗血症、囊性纖維化、細胞介素療法相關之病症、拳擊員癡呆、脫髓鞘疾病、登革出血熱(dengue hemorrhagic fever)、皮炎、皮膚病、糖尿病(diabetes、diabetes mellitus)、糖尿病性動脈硬化病、瀰漫性路易體疾病(Diffuse Lewy body disease)、擴張型充血性心肌病、基底神經節病症、中年人唐氏症候群(Down's Syndrome)、由阻斷 CNS 多巴胺(dopamine)受體之藥物誘發之藥物誘發之運動障礙、藥物敏感、濕疹、腦脊髓炎、心內膜炎、內分泌病、會厭炎、艾伯斯坦-巴爾病毒感染(epstein-barr virus infection)、紅斑性肢痛病、錐體束外及小腦病症、家族性嗜血細胞性淋巴組織細胞增多症、胎兒胸腺移植排斥、弗裡德賴希共濟失調(Friedreich's ataxia)、功能性外周動脈病症、真菌敗血症、氣性壞疽、胃潰瘍、任何器官或組織之移植物排斥、革蘭氏(gram)陰性敗血症、革蘭氏陽性敗血症、因細胞內有機體引起之肉芽腫、毛細胞白血病、哈勒沃登-施帕茨病(Hallerrorden-Spatz disease)、橋本氏甲狀腺炎、花粉熱、心臟移植排斥、血色素沉著症、血液透析、溶血性尿毒癥症候群/溶血性血小板減少性紫癍、出血、A 型肝炎、希氏束心率失常(His bundle arrhythmias)、HIV 感染/HIV 神經病、霍奇金氏病、運動過度性運動障礙、超敏反應、超敏性肺炎、高血壓、運動機能減退性運動障礙、下視丘-垂體-腎上腺軸評估、特發性阿狄森氏病、特發性肺纖維化、抗體調介之細胞毒性、虛弱、嬰兒脊髓性肌萎縮、主動脈發炎、a 型流感、電離輻射暴露、虹膜睫狀體炎/眼色素層炎/視神經炎、缺血-再灌注損傷、缺血性中風、幼年型類風濕性關節炎、幼年型脊髓性肌萎縮、卡波西氏肉瘤、腎移植排斥、退伍軍人病桿菌(legionella)、利什曼病(leishmaniasis)、麻風、皮質脊

髓系統病灶、脂肪水腫、肝移植排斥、淋巴水腫、瘧疾、惡性淋巴瘤、惡性組織細胞增多症、惡性黑色素瘤、腦膜炎、腦膜炎球菌血症、代謝性/特發性、偏頭痛、線粒體多系統病症、混合性結締組織病、單株丙種球蛋白病、多發性骨髓瘤、多系統變性(Mencel、Dejerine-Thomas、Shy-Drager 及 Machado-Joseph)、重症肌無力、胞內鳥型分枝桿菌、結核分枝桿菌、骨髓增生異常症候群、心肌缺血性病變、鼻咽癌、新生兒慢性肺病、腎炎、腎病、神經變性疾病、神經源性 I 型肌萎縮、嗜中性球低下發燒、非霍奇金氏淋巴瘤、腹主動脈及其分枝阻塞、阻塞性動脈病症、okt3 療法、睪丸炎/子癱、睪丸炎/輸精管切除術逆轉程序、器官巨大症、骨質疏鬆症、胰臟移植排斥、胰臟癌、腫瘤伴生徵候群/惡性腫瘤之高鈣血症、副甲狀腺移植排斥、盆腔發炎性疾病、常年性鼻炎、心包疾病、外周動脈粥樣硬化性疾病、外周血管病症、腹膜炎、惡性貧血、卡氏肺囊蟲肺炎(*pneumocystis carinii pneumonia*)、肺炎、POEMS 症候群(多神經病、器官巨大症、內分泌病、單株丙種球蛋白病及皮膚變化症候群)、灌注後症候群、泵送後症候群、MI 心切開術後症候群、先兆子癱、進行性核上性麻痺、原發性肺動脈高血壓、輻射療法、雷諾氏現象(Raynaud's phenomenon)及疾病、雷諾病(Raynaud's disease)、雷夫蘇姆病(Refsum's disease)、規則性窄 QRS 心動過速、腎血管性高血壓、再灌注損傷、限制性心肌病、肉瘤、硬皮病、老年舞蹈症、路易體型老年性癡呆、血清陰性關節病、休克、鎌狀細胞貧血、皮膚同種異體移植物排斥、皮膚變化症候群、小腸移植排斥、實體腫瘤、特異性心率失常、脊柱共濟失調、脊髓小腦變性、鏈球菌肌炎、小腦結構損傷、亞急性硬化性全腦炎、暈厥、心血管系統梅毒、全身性過敏反應、全身性發炎性反應症候群、全身性發作幼年型類風濕性關節炎、T 細胞或 FAB ALL、毛細管擴張、閉塞性血栓性脈管炎、血小板減少症、毒性、移植、創傷/出血、

III 型超敏反應、IV 型超敏反應、不穩定型心絞痛、尿毒癥、尿敗血症、蕁麻疹、心臟瓣膜病、靜脈曲張、血管炎、靜脈疾病、靜脈血栓形成、心室顫動、病毒及真菌感染、病毒性腦炎/無菌腦膜炎、病毒相關之噬血細胞症候群、魏尼凱-科爾薩科夫症候群(Wernicke-Korsakoff syndrome)、威爾森氏病(Wilson's disease)、任何器官或組織之異種移植物排斥、急性冠脈症候群、急性特發性多神經炎、急性發炎症脫髓鞘多發性神經根神經病、急性缺血、成人斯提耳病、過敏反應、抗磷脂抗體症候群、再生障礙性貧血、異位性濕疹、異位性皮膚炎、自體免疫性皮炎、與鏈球菌感染相關之自體免疫性病變、自體免疫性病變、自體免疫性聽力損失、自體免疫性淋巴增生症候群(ALPS)、自體免疫性心肌炎、自體免疫性卵巢功能早衰、眼瞼炎、支氣管擴張症、大皰性類天皰瘡、心血管疾病、災難性抗磷脂症候群、乳糜瀉、頸椎病、慢性缺血、癍痕性類天皰瘡、具有多發性硬化風險之臨床單一症候群(cis)、兒童期發病性精神病、淚囊炎、皮肌炎、糖尿病視網膜病變、椎間盤突出、椎間盤脫垂、藥物誘發之免疫性溶血性貧血、子宮內膜異位症、眼內炎、鞏膜外層炎、多形紅斑、重型多形紅斑、妊娠性類天皰瘡、格林-巴利症候群(Guillain-Barré syndrome)(GBS)、花粉熱、休斯症候群(Hughes syndrome)、特發性帕金森氏病、特發性間質性肺炎、IgE 調介之過敏症、免疫溶血性貧血、包涵體肌炎、感染型眼部發炎症疾病、發炎症脫髓鞘疾病、發炎症心臟疾病、發炎症腎病、IPF/UIP、虹膜炎、角膜炎、乾性角膜結膜炎、庫斯毛耳病(Kussmaul disease)或庫斯毛耳-邁埃爾病(Kussmaul-Meier disease)、蘭德里麻痺、郎格罕細胞(Langerhan's cell)組織細胞增多症、網狀青斑、黃斑變性、微觀多血管炎、白赫鐵列夫症(morbus bechterev)、運動神經元病症、黏膜性類天皰瘡、多器官功能衰竭、骨髓增生異常症候群、心肌炎、神經根病症、神經病、非 A 非 B 型肝炎、視神經炎、

骨質溶解、卵巢癌、少關節性 JRA、外周動脈阻塞性疾病(PAOD)、外周血管疾病(PVD)、外周動脈疾病(PAD)、靜脈炎、結節性多動脈炎(或結節性動脈周圍炎)、多軟骨炎、風濕性多肌痛、白髮症、多關節 JRA、多內分泌腺缺陷症候群、多發性肌炎、泵送後症候群、原發性帕金森病(primary Parkinsonism)、前列腺癌及直腸癌及血液惡性病(白血病及淋巴瘤)、前列腺炎、單純紅血球再生障礙、原發性腎上腺機能不全、復發性視神經脊髓炎、再狹窄、風濕性心臟疾病、sapho(滑膜炎、痤瘡、膿疱病、骨肥厚及骨炎)、硬皮病、繼發性澱粉樣變性、休克肺、鞏膜炎、坐骨神經痛、繼發性腎上腺機能不全、聚矽氧相關之結締組織病、史奈頓威金森皮膚病(Sneddon-Wilkinson dermatosis)、僵直性脊椎炎、史-約症候群(Stevens-Johnson syndrome)(SJS)、全身性發炎性反應症候群、顛動脈炎、弓形體視網膜炎、毒性表皮溶解壞死症、橫貫性脊髓炎、TRAPS (腫瘤壞死因子受體相關周期性症候群)(tumor necrosis factor receptor associated periodic syndrome)、I 型過敏反應、II 型糖尿病、尋常性間質性肺炎(UIP)、春季結膜炎、病毒性視網膜炎、沃格特小柳原田症候群(Vogt-Koyanagi-Harada syndrome)(VKH 症候群)、濕性黃斑變性、傷口癒合、纖維化、腎病、濕性黃斑變性、傷口癒合、年齡相關之黃斑變性(AMD)、糖尿病視網膜病變、糖尿病黃斑水腫、中心性視網膜靜脈阻塞、角膜新血管形成、滲出性 AMD、虹膜新血管形成、新血管形成性青光眼、青光眼之術後纖維化、增生性玻璃體視網膜病變(PVR)、脈絡膜新血管形成、視神經盤新血管形成、視網膜新血管形成、玻璃體新血管形成、血管翳、翼狀胬肉、黃斑水腫、糖尿病黃斑水腫(DME)、血管視網膜病變、視網膜變性、眼色素層炎或眼睛之發炎性疾病。

在一些實施例中，可使用本文所揭示結合蛋白中之任一者來治

療上文所列示之病症。在某些實施例中，用於治療本文所論述之任一病症之結合蛋白係表 27-30、38-42、46-50 或 55-58 中所列示結合蛋白中之一或多者。在某些實施例中，用於治療本文所論述之任一病症之結合蛋白係表 56-58 中所列示結合蛋白中之一或多者。在某些實施例中，結合蛋白係 PR-1572102、PR-1572105、PR-1610561 或 PR1611292。

在一些實施例中，結合蛋白(例如，PR-1572102、PR-1572105、PR1611292 或 PR-1610561)可用於治療對抗 VEGF 單療法無反應之濕性 AMD。例如，靶向 VEGF 及 PDGF 之結合蛋白(例如，PR-1572102、PR-1572105 或 PR-1610561)可引起血管生成之較佳退化，由此提供更有效之治療且使得可降低投與頻率。與抗 VEGF 單療法相比，VEGF 及 PDGF 二者之雙抑制可提供某些經改良之治療結果。

在另一態樣中，揭示治療患有病症之患者之方法，其包含在投與第二藥劑之前、同時或之後投與本文所揭示結合蛋白中之任一者的步驟。在實施例中，第二藥劑係顯影劑、細胞毒性劑、血管生成抑制劑、激酶抑制劑、共刺激分子阻斷劑、黏附分子阻斷劑、抗細胞介素抗體或其功能性片段、胺甲喋呤、環孢素、雷帕黴素、FK506、可檢測標記或報導基因、TNF 拮抗劑、抗風濕藥、肌肉鬆弛劑、麻醉藥、非類固醇消炎藥(NSAID)、鎮痛藥、麻醉劑、鎮靜劑、局部麻醉劑、神經肌肉阻斷劑、抗微生物劑、抗牛皮癬藥、皮質類固醇、同化類固醇、促紅血球生成素、免疫劑、免疫球蛋白、免疫抑制劑、生長激素、激素替代藥物、放射性醫藥、抗抑鬱藥、抗精神病藥、刺激劑、氣喘藥劑、 β 激動劑、吸入性類固醇、腎上腺素或類似物、細胞介素或細胞介素拮抗劑。

在各個實施例中，亦揭示針對本文所揭示結合蛋白之抗個體基因型抗體。抗個體基因型抗體包括包含免疫球蛋白分子之可納入本文所提供結合蛋白中之至少一部分的任何蛋白質或含肽分子，該至少一

部分係例如(但不限於)重鏈或輕鏈之至少一個互補決定區(CDR)或其配體結合部分、重鏈或輕鏈可變區、重鏈或輕鏈恆定區、框架區或其任一部分。

在各個實施例中，本文亦揭示確定測試樣品中 VEGF 及/或 PDGF 或其片段之存在、量或濃度之方法。在一些實施例中，該等方法包含藉由免疫分析分析測試樣品之抗原或其片段。免疫分析(i) 採用至少一種結合蛋白及至少一種可檢測標記，及(ii) 包含比較測試樣品中由可檢測標記產生之作為抗原或其片段之存在、量或濃度之直接或間接指示的信號與對照或校準物中產生之作為抗原、或其片段之存在、量或濃度之直接或間接指示的信號。校準物視情況係一系列校準物之一部分，其中每一校準物在抗原或其片段之濃度方面不同於系列中之其他校準物。該方法可包含(i) 使測試樣品與至少一種捕獲劑接觸，該至少一種捕獲劑結合至抗原或其片段上之表位，以形成捕獲劑/抗原或其片段複合物，(ii) 使捕獲劑/抗原或其片段複合物與至少一種檢測劑接觸，該至少一種檢測劑包含可檢測標記且結合至抗原或其片段上未經捕獲劑結合之表位，以形成捕獲劑/抗原或其片段/檢測劑複合物，及(iii) 基於(ii)中所形成之捕獲劑/抗原或其片段/檢測劑複合物中之可檢測標記所產生的信號，確定測試樣品中抗原或其片段之存在、量或濃度，其中至少一種捕獲劑及/或至少一種檢測劑係至少一種結合蛋白。

另一選擇為，該方法可包含(i) 使測試樣品與至少一種捕獲劑接觸，該至少一種捕獲劑結合至抗原或其片段上之表位，以形成捕獲劑/抗原或其片段複合物，且同時或依序、以任一順序，使測試樣品與可與測試樣品中之任一抗原或其片段競爭結合至至少一種捕獲劑的經可檢測標記之抗原或其片段接觸，其中測試樣品中所存在之任一抗原或其片段與經可檢測標記之抗原彼此競爭以分別形成捕獲劑/抗原或其片段複合物及捕獲劑/經可檢測標記之抗原或其片段複合物，及(ii)

基於(ii)中所形成之捕獲劑/經可檢測標記之抗原或其片段複合物中之可檢測標記所產生的信號，確定測試樣品中抗原或其片段之存在、量或濃度，其中至少一種捕獲劑係至少一種結合蛋白，且其中捕獲劑/經可檢測標記之抗原或其片段複合物中之可檢測標記所產生之信號與測試樣品中抗原或其片段之量或濃度成反比。

在一些實施例中，測試樣品來自患者，在該情形下該方法可進一步包含診斷、預測或評估患者之治療性/預防性治療之效能。若該方法進一步包含評估患者之治療性/預防性治療之效能，則該方法視情況進一步包含視需要改進患者之治療性/預防性治療以改良效能。該方法可適用於自動化系統或半自動化系統中。因此，本文所述之方法亦可用於確定個體是否患有或具有罹患給定疾病、病症或病況之風險。特定而言，該方法可包含以下步驟：(a) 測定個體之測試樣品中分析物或其片段之濃度或量(例如，使用本文所述之方法或業內已知之方法)；及(b) 比較步驟(a)中所測定之分析物或其片段之濃度或量與預定水準，其中，若步驟(a)中所測定之分析物之濃度或量相對於預定水準有利，則確定個體未患或不具給定疾病、病症或病況之風險。然而，若步驟(a)中所測定之分析物之濃度或量相對於預定水準不利，則確定個體患有或具有給定疾病、病症或病況之風險。

另外，在各個實施例中，本文提供監測個體之疾病進展之方法。在一些實施例中，該方法可包含以下步驟：(a) 測定個體之測試樣品中分析物之濃度或量；(b) 測定個體之後續測試樣品中分析物之濃度或量；及(c) 比較如步驟(b)中所測定之分析物的濃度或量與步驟(a)中所測定之分析物的濃度或量，其中若步驟(b)中所測定之濃度或量在與步驟(a)中所測定之分析物的濃度或量相比時未發生變化或不利，則確定個體之疾病已繼續、進展或惡化。藉由比較，若如步驟(b)中所測定之分析物的濃度或量在與如步驟(a)中所測定之分析物的濃度

或量相比時有利，則確定個體之疾病已中斷、退化或改良。

視情況，該方法進一步包含比較如步驟(b)中所測定之分析物之濃度或量與例如預定水準。另外，視情況，該方法包含若比較顯示如步驟(b)中所測定之分析物之濃度或量例如相對於預定水準不利地改變，則用一或多種醫藥組合物治療個體一段時間。

在各個實施例中，亦提供用於分析測試樣品之 VEGF 及/或 PDGF 或其片段之套組。該套組可包含至少一種用於分析測試樣品之抗原或其片段之組份，及用於分析測試樣品之抗原或其片段之說明書，其中該至少一種組份包括至少一種包含本文所揭示結合蛋白之組合物，其中該結合蛋白視情況經可檢測標記。

除非本文中另有定義，否則本文所用之科學及技術術語具有熟習此項技術者所通常理解之含義。倘若有任何潛在歧義，則本文所提供之定義優先於任何詞典或外在定義。除非上下文另外要求，否則單數術語應包括複數形式且複數術語應包括單數。除非另有說明，否則使用「或」意指「及/或」。使用術語「包括(including)」以及其他形式(例如「包括(includes)」及「包括(included)」)不具有限制意義。除非另有說明，否則本文所揭示之任一範圍皆意欲涵蓋該範圍之終點。

一般而言，結合本文所述之細胞及組織培養、分子生物學、免疫學、微生物學、遺傳學以及蛋白質及核酸化學及雜交使用之名稱係業內已知且常用之彼等。除非另外指明，否則本文所提供之方法及技術通常係根據業內所熟知之習用方法且如貫穿本說明書引用並論述之各種一般及更特定參考文獻中所述來實施。酶促反應及純化技術係根據製造商之說明書、如業內習用方法或如本文所述來實施。結合本文所述分析化學、合成有機化學以及醫學及藥物化學使用之名稱及實驗室程序及技術係業內熟知且常用之彼等。化學合成、化學分析、醫藥製備、調配及遞送以及患者之治療使用標準技術。

為更容易地理解本發明，在下文中定義所選術語。

術語「抗體」係指免疫球蛋白(Ig)分子，其可包含四條多肽鏈，即兩條重(H)鏈及兩條輕(L)鏈)，或其可包含保留 Ig 分子之表位結合特徵之功能片段、突變體、變體或其衍生物。該等片段、突變體、變體或衍生物抗體格式為業內已知。在全長抗體之實施例中，每一重鏈包含重鏈可變區(VH)及重鏈恆定區(CH)。在 IgG 分子之情形下，CH 包含三個結構域，CH1、CH2 及 CH3。每一輕鏈包含輕鏈可變區(VL)及輕鏈恆定區(CL)。CL 包含單一 CL 結構域。VH 及 VL 可進一步細分成超變區(稱為互補決定區(CDR))及較為保守之區(稱為框架區(FR))，二者間雜排列。一般而言，每一 VH 及 VL 係由三個 CDR 及四個 FR 構成，其自胺基末端至羧基末端按下列順序排列：FR1、CDR1、FR2、CDR2、FR3、CDR3 及 FR4。CDR 區可藉由標準方法(例如 Kabat 等人之彼等)來確定。免疫球蛋白分子可具有任何類型(例如 IgG、IgE、IgM、IgD、IgA 及 IgY)、類別(例如 IgG1、IgG2、IgG3、IgG4、IgA1 及 IgA2)或子類。

術語「雙特異性抗體」係指在其兩個結合臂(一個 HC/LC 對)中之一者上結合一種抗原(或表位)、且在其第二結合臂(不同 HC/LC 對)上結合不同抗原(或表位)之抗體。雙特異性抗體係雙特異性結合蛋白之一種類型。雙特異性抗體可具有兩個不同的抗原結合臂(在特異性及 CDR 序列二者方面)，且可針對與其結合之每一抗原為單價。雙特異性抗體包括藉由以下方式產生之彼等：四源雜交瘤技術(Milstein 及 Cuello (1983) Nature 305(5934): 537-40)、化學偶聯兩個不同的單株抗體(Staerz 等人(1985) Nature 314(6012): 628-31)或在 Fc 區中引入突變之隆突於孔洞中或類似方式(Holliger 等人(1993) Proc. Natl. Acad. Sci. USA 90(14): 6444-6448)。

術語「親和力成熟」係指與不具有改變之親代抗體或結合蛋白

相比，在其一或多個 CDR 或框架(FR)區中具有一或多個改變之抗體或結合蛋白，該等改變可改良抗體對抗原之親和力。實例性親和力成熟抗體或結合蛋白將具有針對靶抗原之納莫耳級或甚至皮莫耳級親和力。親和力成熟抗體或結合蛋白可藉由業內已知之程序來產生，例如 Marks 等人(1992) *BioTechnology* 10:779-783 闡述藉由 VH 及 VL 結構域改組之親和力成熟。CDR 及/或框架殘基之隨機誘變闡述於 Barbas 等人(1994) *Proc. Nat. Acad. Sci. USA* 91:3809-3813；Schier 等人(1995) *Gene* 169:147-155；Yelton 等人(1995) *J. Immunol.* 155:1994-2004；Jackson 等人(1995) *J. Immunol.* 154(7):3310-9；Hawkins 等人(1992) *J. Mol. Biol.* 226:889-896 中；且在具有增強胺基酸殘基之活性之所選誘變位置、接觸或超變位置處之突變如美國專利第 6,914,128 號中所述。

術語「CDR 移植」係指包含 VH 及/或 VL 之一或多個 CDR 區之序列經另一抗體或結合蛋白之 CDR 序列替代之重鏈及輕鏈可變區序列的抗體或結合蛋白。舉例而言，兩種抗體或結合蛋白可來自不同的物種，例如具有一或多個鼠類 CDR 已經人類 CDR 序列替代之鼠類重鏈及輕鏈可變區的抗體或結合蛋白。

術語「人類化」係指來自非人類物種之已經改變更「類人」、即更類似於人類種系序列之抗體或結合蛋白。一類人類化抗體或結合蛋白係 CDR 移植抗體或結合蛋白，其中將非人類 CDR 序列引入人類 VH 及 VL 序列中來替代相應的人類 CDR 序列。人類化抗體或結合蛋白亦涵蓋抗體或結合蛋白之包含以下各項之變體、衍生物、類似物或片段：實質上具有人類抗體之胺基酸序列(例如，與其至少 80%、至少 85%、至少 90%、至少 95%、至少 98%或至少 99%一致)的框架區 (FR)序列及至少一個實質上具有非人類抗體之胺基酸序列的 CDR。人類化抗體或結合蛋白可包含實質上所有的至少一個可變結構域(Fab、Fab'、F(ab')₂、FabC、Fv)，其中所有或實質上所有 CDR 區之序列皆

對應於非人類免疫球蛋白(即供體抗體)之彼等，且所有或實質上所有 FR 區之序列皆為人類免疫球蛋白之彼等。人類化抗體或結合蛋白亦可包括重鏈之 CH1 區、鉸鏈區、CH2 區、CH3 區及 CH4 區。在實施例中，人類化抗體或結合蛋白亦可包含人類免疫球蛋白 Fc 區之至少一部分。在一些實施例中，人類化抗體或結合蛋白僅含有人類化輕鏈。在一些實施例中，人類化抗體或結合蛋白僅含有人類化重鏈。在一些實施例中，人類化抗體或結合蛋白僅含有輕鏈之人類化可變結構域及/或重鏈之人類化可變結構域。在一些實施例中，人類化抗體或結合蛋白含有人類化輕鏈、以及重鏈之至少可變結構域。在一些實施例中，人類化抗體或結合蛋白含有人類化重鏈、以及輕鏈之至少可變結構域。

術語「抗個體基因型抗體」係指針對另一抗體之抗原組合位點之胺基酸序列產生之抗體。抗個體基因型抗體可經投與以增強針對抗原之免疫反應。

術語「生物活性」係指分子之任何一或多種生物性質(如在活體內所發現天然存在抑或藉由重組手段提供或達成)。生物性質包括(但不限於)結合受體、誘導細胞增殖、抑制細胞生長、誘導其他細胞介素、誘導細胞凋亡及酶促活性。

術語「中和」係指在結合蛋白特異性結合至抗原時抵消該抗原之生物活性。在實施例中，中和結合蛋白結合至抗原(例如，VEGF 及/或 PDGF 或其受體)且使抗原之生物活性降低至少約 20%、約 40%、約 60%、約 80%、約 85%、約 90%、約 95%或約 100% (或其間之任一百分比)。

術語「特異性」係指結合蛋白選擇性結合抗原之能力。

術語「親和力」係指結合蛋白與抗原之間相互作用之強度，且係由結合蛋白之 CDR 序列以及抗原之性質(例如其粒徑、形狀及/或電荷)決定。結合蛋白可針對提供期望治療終點、同時最小化負面副

作用之親和力來選擇。親和力可使用熟習此項技術者已知之方法來量測(例如，參見美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

術語「功效」係指結合蛋白達成期望效應之能力，且係其治療效能之量度。功效可使用熟習此項技術者已知之方法來評估(例如，參見美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

術語「交叉反應性」係指結合蛋白結合與所針對產生該結合蛋白之靶不同者之能力。一般而言，結合蛋白將以適當高之親和力結合其靶組織/抗原，但將展示適當低之對非靶正常組織之親和力。評估交叉反應性之方法為熟習此項技術者已知(例如，參見美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

術語「生物功能」係指結合蛋白之特定活體外或活體內作用。結合蛋白可靶向若干類抗原且經由多種作用機制達成期望治療結果。結合蛋白可靶向可溶性蛋白質、細胞表面抗原以及細胞外蛋白質沈積物。結合蛋白可激動(agonize)、拮抗或中和其靶之活性結合蛋白可幫助清除其所結合之靶，或可在結合至細胞時導致細胞毒性。可將兩種或更多種抗體之多個部分納入多價格式中以在單一結合蛋白分子中達成不同功能。用於評估生物功能之活體外分析及活體內模型為熟習此項技術者已知(例如，參見美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

「穩定」的結合蛋白係指結合蛋白在儲存時在一定程度上保留其物理穩定性、化學穩定性及/或生物活性者。穩定結合蛋白及評估其在不同溫度下之穩定性之方法為熟習此項技術者已知(例如，參見美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

術語「溶解度」係指蛋白質保持分散於水溶液內之能力。蛋白質在水性調配物中之溶解度取決於疏水及親水胺基酸殘基之適當分佈，

且因此，溶解度可與正確摺疊蛋白質之產生相關。熟習此項技術者將能夠使用常規 HPLC 技術及熟習此項技術者已知之方法來檢測結合蛋白溶解度之增加或減小(例如，參見美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

結合蛋白可使用多種宿主細胞來產生或可在活體外產生，且相對產量/努力決定「產生效率」。影響產生效率之因素包括(但不限於)宿主細胞類型(原核或真核)、表現載體之選擇、核苷酸序列之選擇及所用方法。用於結合蛋白產生以及量測產生效率之材料及方法為熟習此項技術者已知(例如，參見美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

術語「免疫原性」意指物質誘導免疫反應之能力。投與治療性結合蛋白可導致免疫反應之某一發生率。可在親代抗體選擇期間分析可誘導多價格式中之免疫原性之潛在要素，且可採取多個步驟來降低此風險，從而在將親代抗體之序列納入多價結合蛋白格式中之前，將其最佳化。降低抗體及結合蛋白之免疫原性之方法為熟習此項技術者已知(美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

術語「標記」及「可檢測標記」係指附接至特異性結合對(例如抗體/結合蛋白或其分析物)之成員以使特異性結合對之成員間之反應(例如，結合)可檢測的部分。特異性結合對之經標記成員稱為「經可檢測標記」。因此，術語「經標記結合蛋白」係指納入可鑑別結合蛋白之標記之蛋白質。在實施例中，標記係可產生可藉由視覺或儀器手段檢測之信號之可檢測標記物，該等手段係例如納入經放射標記之胺基酸或附接至可藉由經標記抗生物素蛋白檢測之生物素基部分的多肽(例如，含有螢光標記物或可藉由光學或比色方法檢測之酶促活性的鏈黴抗生物素蛋白)。用於多肽之標記之實例包括(但不限於)以下各項：放射性同位素或放射性核素(例如， ^3H 、 ^{14}C 、 ^{35}S 、 ^{90}Y 、 ^{99}Tc 、 ^{111}In 、

^{125}I 、 ^{131}I 、 ^{177}Lu 、 ^{166}Ho 或 ^{153}Sm)；色素原；螢光標記(例如，FITC、玫瑰紅、鑷系元素磷光體)、酶標記(例如，辣根過氧化物酶、螢光素酶、鹼性磷酸酶)；化學發光標記物；生物素基團；由二級報導基因識別之預定多肽表位(例如，白胺酸拉鍊對序列、二級抗體之結合位點、金屬結合結構域、表位標籤)；及磁性劑，例如釷螯合物。常用於免疫分析之標記之代表性實例包括產生光之部分(例如吡啶鎘化合物)及產生螢光之部分(例如螢光黃)。就此而言，該部分本身可未經可檢測標記，但可在與另一部分反應後變得可檢測。

術語「偶聯物」係指化學連接至第二化學部分(例如治療劑或細胞毒素劑)之結合蛋白。術語「藥劑」包括自生物材料製得之化學化合物、化學化合物之混合物、生物大分子或提取物。在實施例中，治療劑或細胞毒性劑包括(但不限於)百日咳毒素(pertussis toxin)、紫杉醇(taxol)、細胞鬆弛素 B (cytochalasin B)、短桿菌肽 D (gramicidin D)、溴化乙錠、依米丁(emetine)、絲裂黴素(mitomycin)、依託泊苷(etoposide)、替尼泊苷(tenoposide)、長春新鹼(vincristine)、長春鹼(vinblastine)、秋水仙鹼(colchicin)、多柔比星(doxorubicin)、道諾黴素(daunorubicin)、二羥基炭疽菌素二酮(dihydroxy anthracin dione)、米托蒽醌(mitoxantrone)、光輝黴素(mithramycin)、放線菌素 D (actinomycin D)、1-去氫翠固酮、糖皮質激素、普魯卡因(procaine)、丁卡因(tetracaine)、利多卡因(lidocaine)、普萘洛爾(propranolol)及嘌呤黴素(puromycin)及其類似物或同系物。當用於免疫分析背景下時，偶聯抗體可為用作檢測抗體之經可檢測標記之抗體。

術語「晶體」及「結晶」係指以晶體形式存在之結合蛋白(例如抗體)或其抗原結合部分。晶體係物質之一種固態形式，其不同於其他形式(例如非晶形固態或液體結晶態)。晶體係由原子、離子、分子(例如，諸如抗體等蛋白質)或分子總成(例如，抗原/抗體複合物)之規

則重複三維陣列構成。該等三維陣列係根據該領域所充分理解之特定數學關係來排列。晶體中重複之基本單元或結構單元稱為不對稱單元。排列中不對稱單元之依從明確定義之給定晶體對稱性之重複提供晶體之「晶胞」。藉由在所有三個維度中規則性平移之晶胞重複提供晶體。(參見 Giege 及 Ducruix (1999) CRYSTALLIZATION OF NUCLEIC ACIDS AND PROTEINS, A PRACTICAL APPROACH, 第 2 版, 第 20 1-16 頁, Oxford University Press, NY, NY)。

術語「載體」係指能夠轉運與其連接之另一核酸之核酸分子。一類載體為「質體」,其係指額外 DNA 區段可連接至其中之環形雙鏈 DNA 環。另一類載體為病毒載體,其中額外 DNA 區段可連接至病毒基因體中。其他載體包括 RNA 載體。某些載體能夠在引入其之宿主細胞中進行自主複製(例如,具有細菌複製起點之細菌載體及附加型哺乳動物載體)。其他載體(例如,非附加型哺乳動物載體)可在引入宿主細胞中時整合至該宿主細胞之基因體中,並藉此隨宿主基因體一起複製。某些載體能夠引導與其可操作地連接之基因之表現。該等載體在本文中稱為「重組表現載體」(或簡稱為「表現載體」)。一般而言,在重組 DNA 技術中可用之表現載體通常呈質體形式。在本說明書中,「質體」與「載體」可互換使用,此乃因質體係載體之最常用形式。然而,本發明亦包括提供等效功能之其他形式之表現載體,例如病毒載體(例如,複製缺陷型反轉錄病毒、腺病毒及腺相關病毒)。可將一組 pHybE 載體(例如,美國專利第 8,187,836 號)用於親代抗體及 DVD 結合蛋白選殖。可使用源自 pJP183 (pHybE-hCg1,z,non-a V2) 及 pJP184 之 V1 來選殖具有野生型恆定區或經修飾恆定區(例如,經 L234、L235、H435A 修飾之 IgG1 恆定區)之抗體及 DVD 重鏈。可使用源自 pJP191 (具或不具對 Kozak 位點之修飾) (pHybE-hCk V3) 之 V2 來選殖具有 κ 恆定區之抗體及 DVD 輕鏈。可使用源自 pJP192

(pHybE-hCl V2)之 V3 來選殖具有 λ 恆定區之抗體及 DVD 輕鏈。可使用經構建具有 λ 信號肽及 κ 恆定區之 V4 來選殖具有 λ - κ 雜合 V 結構域之 DVD 輕鏈。可使用經構建具有 κ 信號肽及 λ 恆定區之 V5 來選殖具有 κ - λ 雜合 V 結構域之 DVD 輕鏈。可使用源自 pJP183 (pHybE-hCg1,z,non-a V2)之 V7 來選殖具有(234,235 AA)突變體恆定區之抗體及 DVD 重鏈。

術語「重組宿主細胞」或「宿主細胞」係指向其中引入外源(例如重組) DNA 之細胞。該等術語不僅指具體個體細胞，且亦指該細胞之子代。由於突變或環境影響可使後續各代發生某些改變，故該子代實際上可能與親代細胞不同，但仍包括於如本文所用術語「宿主細胞」之範疇內。在實施例中，宿主細胞包括原核及真核細胞。在實施例中，真核細胞包括原生生物、真菌、植物及動物細胞。在另一實施例中，宿主細胞包括(但不限於)原核細胞系大腸桿菌；哺乳動物細胞系 CHO、HEK 293、COS、NS0、SP2 及 PER.C6；昆蟲細胞系 Sf9；及真菌細胞啤酒酵母。

術語「轉染」涵蓋常用於將外源核酸(例如，DNA)引入宿主細胞中之多種技術，例如電穿孔、磷酸鈣沈澱、DEAE-葡聚糖轉染及諸如此類。

術語「細胞介素」係指由一個細胞群體釋放作用於另一細胞群體作為細胞內調劑之蛋白質。術語「細胞介素」包括來自天然來源或來自重組細胞培養物之蛋白質及天然序列細胞介素之生物活性等效物。

術語「生物樣品」係指一定量的來自活的生物(living thing)或死的生物(formerly living thing)之物質。該等物質包括(但不限於)血液、血漿、血清、尿、羊水、滑液、內皮細胞、白血球、單核球、其他細胞、器官、組織、骨髓、淋巴結及脾。

術語「組份」係指組合物之成份。例如，關於診斷套組，組份可為捕獲抗體、檢測或偶聯抗體、對照、校準物、一系列校準物、靈敏度組、容器、緩衝液、稀釋劑、鹽、酶、酶輔因子、檢測試劑、預處理試劑/溶液、受質(例如，作為溶液)、終止溶液及可包括在用於分析測試樣品之套組中之類似物質。因此，「組份」可包括藉由例如結合至抗分析物(例如，抗多肽)抗體而固定於固體支撐上之上述多肽或另一分析物。一些組份可於溶液中或經凍乾以供重構用於分析。

「對照」係指已知不為分析物(「陰性對照」)或含有分析物(「陽性對照」)之組合物。陽性對照可包含已知濃度之分析物。「陽性對照」可用於確立分析性能特徵且係試劑(例如，分析物)完整性之有用指示劑。

「預定截止」及「預定水準」通常係指用於藉由比較分析結果與預定截止/水準來評估診斷/預測/治療效能結果之分析截止值，其中已將預定截止/水準與各種臨床參數(例如，疾病之嚴重程度、進展/無進展/改良等)聯繫或關聯。儘管本發明可提供實例性預定水準，但業內熟知截止值可端視免疫分析(例如，所用抗體等)之性質而變化。熟習此項技術者進一步熟知，使本文之揭示內容適應其他免疫分析以獲得彼等基於此揭示內容之其他免疫分析之免疫分析特異性截止值。鑒於預定截止/水準之精確值可在分析間有所變化，如本文所述之相關性(若有)通常可適用。

如本文所述之診斷分析中所用之「預處理試劑」(例如，溶解、沈澱及/或增溶試劑)係指溶解任何細胞及/或使測試樣品中所存在之任何分析物增溶者。並非所有樣品皆需預處理，如本文所進一步闡述。使分析物(例如，所關注多肽)增溶可能尤其需要自樣品中所存在之任何內源性結合蛋白釋放分析物。預處理試劑可為均質(無需分離步驟)或異質(需要分離步驟)。藉由使用異質預處理試劑，可在進行至下一

分析步驟之前自測試樣品去除任何經沈積分析物結合蛋白。

在本文所述之免疫分析及套組之背景下，「品質控制試劑」包括(但不限於)校準物、對照及靈敏度組。通常使用(例如，一或多種，例如複數種)「校準物」或「標準物」來建立校準(標準)曲線用於內插分析物(例如抗體或分析物)之濃度。另一選擇為，可使用接近預定正/負截止之單一校準物。可結合使用多個校準物(即，一種以上之校準物或不同量之校準物)以包含「靈敏度組」。

術語「特異性結合伴侶」係指特異性結合對之成員。特異性結合對包含兩個經由化學或物理方式彼此特異性結合之不同分子。因此，除抗原及抗體特異性結合外，其他特異性結合對可包括生物素與抗生物素蛋白(或鏈黴抗生物素蛋白)、碳水化合物與凝集素、互補核苷酸序列、效應物與受體分子、輔因子與酶、酶抑制劑與酶及諸如此類。另外，特異性結合對可包括為原始特異性結合成員之類似物之成員，例如分析物-類似物。免疫反應性特異性結合成員包括抗原、抗原片段及抗體，包括經分離或重組產生之單株及多株抗體以及其複合物、片段及變體(包括變體之片段)。

術語「Fc 區」係指免疫球蛋白重鏈之可藉由完整抗體或結合蛋白之木瓜蛋白酶消化產生之 C 末端區域。Fc 區可為天然序列 Fc 區或變體 Fc 區。免疫球蛋白之 Fc 區通常包含兩個恆定結構域、CH2 結構域及 CH3 結構域，且視情況包含 CH4 結構域。藉由替代 Fc 部分中之胺基酸殘基來改變效應物功能為業內所知(例如美國專利第 5,648,260 號及第 5,624,821 號)。Fc 區調介若干重要效應物功能，例如細胞介素誘導、抗體依賴性細胞介導之細胞毒性(ADCC)、吞噬作用、補體依賴性細胞毒性(CDC)及抗體或結合蛋白及抗原-抗體或抗原結合蛋白複合物之半衰期/清除速率。在一些情形下，該等效應物功能對於治療性免疫球蛋白係合意的，但在其他情形下可能為不需要或

甚至有害的，此端視治療目的而定。

術語結合蛋白之「抗原結合部分」係指結合蛋白之保留特異性結合至抗原之能力之一或多個片段。結合蛋白之抗原結合功能可由全長結合蛋白之片段、包括例如結合至兩種或更多種不同抗原之雙特異性、雙重特異性或多特異性格式來實施。術語結合蛋白之「抗原結合部分」內所涵蓋結合片段之實例包括(i) Fab 片段，即由 VL、VH、CL 及 CH1 結構域組成之單價片段；(ii) F(ab')₂ 片段，即包含兩個由鉸鏈區之二硫橋連接之 Fab 片段的二價片段；(iii) 由 VH 及 CH1 結構域組成之 Fd 片段；(iv) 由抗體或結合蛋白之單臂之 VL 及 VH 結構域組成的 Fv 片段；(v) dAb 片段，其包含單一可變結構域；及(vi) 經分離互補決定區(CDR)。另外，儘管 Fv 片段之兩個結構域 VL 及 VH 係由單獨基因編碼，但其可例如使用重組方法、藉由合成連接體連結，該合成連接體使其能夠作為 VL 及 VH 區配對形成單價分子的蛋白單鏈(稱為單鏈 Fv (scFv))製備。該等單鏈抗體或結合蛋白亦意欲涵蓋於術語抗體或結合蛋白之「抗原結合部分」內。亦涵蓋單鏈抗體之其他形式，例如雙價抗體。另外，單鏈抗體或結合蛋白亦包括包含與互補輕鏈多肽一起形成抗原結合區域對之串聯 Fv 區段對(VH-CH1-VH-CH1)的「線性」抗體或結合蛋白。

術語「多價結合蛋白」係指包含兩個或更多個抗原結合位點之結合蛋白。在實施例中，多價結合蛋白經改造以具有三個或更多個抗原結合位點，且可不為天然抗體。術語「多特異性結合蛋白」係指能夠結合兩個或更多個相關或不相關靶之結合蛋白。在實施例中，本文所提供之雙可變結構域(DVD)結合蛋白包含兩個或更多個抗原結合位點且為四價或多價結合蛋白。

術語「連接體」係指胺基酸殘基或包含兩個或更多個胺基酸殘基藉由肽鍵連結之多肽，該等肽鍵用於連結兩條多肽(例如，兩個 VH

或兩個 VL 結構域)。該等連接體多肽為業內所熟知(例如，參見 Holliger 等人(1993) *Proc. Natl. Acad. Sci. USA* 90:6444-6448；Poljak 等人(1994) *Structure* 2:1121-1123)。用於本文所述結合蛋白中之多個適宜連接體闡釋於表 55 中。在一些實施例中，重鏈上之 X1 連接體係 GS-H10 連接體，且輕鏈上之 X1 連接體係 GS-L10(dR)連接體。在一些實施例中，重鏈上之 X1 連接體係 GS-H10 連接體，且輕鏈上之 X1 連接體係 GS-L10 連接體。在一些實施例中，重鏈上之 X1 連接體係 HG 短連接體，且輕鏈上之 X1 連接體係 LK 長連接體。

術語「Kabat 編號」、「Kabat 定義」及「Kabat 標記」在本文中可互換使用。業內公認之該等術語係指編號比抗體或結合蛋白或其抗原結合部分之重鏈及輕鏈可變區中之其他胺基酸殘基可變性更大(即超變)之胺基酸殘基的系統(Kabat 等人(1971) *Ann. NY Acad. Sci.* 190:382-391 及 Kabat 等人(1991) *Sequences of Proteins of Immunological Interest*，第 5 版，U.S. Department of Health and Human Services，NIH 公開案第 91-3242 號)。就重鏈可變區而言，超變區介於 31 至 35 位胺基酸(CDR1)、50 至 65 位胺基酸(CDR2)及 95 至 102 位胺基酸(CDR3)範圍內。就輕鏈可變區而言，超變區介於 24 至 34 位胺基酸(CDR1)、50 至 56 位胺基酸(CDR2)、及 89 至 97 位胺基酸(CDR3)範圍內。在一些實施例中，CDR 序列、框架序列及或恆定區序列係使用 Kabat 編號來鑑別。

術語「CDR」係指免疫球蛋白可變區序列內之互補決定區。對於重鏈及輕鏈可變區中之每一者而言，在重鏈及輕鏈可變區之每一者中存在三個 CDR，其命名為 CDR1、CDR2 及 CDR3。術語「CDR 組」係指存在於能夠結合抗原之單一可變區中之三個 CDR 之群。已根據不同系統不同地定義該等 CDR 之確切邊界。Kabat 所述之系統(Kabat 等人(1987)及(1991))不僅提供適用於抗體或結合蛋白之任一可變區的

明確殘基編號系統，且亦提供界定每一重鏈或輕鏈序列中該三個 CDR 之精確殘基邊界。該等 CDR 可稱為 Kabat CDR。Chothia 及同事 (Chothia 及 Lesk (1987) *J. Mol. Biol.* 196:901-917；Chothia 等人(1989) *Nature* 342:877-883)發現，Kabat CDR 內之某些子部分儘管在胺基酸序列層面上具有較大差別但仍採用幾乎相同的肽骨架構象。將該等子部分命名為 L1、L2 及 L3 或 H1、H2 及 H3，其中「L」及「H」分別命名輕鏈及重鏈區。該等區域可稱為 Chothia CDR，其具有與 Kabat CDR 重疊之邊界。界定與 Kabat CDR 重疊之 CDR 之其他邊界闡述於 Padlan (1995) *FASEB J.* 9:133-139 及 MacCallum (1996) *J. Mol. Biol.* 262(5):732-45)中。其他 CDR 邊界定義可不嚴格地遵循本文系統中之一者，但將與 Kabat CDR 重疊，儘管其可根據具體殘基或殘基群或甚至整個 CDR 不顯著影響抗原結合之預測或實驗發現來縮短或延長。本文所用方法可利用根據該等系統中之任一者定義之 CDR，但某些實施例使用 Kabat 或 Chothia 定義之 CDR。

術語「表位」係指經本文所揭示之結合蛋白特異性結合之抗原區域。在某些實施例中，表位決定簇包括分子之化學活性表面基團 (例如胺基酸、糖側鏈、磷醯基或磺醯基)，且在某些實施例中可具有特異性三維結構特徵及/或特異性電荷特徵。抗原或片段可含有一個以上之表位。表位可藉由獲得抗體:抗原複合物之 X 射線晶體結構並確定抗原(例如，VEGF 或 PDGF 或受體)上之哪些殘基在所關注抗體上之指定殘基距離內來確定，其中指定距離為 5 Å 或更小，例如 5 Å、4 Å、3 Å、2 Å、1 Å 或更小或其間之任一距離。在一些實施例中，表位定義為一段沿抗原序列之 8 個或更多個鄰接胺基酸殘基，其中在 X 射線晶體結構中至少 50%、70%或 85%之殘基在抗體或結合蛋白之指定距離內。

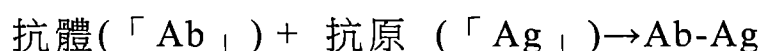
在某些實施例中，當結合蛋白優先識別蛋白質及/或大分子之複

合混合物中之其靶抗原時，結合蛋白特異性結合抗原。結合至相同或相似表位之結合蛋白將可能交叉競爭(一者防止另一者之結合或調節效應)。然而，即使在部分或完整表位不重疊下(例如，若表位在三維空間中毗鄰及/或因立體阻礙所致)仍可出現交叉競爭。

術語「藥物動力學」係指生物體吸收、分佈、代謝及分泌藥物之過程。為產生具有期望藥物動力學特徵之多價結合蛋白分子，選擇具有類似期望藥物動力學特徵之親代單株抗體。所選親代單株抗體之 PK 特徵可在齧齒類動物中使用熟習此項技術者已知之方法容易地確定(例如，參見美國專利第 7,612,181 號)。

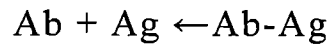
術語「生物利用度」係指藥物吸收至活系統中或使得可在生理活性位點處獲得之程度及速率。生物利用度可隨若干前述性質(包括穩定性、溶解度、免疫原性及藥物動力學)而變化，且可使用熟習此項技術者已知之方法來評估(例如，參見美國專利第 7,612,181 號)。

術語「表面電漿子共振」係指允許藉由利用 BIAcore®系統 (BIAcore International AB, GE Healthcare 公司, Uppsala, Sweden 及 Piscataway, NJ) 檢測生物感測器基質內之蛋白質濃度變化來分析實時生物特異性相互作用之光學現象。關於其他描述，參見 Jönsson 等人 (1993) *Ann. Biol. Clin.* 51:19-26。術語「 K_{on} 」係指結合蛋白(例如，抗體或 DVD-Ig)與抗原締合以形成例如 DVD-Ig/抗原複合物之結合速率常數。術語「 K_{on} 」亦指如在本文中可互換使用之「締合速率常數」或「 k_a 」。指示結合蛋白與其靶抗原之結合速率或結合蛋白(例如抗體)與抗原間之複合物形成速率的此值亦由以下等式顯示：



術語「 K_{off} 」係指結合蛋白(例如抗體或 DVD-Ig)自例如 DVD-Ig/抗原複合物之針對解離之離解速率常數或「解離速率常數」，如業內已知。此值指示結合蛋白(例如抗體)自其靶抗原之解離速率或 Ab-Ag

複合物隨時間分離成游離抗體及抗原的速率，如由以下等式所顯示：



術語「 K_d 」及「平衡解離常數」可指於平衡下在滴定量測中獲得之值，或用解離速率常數(k_{off})除以締合速率常數(k_{on})獲得之值。締合速率常數、解離速率常數及平衡解離常數用於表示結合蛋白(例如抗體或 DVD-Ig)與抗原之結合親和力。測定締合及解離速率常數之方法為業內所熟知。使用基於螢光之技術可提供高靈敏度且能夠在平衡下檢驗生理緩衝液中之樣品。可使用其他實驗方法及儀器(例如 BIAcore® (生物分子相互作用分析)分析(例如，可自 BIAcore International AB, GE Healthcare 公司, Uppsala, Sweden 購得之儀器)。另外，亦可使用 KinExA® (動態棄除分析)來分析，其可自 Sapidyne Instruments (Boise, Idaho)購得。

術語「變體」係指胺基酸序列因添加(例如，插入)、缺失或保守取代胺基酸而與給定多肽不同，但保留給定多肽之生物活性的多肽(例如，變體 VEGF 抗體可與抗 VEGF 抗體競爭結合 VEGF)。業內認為胺基酸之保守取代，即用類似性質(例如，親水性及帶電區之程度及分佈)之不同胺基酸替代胺基酸通常涉及微小變化。該等微小變化可部分地藉由考慮胺基酸之親水性指數來鑑別，如業內所理解(例如，參見 Kyte 等人(1982) *J. Mol. Biol.* 157: 105-132)。胺基酸之親水性指數係基於對其疏水性及電荷之考慮。業內已知，蛋白質中具有類似親水性指數之胺基酸可經取代且該蛋白質仍保留蛋白質功能。在一個態樣中，親水性指數為 ± 2 之胺基酸經取代。胺基酸之親水性亦可用於揭露將使蛋白保留生物學功能之取代。在肽之背景下考慮胺基酸之親水性容許計算該肽之最大局部平均親水性，此係已報導與抗原性及免疫原性充分相關之可用量度(例如，參見美國專利第 4,554,101 號)。取代具有類似親水性值之胺基酸可使肽保留生物活性，例如免疫原性，

如業內所理解。在一個態樣中，用親水性值彼此在 ± 2 內之胺基酸實施取代。胺基酸之疏水性指數及親水性值二者皆受該胺基酸之具體側鏈影響。與該觀察一致，應理解，與生物功能相容之胺基酸取代取決於胺基酸且尤其彼等胺基酸之側鏈之相對相似性，如藉由疏水性、親水性、電荷、粒徑及其他性質所揭露。術語「變體」亦包括已藉由例如蛋白質水解、磷酸化或其他轉譯後修飾進行差別處理，但仍保留其生物活性或抗原反應性(例如，結合至 VEGF 之能力)的多肽或其片段。除非另有定義，否則術語「變體」涵蓋變體之片段。變體與野生型序列可為約 99%、98%、97%、96%、95%、94%、93%、92%、91%、90%、89%、88%、87%、86%、85%、84%、83%、82%、81%、80%、79%、78%、77%、76%或 75%一致。

所揭示結合蛋白於治療多種疾病之用途

本文所提供之結合蛋白分子可用作治療分子來治療多種疾病，例如，其中由結合蛋白識別之靶係有害的。該等結合蛋白可結合一或多個參與特定疾病之靶。

在不限制本發明下，提供關於某些疾病病況之其他資訊。

1. 年齡相關之黃斑變性(AMD)

在各個實施例中，可使用一或多種本文所揭示能夠結合至 VEGF 及 PDGF 及/或其同源受體之結合蛋白(例如，抗 VEGF 及抗 PDGF 結合蛋白之組合或能夠靶向 VEGF 及 PDGF 二者之多特异性結合蛋白)來治療 AMD。在一些實施例中，可使用本文所揭示之任一結合蛋白或包含本文所揭示任一結合蛋白之 CDR 及/或可變結構域序列的結合蛋白來治療 AMD。在某些實施例中，用於治療 AMD 之結合蛋白係表 27-30、38-42、46-50 或 55-58 中所列示結合蛋白中之一或多者。在某些實施例中，用於治療 AMD 之結合蛋白係表 56-58 中所列示結合蛋白中之一或多者。在某些實施例中，結合蛋白係 PR-1572102、

PR-1572105 或 PR-1610561。

年齡相關之黃斑變性(AMD)係美國 50 歲以上個人之不可逆視覺損失之主要原因且係世界範圍內失明之主要原因。全球有 1.6 億以上之人患有 AMD。AMD 係因黃斑受損所致而引起失明之年齡相關之眼部疾病；黃斑係負責清晰的中心視覺之視網膜區域。其與黃斑且具體而言視網膜色素上皮(RPE)之變性相關。

該疾病係以兩種形式發生，乾性或非滲出性 AMD 形式及濕性或滲出性形式。黃斑變性之最常見形式乾性 AMD (無新血管形成)係該疾病之早期階段，且可因黃斑組織老化及變薄、黃斑中之色素沈積或兩個過程之組合引起。當黃色斑點(稱為隱結)在黃斑中及其周圍聚集時診斷為乾性 AMD。業內認為隱結係來自附近劣化組織之沈積物或碎片。乾性 AMD 之發作通常與年齡相關之布魯赫膜(Bruch's membrane)變化相關，布魯赫膜係用於黏附視網膜色素上皮(RPE)細胞之高度專用基質。布魯赫膜之該等變化可導致黃斑中之 RPE 細胞死亡、隱結累積及光受體細胞受損。逐步中心視覺損失可伴隨乾性 AMD 發生，但症狀通常幾乎不如伴隨該疾病之濕性形式發生時嚴重。乾性 AMD 可緩慢進展至晚期地圖狀萎縮(GA)，從而導致可引起嚴重視覺損失之視網膜細胞逐步劣化。乾性 AMD (早期及晚期二者)係 AMD 之最常見形式，其代表 85%以上之所有經診斷病例。

該疾病之濕性或滲出性形式通常導致更嚴重之視覺損失。濕性黃斑變性主要影響中心視覺，從而在視覺之中心線中產生「盲點」。約 10%-15%之乾性 AMD 病例會進展至濕性 AMD。濕性 AMD 之特徵在於視網膜下之新血管生長。在臨床上，此稱為脈絡膜新血管形成(CNV)。濕性 AMD 佔所有 AMD 病例之約 10%-15%。乾性 AMD 至濕性 AMD 之進展之特徵在於在布魯赫膜內以及在視網膜下空間中發生新血管形成。濕性 AMD 發生在視網膜後之異常血管在黃斑下生長時。

該等新血管往往較為脆弱且通常滲血及滲液。血液及液體會引起黃斑發炎且變稠並破壞光受體與 RPE 間之關聯，從而導致視覺損失。在濕性 AMD 中，新血管形成受許多血管生成因子之刺激；該等血管生成因子包括血管內皮生長因子(VEGF)，其似乎係濕性 AMD 患者中之主要血管生成因子(Miller 等人(1994) *Am. J. Pathol.* 145(3):574-584)。另外，VEGF 可用作強內皮細胞促分裂原，以增加血管通透性。當前 AMD 治療之主要目標係阻斷或抑制脈絡膜新血管形成(CNV)及視網膜靜脈阻塞(RVO)後之黃斑水腫、穩定或改良視覺及減少不利效應之發生。

抗 VEGF 劑可減少脈絡膜新血管形成(CNV)及滲漏，但不會使 CNV 本身退化。新出現的證據指示周細胞對新血管成熟之重要作用。抗 PDGF 劑可直接阻斷周細胞募集且防止脈絡膜新血管形成成熟及穩定。若周細胞可自新血管剝離，則血管內皮細胞可能變得對 VEGF 阻斷更敏感，最終導致血管生成退化。

在其他功能中，VEGF 刺激內皮細胞增殖/生長、增加血管通透性及促進能夠使視網膜內皮細胞受損之白血球活性(Leung 等人(1989) *Science* 246(4935):1306-9)。在濕性 AMD 中，視網膜組織產生並釋放結合至位於附近既有血管之內皮細胞上之特異性受體的血管生成生長因子，例如 VEGF。內皮細胞之活化可使得靶向緊密接合之酶釋放。該等酶作用於圍繞所有現有血管之基底膜且使得在膜中形成孔洞。內皮細胞增殖並遷移通過該等孔洞到達患病組織。專用黏附分子(例如整聯蛋白)促進新血管芽之形成，且基質金屬蛋白酶(MMP)溶解出芽血管末梢前面之組織以容納該出芽血管末梢。最後，平滑肌細胞(周細胞)為該等新形成之血管環提供結構支撐且血液開始在該等不成熟新血管中流動。因此，VEGF 可用作血管生成中之限速步驟。VEGF 亦藉由白血球介導之內皮細胞損傷、形成開窗及溶解緊密接合來增加

血管通透性。此導致視網膜內液體累積及對視覺敏銳度之有害效應。另外，VEGF 亦可引起進一步加強發炎及血管生成之週期之發炎性細胞介素的釋放。

在一些實施例中，使用本文所揭示之結合蛋白抑制 VEGF、PDGF 及/或受體(在組合療法中或在一個分子中)之治療可為濕性 AMD 患者提供經改良之選擇，同時減少注射次數、減少與多次注射相關之安全性問題並降低成本。

2. 糖尿病視網膜病變

糖尿病視網膜病變係最常見之糖尿病性眼病且係美國成人失明之主要原因。其係由視網膜血管之變化引起。在一些患有糖尿病視網膜病變之人中，血管可腫脹且滲液。在其他人中，異常新血管在視網膜表面上生長。視網膜係眼睛後部之光敏感組織。健康視網膜為良好視覺所必需。

糖尿病視網膜病變具有四個階段：(1) 輕度非增生性視網膜病變。在此最早階段，出現微動脈瘤。其係視網膜之微細血管中之較小氣球樣腫脹區域。(2) 中度非增生性視網膜病變。隨著疾病進展，一些滋養視網膜之血管被阻斷。(3) 重度非增生性視網膜病變。更多血管被阻斷，從而喪失視網膜之若干區域之血液供應。該等視網膜區域將信號發送至身體以使新血管生長用於滋養。(4) 增生性視網膜病變。在此晚期階段，由視網膜發送用於滋養之信號觸發新血管之生長。此病況稱為增生性視網膜病變。該等新血管係異常且脆弱的。其沿視網膜且沿填充眼睛內部之透明玻璃體凝膠之表面生長。該等血管自身不會引起症狀或視覺損失。然而，其具有脆弱的薄壁。若其滲血，則可導致嚴重視覺損失且甚至失明。

因糖尿病視網膜病變而受損之血管可以兩種方式引起視覺損失：

(1) 可形成脆弱的異常血管且使血液滲漏至眼睛之中心，從而使視覺

模糊。此係增生性視網膜病變且係該疾病之第四且最晚期階段。(2)液體可滲漏至黃斑之中心，其係眼睛之發生清晰的向前直視視覺之部分。液體使得黃斑腫脹，從而使視覺模糊。此病況稱為黃斑水腫。其可在糖尿病視網膜病變之任一階段發生，但其更可能隨著疾病進展而發生。約一半患有增生性視網膜病變之人亦患有黃斑水腫。

在一些實施例中，本文所揭示之結合蛋白可用於抑制 VEGF、PDGF 及/或受體(在組合療法中或在一個分子中)來治療糖尿病視網膜病變。

在各個實施例中，其他疾病可使用本文所揭示之結合蛋白來治療，該等疾病包括(但不限於)其他眼病、癌症、纖維化、腎病、病理性血管生成、傷口癒合、骨形成或與異常(例如，升高的) PDGF 及/或 VEGF 表現相關之其他疾病。

醫藥組合物

在各個實施例中，提供包含一或多種本文所揭示之結合蛋白單獨或與其他預防劑、治療劑及/或醫藥上可接受之載劑組合的醫藥組合物。包含本文所提供結合蛋白之醫藥組合物用於(但不限於)診斷、檢測或監測病症，用於預防、治療、管控或改善病症或其一或多種症狀，及/或用於研究中。醫藥組合物單獨或與預防劑、治療劑及/或醫藥上可接受之載劑之組合之調配物為熟習此項技術者已知(例如，參見美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

投與本文所提供之醫藥組合物或預防或治療劑之方法包括(但不限於)非經腸投與(例如，真皮內、肌內、腹膜內、玻璃體內、靜脈內及皮下)、硬膜外投與、腫瘤內投與、黏膜投與(例如，鼻內及經口途徑)及肺部投與(例如，利用吸入器或霧化器投與之氣霧化化合物)。在實施例中，投與本文所提供之醫藥組合物或預防或治療劑之方法包括局部滴眼劑、凝膠或乳霜。熟習此項技術者可獲得且已知用於特定投

與途徑之醫藥組合物之調配物以及各種投與方法所需之材料及技術(美國專利申請案第 20090311253 號及美國專利第 7,612,181 號)。

可對劑量方案加以調節以提供最佳期望反應(例如，治療性或預防性反應)。例如，可投與單次濃注，可隨時間投與若干個分開劑量或可根據治療狀況緊急程度所指示按比例減少或增加劑量。尤其有利地將非經腸組合物調配成劑量單位形式以便於投與及劑量均勻性。術語「劑量單位形式」係指適於作為單位劑量供欲治療哺乳動物個體使用之物理離散單位；每一單位含有經計算與所需醫藥載劑一起產生期望治療效應的預定量之活性化合物。本文所提供劑量單位形式之規格取決於且直接依賴於下列因素：(a) 活性化合物之獨特特徵及欲達成之具體治療或預防效應，及(b) 複合該活性化合物以治療個體敏感性之技術中固有的限制條件。治療或預防有效量之本文所提供結合蛋白之實例性非限制性範圍係 0.1-20 mg/kg，例如 1-10 mg/kg。應注意，劑量值可隨欲緩和病況之類型及嚴重程度而變化。應進一步理解，就任一具體個體而言，可根據個體需要及投與組合物或監督組合物投與之個人的專業判斷隨時調整特定劑量方案，且本文所述劑量範圍僅為舉例說明且並非意欲限制所主張組合物之範疇或實踐。

組合治療

在各個實施例中，本文所提供之結合蛋白亦可與一或多種可用於治療多種疾病之其他治療劑一起投與，該其他藥劑係由熟習此項技術者選擇用於其預期目的。舉例而言，其他藥劑可為業內公認可用於治療經本文所提供抗體治療之疾病或病況(例如 AMD)之治療劑。該組合亦可包括一種以上之其他藥劑，例如兩種或三種其他藥劑。

組合治療劑包括(但不限於)顯影劑、細胞毒性劑、血管生成抑制劑、激酶抑制劑、酪胺酸激酶抑制劑、酪胺酸激酶受體抑制劑、共刺激分子阻斷劑、黏附分子阻斷劑、抗細胞介素抗體或其功能性片段、

胺甲喋呤、環孢素、雷帕黴素、FK506、可檢測標記或報導基因、TNF 拮抗劑、抗風濕藥、肌肉鬆弛劑、麻醉藥、非類固醇消炎藥 (NSAID)、止痛藥、麻醉劑、局部麻醉劑、鎮靜劑、玻尿酸酶、神經肌肉阻斷劑、抗微生物劑、抗牛皮癬藥、皮質類固醇、同化類固醇、促紅血球生成素、免疫劑、免疫球蛋白、免疫抑制劑、生長激素、激素替代藥物、放射性醫藥、抗抑鬱藥、抗精神病藥、刺激劑、氣喘藥劑、 β 激動劑、吸入性類固醇、腎上腺素或類似物、細胞介素或細胞介素拮抗劑。

診斷

在各個實施例中，本文之揭示內容亦提供診斷應用，包括(但不限於)診斷分析方法、含有一或多種結合蛋白之診斷套組及該等方法及套組用於自動化及/或半自動化系統中之適應。所提供之方法、套組及適應可用於檢測、監測及/或治療個體之疾病或病症。此進一步闡述於下文中。

本發明亦提供使用至少一種如本文所述之結合蛋白來確定測試樣品中分析物或其片段之存在、量或濃度之方法。在該方法中可使用如業內已知之任一適宜分析。實例包括(但不限於)免疫分析及/或採用質譜之方法。

本發明所提供之免疫分析尤其可包括夾心免疫分析、放射免疫分析(RIA)、酶免疫分析(EIA)、酶聯免疫吸附分析(ELISA)、競爭性抑制免疫分析、螢光偏振免疫分析(FPIA)、酶增幅免疫分析技術(EMIT)、生物發光共振能量轉移(BRET)及均質化學發光分析。

化學發光微粒免疫分析、具體而言採用 ARCHITECT® 自動化分析儀(Abbott Laboratories, Abbott Park, IL)者係免疫分析之實例。

本發明提供採用質譜之方法且包括(但不限於) MALDI (基質輔助雷射脫附/電離)或藉由 SELDI (表面增強雷射脫附/電離)。

熟習此項技術者將熟知使用免疫分析及質譜收集、處置、處理及分析生物測試樣品之方法，其經提供用於本發明實踐中(例如，參見美國專利第 7,612,181 號)。

套組

在各個實施例中，亦提供用於分析測試樣品之測試樣品中分析物或其片段之存在、量或濃度的套組。該套組包含至少一種用於分析測試樣品之分析物或其片段的組份，及分析測試樣品之分析物或其片段的說明書。該至少一種用於分析測試樣品之分析物或其片段的組份可包括包含如本文所揭示之結合蛋白及/或視情況固定在固相上之抗分析物結合蛋白(或其片段、變體或變體之片段)的組合物。

視情況，該套組可包含可包含經分離或純化之分析物之校準物或對照。該套組可包含至少一種藉由免疫分析及/或質譜分析測試樣品之分析物之組份。該等套組組份(包括分析物、結合蛋白及/或抗分析物結合蛋白或其片段)可視情況使用任何業內已知之可檢測標記來標記。經提供用於本發明實踐中之產生用材料及方法為熟習此項技術者已知(例如，參見美國專利第 7,612,181 號)。

套組(或其組份)以及藉由分析(例如如本文所述之免疫分析)確定測試樣品中分析物之存在、量或濃度之方法可適用於多種自動化及半自動化系統(包括其中固相包含微粒之彼等)中，如例如美國專利第 5,089,424 號及第 5,006,309 號中所述，且如例如由 Abbott Laboratories (Abbott Park, IL)以 ARCHITECT®所出售。

可自 Abbott Laboratories 購得之其他平臺包括(但不限於) AxSYM®、IMx® (例如，參見美國專利第 5,294,404 號)、PRISM®、EIA (珠粒)及 Quantum™ II 以及其他平臺。另外，分析、套組及套組組份可以其他格式使用，例如於電化學或其他手持式或定點照護分析系統上。本發明適用於例如實施夾心免疫分析之市售 Abbott Point of

Care (i-STAT®, Abbott Laboratories)電化學免疫分析系統。一次性使用測試裝置中之免疫感測器及其製造及操作方法闡述於例如美國專利第 5,063,081 號、第 7,419,821 號、第 7,682,833 號、第 7,723,099 號及第 9,035,027 號；及美國公開案第 20040018577 號中。

序列

表 1 揭示編碼不同人類同種型及不同物種之 VEGF-A 之胺基酸及核苷酸序列。表 2 揭示編碼不同人類同種型及不同物種之 PDGF-BB 之胺基酸及核苷酸序列。表 3 揭示人類 IgG 重鏈及輕鏈恆定結構域，包括相對於野生型序列具有所指示胺基酸修飾之序列。在各個實施例中，表 3 中所列示之恆定結構域可與本文所揭示之任一結合蛋白一起使用。本文所揭示結合蛋白之可變結構域可附接至任何免疫球蛋白種類、同型或突變體之恆定區。恆定結構域突變體中之實例性修飾包括具有意欲增加或減小恆定結構域與 Fc- γ 受體、C1q 及 FcRn 之相互作用之胺基酸突變及/或意欲調節蛋白質穩定性或化合價之突變的彼等(全長及半分子、異二聚體分子等)。表 4 及 5 揭示可與本文所揭示之任一 CDR 組(即，重鏈受體序列與本文所揭示重鏈 CDR 1-3 中之任一者配對，及/或輕鏈受體序列與本文所揭示輕鏈 CDR 1-3 中之任一者配對)一起使用形成 PDGF、VEGF 及/或其同源受體之功能性結合位點的實例性重鏈及輕鏈受體框架序列。

表 1. VEGF-A 之胺基酸及核苷酸序列

序列類別	序列標識符	序列
		123456789012345678901234567890
人類 VEGF-A 165 胺基酸序列	SEQ ID NO:x	APMAEGGGQNHHEVVKFMDVYQRSY CHPIE TLVDIFQEYPDEIEYIFKPSCVPLMRCGG C CNDEGLECVPTTEESNITMQIMRIKPHQG QH IGEMSFLQH NKCECRPKKDRARQENPC GPC SERRKHLFVQDPQTCKCCKNTDSRCK ARQ LELNERTCRCDKPRR
人類 VEGF-A 121 胺基酸序列	SEQ ID NO:x	APMAEGGGQNHHEVVKFMDVYQRSY CHPIE TLVDIFQEYPDEIEYIFKPSCVPLMRCGG C CNDEGLECVPTTEESNITMQIMRIKPHQG QH IGEMSFLQH NKCECRPKKDRARQEKCD KPR R
人類 VEGF-A 110 胺基酸序列	SEQ ID NO:x	APMAEGGGQNHHEVVKFMDVYQRSY CHPIE TLVDIFQEYPDEIEYIFKPSCVPLMRCGG C CNDEGLECVPTTEESNITMQIMRIKPHQG QH IGEMSFLQH NKCECRCDKPRR

序列類別	序列標識符	序列
		123456789012345678901234567890
食蟹猴 (Cynomolgus monkey) VEGF-A 165 胺基酸序列	SEQ ID NO:x	APMAEGGGQNHHEVVKFMDVYQRSYC HPIE TLVDIFQEYPDEIEYIFKPSCVPLMRCGGC CNDEGLECVPTTEESNITMQIMRIKPHQGG H IGEMSFLQHNKCECRPKKDRARQENPCG PC SERRKHLFVQDPQTCKCCKNTDSRCKA RQ LELNERTCRCDKPRR
小鼠 VEGF-A 164 胺基酸序列	SEQ ID NO:x	APTTEGEQKSHEVIKFMDVYQRSYCRPI ET LVDIFQEYPDEIEYIFKPSCVPLMRCAGC C NDEALECVPTSESNTMQIMRIKPHQSQ HI ERMSFLQHSRCECRPKKDRTPENHCE PCS ERRKHLFVQDPQTCKCCKNTDSRCKA RQL ELNERTCRCDKPRR

序列類別	序列標識符	序列
		123456789012345678901234567890
大鼠 VEGF-A 164 胺基酸序列	SEQ ID NO:x	APTTEGEQKAHEVVVKFMDVYQRSYCR PIET LVDIFQEYPDEIEYIFKPSCVPLMRCAGC C NDEALECVPTSESNVTMQIMRIKPHQSQ HI GEMSFLQHSRCECRPKKDRTKPENHCE PCS ERRKHLFVQDPQTCKCCKNTDSRCKA RQL ELNERTCRCDKPRR
兔 VEGF-A 胺基 酸序列	SEQ ID NO:x	MNFLLSWVHWSLALLLYLHHAKWSQA APMA EEGDNKPHEVVVKFMEVYRRSYCQPIET LVD IFQEYPDEIEYIFKPSCVPLVRCGGCCND E SLECVPTTEEFNVTMQIMRIKPHQGQHIG EM SFLQHINKCECRPKKDRARQENPCGPCS ERR KHLFVQDPQTCKCCKNTDSRCKARQL ELN ERTCRCDKPRR

表 2. PDGF-BB 之胺基酸及核苷酸序列

序列類別	序列標識符	序列
		123456789012345678901234567890
人類 PDGF-BB 胺基酸序列	SEQ ID NO:x	SLGSLTIAEPAMIAECKTRTEVFEISRRLI DRTNANFLVWPPCVEVQRCGCCNNR NVQC RPTQVQLRPVQVRKIEIVRKKPIFKKAT VT LEDHLACKCETVAAARPVT
人類 PDGF-BB- RM (滯留基序) 胺基酸序列	SEQ ID NO:x	MNRCWALFLSLCCYLRLVSAEGDPIPEE LY EMLSDHSIRSFDDLQROLLHGDPGEEDG AEL DLNMTRSHSGGELESLARGRRSLGSLTI AE PAMIAECKTRTEVFEISRRLIDRTNAN FLV WPPCVEVQRCGCCNNRNVQCRPTQ VQLRP VQVRKIEIVRKKPIFKKATVTLEDHL ACKC ETVAAARPVTRSPGGSQEQRAKTPQTR VTI RTVRVRRPPKGKHRKFKHHTDKTALKE TLG A

序列類別	序列標識符	序列
		123456789012345678901234567890
食蟹猴 PDGF-BB 胺基酸序列	SEQ ID NO:x	SLGSLTVAEPAMIAECKTRTEVFQISRNL I DRTNANFLVWPPCVEVQRCSGCCNNR NVQC RPTQVQLRPVQVRKIEIVRKKPIFKKAT VT LEDHLACKCETVAAARPVT
小鼠 PDGF-BB 胺基酸序列	SEQ ID NO:x	SLGSLAAAEPAVIAECKTRTEVFQISRNL LI DRTNANFLVWPPCVEVQRCSGCCNNR NVQC RASQVQMRPVQVRKIEIVRKKPIFKKAT VT LEDHLACKCETIVTPRPVT
大鼠 PDGF-BB 胺基酸序列	SEQ ID NO:x	SLGSLAAAEPAVIAECKTRTEVFQISRNL LI DRTNANFLVWPPCVEVQRCSGCCNNR NVQC RASQVQMRPVQVRKIEIVRKKPVFKKA TVT LEDHLACKCETVVTPRPVT
兔 PDGF-BBA 胺基酸序列	SEQ ID NO:x	SLGSLAAAEPAVIAECKTRTEVFQISRNL LI DRTNANFLVWPPCVEVQRCSGCCNNR NVQC RASQVQMRPVQVRKIEIVRKKPVFKKA TVT LEDHLACKCETVVTPRPVT

表 3. 人類 IgG 重鏈及輕鏈恆定結構域之胺基酸序列

蛋白質	序列標識符	序列
		123456789012345678901234567890
Ig γ -1 恆定區	SEQ ID NO:x	ASTKGPSVFFLAPSSKSTSGGTAALGCLV K DYFPEPVTVSWNSGALTSGVHTFPAVLQ SS GLYSLSSVVTVPSSSLGTQTYICNVNHKP S NTKVDKKVEPKSCDKTHTCPPCPAPELL GG PSVFLFPPKPKDTLMISRTPEVTCVVVDV S HEDPEVKFNWYVDGVEVHNAKTKPREE QYN STYRVVSVLTVLHQDWLNGKEYKCKV NKA LPAPIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESN GQP ENNYKTTTPVLDSDGSFFLYSKLTVDKS RW QQGNVFSCSVMHEALHNHYTQKSLSLS PGK

蛋白質	序列標識符	序列
		123456789012345678901234567890
Ig γ -1 恆定區 L234A、L235A	SEQ ID NO:x	ASTKGPSVFPLAPSSKSTSGGTAALGCLV K DYFPEPVTVSWNSGALTSGVHTFPAVLQ SS GLYSLSSVVTVPSSSLGTQTYICNVNHKP S NTKVDKKVEPKSCDKTHTCPPCPAPEAA GG PSVFLFPPKPKDTLMISRTPEVTCVVVDV S HEDPEVKFNWYVDGVEVHNAKTKPREE QYN STYRVVSVLTVLHQDWLNGKEYKCKV NKA LPAPIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESN GQP ENNYKTTTPVLDSGDGSFFLYSKLTVDKS RW QQGNVFSCSVMHEALHNHYTQKSLSLS PGK

蛋白質	序列標識符	序列
		123456789012345678901234567890
Ig γ -1 恆定區 L234A、 L235A、H435A	SEQ ID NO:x	ASTKGPSVFPLAPSSKSTSGGTAALGCLV K DYFPEPVTVSWNSGALTSGVHTFPAVLQ SS GLYSLSSVVTVPSSSLGTQTYICNVNHKP S NTKVDKKVEPKSCDKTHTCPPCPAPEAA GG PSVFLFPPKPKDTLMISRTPEVTCVVVDV S HEDPEVKFNWYVDGVEVHNAKTKPREE QYN STYRVVSVLTVLHQDWLNGKEYKCKV NKA LPAIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESN GQP ENNYKTTTPVLDSFGSFLYSKLTVDKS RW QQGNVFSCSVMHEALHNAYTQKSLSL S PGK

蛋白質	序列標識符	序列
		123456789012345678901234567890
Ig γ -1 恆定區 L234A、 L235A、H435R	SEQ ID NO:x	ASTKGPSVFPLAPSSKSTSGGTAALGCLV K DYFPEPVTVSWNSGALTSGVHTFPAVLQ SS GLYSLSSVVTVPSSSLGTQTYICNVNHKP S NTKVDKKVEPKSCDKTHTCPPCPAPEAA GG PSVFLFPPKPKDTLMISRTPEVTCVVVDV S HEDPEVKFNWYVDGVEVHNAKTKPREE QYN STYRVVSVLTVLHQDWLNGKEYKCKV NKA LPAPIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESN GQP ENNYKTTTPVLDSGDGSFFLYSKLTVDKS RW QQGNVFSCSVMHEALHNRYTQKSLSLSP GK

蛋白質	序列標識符	序列
		123456789012345678901234567890
Ig γ -1 恆定區 C226A、 C229A、 N297A、F405R (半體)	SEQ ID NO:x	ASTKGPSVFPLAPSSKSTSGGTAALGCLV K DYFPEPVTVSWNSGALTSGVHTFPAVLQ SS GLYSLSSVVTVPSSSLGTQTYICNVNHKP S NTKVDKKVEPKSCDKTHTAPPAPPELL GG PSVFLFPPKPKDTLMISRTPEVTCVVVDV S HEDPEVKFNWYVDGVEVHNAKTKPREE QYA STYRVVSVLTVLHQDWLNGKEYKCKV NKA LPAPIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESN GQP ENNYKTTTPVLDSGDFRLYSKLTVDKS RW QQGNVFSCSVMHEALHNHYTQKSLSLS PGK
Ig K 恆定區	SEQ ID NO:x	RTVAAPSVFIFPPSDEQLKSGTASVVCLL N NFYPREAKVQWKVDNALQSGNSQESVT EQD SKDSTYLSSTLTLSKADYEEKHKVYACE VT HQGLSSPVTKSFNRGEC

蛋白質	序列標識符	序列
		123456789012345678901234567890
Ig λ 恆定區	SEQ ID NO:x	GQPKAAPSVTLFPPSSEELQANKATLVC LI SDFYPGAVTVAWKADSSPVKAGVETTT PSK QSNNKYAASSYLSTPEQWKSHRSYSCQ VT HEGSTVEKTVAPTECS

表 4. 重鏈受體框架之胺基酸序列

SEQ ID NO:	蛋白質區域/ 最接近種系家族	胺基酸序列
		12345678901234567890123456789012
	VH3-7 FR1	EVQLVESGGGLVQPGGSLRLSCAASGFTFS
	VH3-7 FR2	WVRQAPGKGLEWVA
	VH3-7 FR3	RFTISRDNANKNSLYLQMNSLRAEDTAVYYCAR
	JH4 FR4	WGQGTLVTVSS
	VH3 CONSENSUS FR1	EVQLVESGGGLVQPGGSLRLSCAASGFTFS
	VH3 CONSENSUS FR2	WVRQAPGKGLEWVS
	VH3 CONSENSUS FR3	RFTISRDNANKNTLYLQMNSLRAEDTAVYYCAR
	JH4 FR4	WGQGTLVTVSS
	VH1-46 FR1	QVQLVQSGAEVKKPGASVKVSCKASGYTFT
	VH1-46 FR2	WVRQAPGQGLEWMG
	VH1-46 FR3	RVTMTRDTSTSTVYMELSSLRSEDVAVYYCAR
	JH4 FR4	WGQGTLVTVSS
	VH3-30 FR1	QVQLVESGGGVVQPGRSLRLSCAASGFTFS
	VH3-30 FR2	WVRQAPGKGLEWVA

SEQ ID NO:	蛋白質區域/ 最接近種系家族	胺基酸序列
		12345678901234567890123456789012
	VH3-30 FR3	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR
	JH3 FR4	WGQGTMTVSS
	VH3 CONSENSUS FR1	EVQLVESGGGLVQPGGSLRLSCAASGFTFS
	VH3 CONSENSUS FR2	WVRQAPGKGLEWVS
	VH3 CONSENSUS FR3	RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAR
	JH3 FR4	WGQGTMTVSS
	VH2-70/JH6 FR1	EVTLRESGPALVKPTQTLTLTCTFSGFSL
	VH2-70/JH6 FR2	WIRQPPGKALEWLA
	VH2-70/JH6 FR3	RLTISKDTSKNQVVL TMTNMDPVDTATYYCAR
	VH2-70/JH6 FR4	WGQGTTVTVSS
	VH2-26/JH6 FR1	EVTLKESGPVLVKPTETLTLTCTVSGFSL
	VH2-26/JH6 FR2	WIRQPPGKALEWLA
	VH2-26/JH6 FR3	RLTISKDTSK SQVVL TMTNMDPVDTATYYCAR
	VH2-26/JH6 FR4	WGQGTTVTVSS
	VH3-72/JH6 FR1	EVQLVESGGGLVQPGGSLRLSCAASGFTFS
	VH3-72/JH6 FR2	WVRQAPGKGLEWVG
	VH3-72/JH6 FR3	RFTISRDD SKNSLYLQMNSLKTEDTAVYYCAR
	VH3-72/JH6 FR4	WGQGTTVTVSS
	VH3-21/JH6 FR1	EVQLVESGGGLVKPGGSLRLSCAASGFTFS
	VH3-21/JH6 FR2	WVRQAPGKGLEWVS
	VH3-21/JH6 FR3	RFTISRDN AKNSLYLQMNSLRAEDTAVYYCAR
	VH3-21/JH6 FR4	WGQGTTVTVSS
	VH1-69/JH6 FR1	EVQLVQSGAEVKKPGSSVKV SCKASGGTFS
	VH1-69/JH6 FR2	WVRQAPGQGLEWVG

SEQ ID NO:	蛋白質區域/ 最接近種系家族	胺基酸序列
		12345678901234567890123456789012
	VH1-69/JH6 FR3	RVTITADKSTSTAYMELSSLRSEDVAVYYCAR
	VH1-69/JH6 FR4	WGQGTTVTVSS
	VH1-18/JH6 FR1	EVQLVQSGAEVKKPGASVKVSKASGYTFT
	VH1-18/JH6 FR2	WVRQAPGQGLEWMG
	VH1-18/JH6 FR3	RVTMTTDTSTSTAYMELRSLRSDDVAVYYCAR
	VH1-18/JH6 FR4	WGQGTTVTVSS
	IGHV4-59 FR1	EVQLQESGPGLVKPSETLSLTCTVSGGSIS
	IGHV4-59 FR2	WIRQPPGKGLEWIG
	IGHV4-59 FR3	RVTISVDTSKNQFSLKLSSVTAADVAVYYCAR
	IGHV4-59/JH FR4	WGQGLTVTVSS
	IGHV3-66 FW1	EVQLVESGGGLVQPGGSLRLSCAVSGGSIS
	IGHV3-66 FW2	WIRQAPGKGLEWIG
	IGHV3-66 FW3	RVTISVDTSKNSFYLMNSLRAEDVAVYYCAR
	IGHV3-66/JH FW4	WGQGLTVTVSS
	IGHV4-59 FR1	EVQLQESGPGLVKPGETLSLTCTVSGGSIS
	IGHV4-59 FR2	WIRQAPGKGLEWIG
	IGHV4-59 FR3	RVTISVDTSKNQFYLLKSSVRAEDVAVYYCAR
	IGHV4-59/JH FR4	WGQGLTVTVSS
	IGHV5-51 FR1	EVQLVQSGTEVKKPGESLKISCKVSGGSIS
	IGHV5-51 FR2	WIRQMPGKGLEWIG
	IGHV5-51 FR3	QVTISVDTSFNFTFLQWSSLKASDTAMYYCAR
	IGHV5-51/JH FR4	WGQGMTVTVSS
	IGHV2-70 FR1	EVTLRESGPALVKPTQTLTLTCTVSGGSIS
	IGHV2-70 FR2	WIRQPPGKGLEWIG
	IGHV2-70 FR3	RVTISVDTSKNQFVLTMTNMDPVDTATYYCAR
	IGHV2-70/JH FR4	WGQGTTVTVSS
	IGHV3-15 FR1	EVQLLES GGGLVKSGGSLRLSCAASGFTFR

SEQ ID NO:	蛋白質區域/ 最接近種系家族	胺基酸序列
		12345678901234567890123456789012
	IGHV3-15 FR2	WVRQAPGKGLEWVA
	IGHV3-15 FR3	RFTISRDNKNTLYLQLNSLRAEDTAVYYCAK
	IGHV3-15/JH FR4	WGQGTMTVSS
	IGHV3-43 FR1	EVQLVESGGGVVQPGGSLRLSCAASGFTFG
	IGHV3-43 FR2	WVRQAPGKGLEWVA
	IGHV3-43 FR3	RFTISRDNKNTLYLQLNSLRAEDTAVYYCAK
	IGHV3-43/JH FR4	WGQGTMTVSS

表 5. 輕鏈受體框架之胺基酸序列

SEQ ID NO:	蛋白質區域/ 最接近種系家族	序列
		12345678901234567890123456789012
	O2 FR1	DIQMTQSPSSLSASVGDRVTITC
	O2 FR2	WYQQKPGKAPKLLIY
	O2 FR3	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC
	JK2 FR4	FGQGTKLEIK
	L2 FR1	EIVMTQSPATLSVSPGERATLSC
	L2 FR2	WYQQKPGQAPRLLIY
	L2 FR3	GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC
	JK2 FR4	FGQGTKLEIK
	B3/JK4 FR1	DIVMTQSPDSLAVSLGERATINC
	B3/JK4 FR2	WYQQKPGQPPKLLIY
	B3/JK4 FR3	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYYC
	B3/JK4 FR4	FGGGTKVEIKR
	L2/JK4 FR1	EIVMTQSPATLSVSPGERATLSC
	L2/JK4 FR2	WYQQKPGQAPRLLIY

SEQ ID NO:	蛋白質區域/ 最接近種系家族	序列
	L2/JK4 FR3	GIPARFSGSGSGTEFTLTISLQSEDFAVYYC
	L2/JK4 FR4	FGGGTKVEIKR
	L15/JK4 FR1	DIQMTQSPSSLSASVGDRVITTC
	L15/JK4 FR2	WYQQKPEKAPKSLIY
	L15/JK4 FR3	GVPSRFSGSGSGTDFTLTISLQPEDFATYYC
	L15/JK4 FR4	FGGGTKVEIKR
	L5/JK4 FR1	DIQMTQSPSSVSASVGDRVITTC
	L5/JK4 FR2	WYQQKPGKAPKLLIY
	L5/JK4 FR3	GVPSRFSGSGSGTDFTLTISLQPEDFATYYC
	L5/JK4 FR4	FGGGTKVEIKR
	IGLV3-1 FR1	SYELTQPPSVSVSPGQTASITC
	IGLV3-1 FR2	WYQQKPGQSPVLVIY
	IGLV3-1 FR3	GIPERFSGSNSGDTATLTISGTQPMDEADYYC
	IGLV3-1/JL FR4	FGYGTKVTVL
	IGLV3-1 FR1	SYELTQPPSVSVSPGQTASITC
	IGLV3-1 FR2	WYQQKPGQSPVLVIY
	IGLV3-1 FR3	GIPERFSGSNSGDTATLTISGTQPMDEADYYC
	IGLV3-1/JL FR4	GGGTKLTVLG
	IGLV3-1 FR1	YELTQPPSVSVSPGQTASITC
	IGLV3-1 FR2	WYQQKPGQSPVLVIY
	IGLV3-1 FR3	GIPERFSGSNSGDTATLTISGTQPMDEADYYC
	IGLV3-1/JL FR4	GGGTKLTVLG
	IGLV3-1 FR1	LYVLTQPPSVSVSPGQTASITC
	IGLV3-1 FR2	WYQQKPGQSPVLVIY
	IGLV3-1 FR3	GIPERFSGSNSGDTATLTISGTQTMDEADYLC
	IGLV3-1/JL FR4	FGGGTKVTVLG
	IGKV6D-21 FR1	EYVLTQSPDFQSVTPKEKVTITC
	IGKV6D-21 FR2	WYQQKPDQSPKLVIIY

SEQ ID NO:	蛋白質區域/ 最接近種系家族	序列
	IGKV6D-21 FR3	GVPSRFSGSNSGDDATLTINSLEAEDAATYYC
	IGKV6D-21/JK FR4	FGQGTKVEIKR
	IGKV3D-15 FR1	EYVLTQSPATLSVSPGERATLSC
	IGKV3D-15 FR2	WYQQKPGQSPRLVIY
	IGKV3D-15 FR3	DIPARFSGSNSGDEATLTISLQSEDFAVYYC
	IGKV3D-15/JK FR4	FGQGTRLEIKR
	IGKV4-1 FR1	DYVLTQSPDSLAVSLGERATINC
	IGKV4-1 FR2	WYQQKPGQSPKLVII
	IGKV4-1 FR3	GIPDRFSGSNSGDDATLTISLQAEDVAVYYC
	IGKV4-1/JK FR4	FGGGTKVEIKR
	IGLV3-1 FR1	LPVLTQPPSVSVSPGQTASITC
	IGLV3-1 FR2	WYQQKPGQSPVLVIY
	IGLV3-1 FR3	GIPERFSGSNSGNTATLTISGTQTMDEADYLC
	IGLV3-1/JL FR4	FGGGTKVTVL
	IGLV3-1 FR1	SYELTQPPSVSVSPGQTASITC
	IGLV3-1 FR2	WYQQKPGQSPVLVIY
	IGLV3-1 FR3	GIPERFSGSNSGNTATLTISGTQTMDEADYLC
	IGLV3-1/JL FR4	FGGGTKLTVL

表 A. 選擇重鏈及輕鏈可變結構域序列(CDR 以粗體表示)

SEQ ID NO	VD 名稱	序列
		12345678901234567890123456789012
1	hBDI-9E8.4 VH (PDGF)	EVTLRESGPALVKPTQTLTLCTFSGFSLSTYGMGVGWIRQPP GKAL EWLANIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNM DPVDTAT YYCARIESIGTTYSFDYWGQGMVTVSS

2	hBDI-9E8.4 VL (PDGF)	EFVLTQSPGTLSPGERATLSCERSSGDIGDSYVSWYQQKPG QAPR LVIY ADDQRPS GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQ SYD INIDIVFGGGTKVEIK
3	hBDI-5H1.9 VH (PDGF)	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTFGMGVGVWIRQPP GKAL EWLANIWWDDDKYYNPSLKNRLTISKDTSKNQAVLTITNMD PVDTAT YYCARISTGISSYYVMDAWGQGTTVTVSS
4	hBDI-5H1.9 VL (PDGF)	DFVLTQSPDSLAVSLGERATINCERSSGDIGDTYVSWYQQKPG QPPK NVIY GNDQRPS GVDPDRFSGSGSGNSATLTISSLQAEDVAVYFC QSYD SDIDIVFGGGTKVEIK
5	hBDI-9E8.12 VH (PDGF)	EVQLVESGGGLVQPGGSLRLSCAFSGFSLSYGMGVGVWIRQA PGKGL EWLANIWWDDDKYYNPSLKNRLTISKDTSKNQAYLQINSLRA EDTAV YYCARI ESIGTTY SFDYWGQGLVTVSS
6	hBDI-9E8.12 VL (PDGF)	DFQLTQSPSSLSASVGDRVITTCERSSGDIGDSYVSWYQQKPG KAPK NVIY ADDQRPS GVPSRFSGSGSGNSASLTISSLQPEDFATYYCQ SYD INIDIVFGQGTKVEIK
7	hBDI-9E8.9 VH (PDGF)	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGVWIRQPP GKAL EWLANIWWDDDKYYNPSLKNRLTISKDTSKNQAVLTITNMD PVDTAT YYCARI ESIGTTY SFDYWGQGTTVTVSS

8	hBDI-9E8.9 VL (PDGF)	DFVLTQSPDSLAVSLGERATINCERSSGDIGDSYVSWYQQKPG QPPK NVIYADDQRPSGVPDRFSGSGSGNSASLTISSLQAEDVAVYFC QSYD INIDIVFGGGTKVEIK
9	hBDI-9E8.12 VH (PDGF)	EVQLVESGGGLVQPGGSLRLSCAFSGFSLSTYGMGVGWIRQA PGKGL EWLANIWWDDDKYYNPSLKNRLTISKDTSKNQAYLQINSLRA EDTAV YYCARIESIGTTYSFQYWGQGLVTVSS
10	hBDI-9E8.12 VL (PDGF)	DFQLTQSPSSLSASVGDRVTITCERSSGDIGDSYVSWYQQKPG KAPK NVIYADDQRPSGVPDRFSGSGSGNSASLTISSLQPEDFATYYCQ SYD INIDIVFGQGTKVEIK
11	hBDI-9E8.4E VH (PDGF)	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPP GKAL EWLANIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNM DPVDTAT YYCARIESIGTTYSFQYWGQGMVTVSS
12	hBDI-9E8.4E VL (PDGF)	EFVLTQSPGTLSPGERATLSCERSSGDIGESYVSWYQQKPG QAPR LVIYADDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQ SYD INIDIVFGGGTKVEIK
13	hBFU-3E2.1 VH (PDGF)	EVQLVQSGAEVKKPGSSVKVSCKASGYTFTESYMYWVKQAP GQGLEL IGRIDPEDGSTDYVEKFKNKATLTADKSTSTAYMELSSLRSED TAVY FCARFGARSYFYPMDAWGQGTTVTVSS

14	hBFU-3E2.1 VL (PDGF)	ETVLTQSPATLSLSPGERATLSCRASESVSTLMHWYQQKPGQ QPRLL IYGASNLESGVPARFSGSGSGTDFTLTISSELPEDFAVYFCQQS WND PWTFGGGKVEIK
15	CL-33675 VH (PDGF)	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPP GKAL EWLANIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNM DPVDTAT YYCARISSGPKYSFDYWGQGMVTVSS
16	CL-33675 VL (PDGF)	EIVLTQSPGTLSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQ APR LLIYADDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQ SYG INIDVVFGGGKVEIK
17	hBDB-4G8.3 VH (VEGF)	EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAP GQGLEW MGWINTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAE DTAVY YCARTNYYYRSYIFYFDYWGQGMVTVSS
18	hBDB-4G8.3 VL (VEGF)	DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPGQ APRLL IYGASNLESGVPARFSGSGSGTDFTLTISSELPEDFAVYFCQQS WND PFTFGQGTKLEIK
19	hBDB-4G8.13 VH (VEGF)	EIQLVQSGTEVKKPGESLKISCKASGYTFTNYGMYWVKQMPG KGLEW MGWINTETGKPTYADDFKGRFTFSLDKSFNTAFLQWSSLKAS DTAMY FCARTNYYYRSYIFYFDYWGQGMVTVSS

20	hBDB-4G8.13 VL (VEGF)	ETVLTQSPATLSVSPGERATLSCRASESVSTHMHWYQQKPGQ APRL IYGASNLESGVPARFSGSGGTDFTLTISSLQSEDFAVYFCQQS WND PFTFGQGRLEIK
21	hBDB-4G8.14 VH (VEGF)	EIQLVQSGGGVVQPGGSLRLSCAASGYTFTNYGMYWVKQAP GKGLEY MGWINTETGKPTYADDFKGRFTFSLDTSKSTAYLQLNSLRAE DTAVY FCARTNYYYRSYIFYFDYWGQGLVTVSS
22	hBDB-4G8.14 VL (VEGF)	DTVLTQSPSTLSASPGERATISCRASESVSTHMHWYQQKPGQA PKLL IYGASNLESGVPSRFSGSRSGTDFTLTISSLQPEDFAVYFCQQS WND PFTFGQGTKVEIK
23	hBDB-4G8.15 VH (VEGF)	EVQLVESGGGLVQPGGSLRLSCAASGYTFTNYGMYWVKQAP GKGLEY MGWINTETGKPTYADDFKGRFTFSLDTSKSTAYLQMNSLRA EDTAVY FCARTNYYYRSYIFYFDYWGQGLVTVSS
24	hBDB-4G8.15 VL (VEGF)	DTQLTQSPSSLSASVGDRTVISCRASESSTHMHWYQQKPGK APKLL IYGASNLESGVPSRFSGSGGTDFTLTISSLQPEDFATYFCQQS WND PFTFGQGTKVEIK
25	hBEW- 9A8.12 VH (VEGF)	EVQLVQSGAEVKKPGASVKVSCKASGYTFTNYGMYWVRQA PGQGLEW MGWINTETGKPIYADDFKGRVTMTTDTSTSTAYMELRSLRS DDTAVY YCARVDYDGSFWFAYWGQGLVTVSS

26	hBEW- 9A8.12 VL (VEGF)	DTQLTQSPSSLSASVGDRVTITCRASESVSTVIHWHYQQKPGKQ PKLL IHGASNLESGVPSRFSGSGSGTDFTLTISSLQPEDFATYFCQQH WND PPTFGQGTKLEIK
27	hBDB-4G8.2 VH (VEGF)	EVQLVQSGSELKKPGASVKVSCASGYTFTNYGMYWVRQAP GQGLEW MGWINTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAE DTAVY YCARTNYYYRSYIFYFDYWGQGTMTVSS
28	hBDB-4G8.2 VL (VEGF)	ATQLTQSPSSLSASVGDRVTITCRASESVSTHMHWHYQQKPGKQ PKLLI YGASNLESGVPSRFSGSGSGTDFTLTISSLQPEDFATYFCQQSW NDP FTFGQGTKLEIK
29	hBDB-4G8.4 VH (VEGF)	EIQLVQSGSELKKPGASVKVSCASGYTFTNYGMYWVRQAP GQGLEW MGWINTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAE DTAVY FCARTNYYYRSYIFYFDYWGQGTMTVSS
30	hBDB-4G8.4 VL (VEGF)	AIQLTQSPSSLSASVGDRVTITCRASESVSTHMHWHYQQKPGKA PKLL IYGASNLESGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQS WND PPTFGQGTKLEIK
31	hBDB-4G8.5 VH (VEGF)	EIQLVQSGSELKKPGASVKVSCASGYTFTNYGMYWVRQAP GQGLEW MGWINTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAE DTAVY FCARTNYYYRSYIFYFDYWGQGTMTVSS

32	hBDB-4G8.5 VL (VEGF)	ATQLTQSPSLSASVGDRVTITCRASESVSTHMHWYQQKPGKQ PKLLI YGASNLESGVPSRFSGSGSGTDFTLTISSLQPEDFATYFCQQSW NDP FTFGQGTKLEIK
33	hBDB-4G8.12 VH (VEGF)	EIQLVQSGAEVKKPGASVKVSCASGYTFTNYGMYWVRQAP GQGLE Y MGWINTETGKPTYADDFKGRFTFTLDTSTSTAYMELRSLRSD DTAVY FCARTNYYYRSYIFYFDYWGQGTMTVSS
34	hBDB-4G8.12 VL (VEGF)	DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPGQ APRLL IYGASNLESGVPARFSGSGSGTDFTLTISSLEPEDFAVYFCQQS WND PFTFGQGTKLEIK
35	hBEW-9E10.1 VH (VEGF)	EIQLVQSGSELKKPGASVKVSCASGYTFTNYGMYWVKQAP GQGLE Y MGWIDTETGRPTYADDFKGRFVFSLDTSVSTAYLQISSLKA E DTAVY FCARWSGDTTGIRGPWFAYWGQGLVTVSS
36	hBEW-9E10.1 VL (VEGF)	DIRMTQSPSSLSASVGDRVTIECLASEDIYSDLAWYQQKPGKS PKLL IYNANGLQNGVPSRFSGSGSGTDYSLTISSLQPEDVATYFCQQ YNYF PGTFGQGTKLEIK
37	hBEW-9E10.6 VH (VEGF)	EVQLVQSGAEVKKPGSSVKVSCASGYTFTNYGMYWVRQAP GQGLEW MGWIDTETGRPTYADDFKGRFTFTADKSTSTAYMELSSLRSE DTAVY YCARWSGDTTGIRGPWFAYWGQGLVTVSS

38	hBEW-9E10.6 VL (VEGF)	DIRMTQSPSSLSASVGDRVTITCLASEDIYSDLAWYQQKPGKS PKLL IYNANGLQNGVPSRFSGSGSGTDYTLTISSLQPEDVATYFCQQ YNYF PGTFGQGKLEIK
39	hBEW- 1B10.1 VH (VEGF)	EVQLVESGGGLVQPGGSLRLSCAASGFSFSKYDMAWFRQAPG KGLEW VASITTSVGVGTYRDSVKGRFTVSRDNAKSTLYLQMNSLRAE DTAVY YCARGYGAMDAWGQGTTVTVSS
40	hBEW- 1B10.1 VL (VEGF)	DIQMTQSPSSLSASVGDRVTITCKASQDIDDYLSWYQQKPGKS PKLV IYAATRLADGVPSRFSGSGSGTDYTLTISSLQPEDFATYYCLQS SST PWTFGGGKVEIK
41	hBEW-1E3.4 VH (VEGF)	EIQLVQSGSELKKPGASVKVSCASGYPTNSGMYWVKQAPG QGLEY MGWINTTEAGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKA DTAVY FCARWGYISDNSYGFWDYWGQGTLLTVSS
42	hBEW-1E3.4 VL (VEGF)	ATQLTQSPSSLSASVGDRVTISCRASEGVYSYMHWYQQKPGK QPKLL IYKASNLAGVPSRFSGSGSGTDFTLTISSLQPEDFATYFCHQN WND PLTFGQGKLEIK
43	CL-34565 VH (VEGF)	EVQLVQSGSELKKPGASVKVSCASGYTFTDYGMWVWRQAP GQGLEW MGWIDTETGDPTYADDFKGRFVFSLDTSVSTAYLQISSLKA DTAVY YCARTNYYYRNYMFYFDYWGQGTMTVTVSS

44	CL-34565 VL (VEGF)	EIVLTQSPATLSLSPGERATLFCRASQSVSNHMHWYQQKPGQ APRLL IYGASILESGVPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQS WYD PITFGQGKLEIK
211	hBDI-5H1.12 VH (PDGF)	EVQLVESGGGLVQPGGSLRLSCAFSGFSLSTFGMGVGVWIRQA PGKGL EWLANIWWDDDKYYNPSLKNRLTISKDTSKNQAYLQINSLRA EDTAV YYCARISTGISSYYVMDAWGQGLVTVSS
212	hBDI-5H1.12 VL (PDGF)	DFQLTQSPSSLSASVGDRTITCERSSGDIGDTYVSWYQQKPG KAPK NVIYGNDQRPSGVPSRFSGSGSGNSATLTISLQPEDFATYFCQ SYD SDIDIVFGQGKVEIK

熟習此項技術者咸明瞭，本文所述方法之其他適宜修改及改變顯而易見且可在不背離本文所揭示實施例之範疇下使用適宜等效形式作出。現在詳細闡述某些實施例之後，藉由參照以下實例將更明確地理解本發明，該等實例僅出於說明目的納入而並不意欲具有限制性。

實例

實例 1：用於測定抗 VEGF-A 抗體、抗 PDGF-BB 抗體、抗 VEGFR 抗體、抗 PDGFR-B 抗體及 DVD-Ig 蛋白之功能活性之活體外分析

實例 1.1：用於抗原結合性之使用 BIACORE®表面電漿子共振技術之親和力測定

BIACORE®表面電漿子共振分析(Biacore, Inc., Piscataway, NJ)利用締合速率及離解速率常數之動力學量測法來測定抗體之親和力。在 25°C 下，使用運行緩衝液 HBS-EPB (10 mM HEPES [pH 7.4]、150 mM NaCl、3 mM EDTA、0.1 mg/ml BSA 及 0.005%表面活性劑 P20)，

用 Biacore®儀器(Biacore 2000、Biacore 3000 或 Biacore T100; GE Healthcare, Piscataway, NJ)藉由基於表面電漿子共振之量測來測定抗 VEGF-A 抗體、抗 PDGF-BB 抗體、抗 VEGFR 抗體、抗 PDGFR-B 抗體或抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子與經純化之重組 VEGF-A、PDGF-BB、VEGFR 細胞外結構域(ECD)、PDGFR-B ECD 或其 Fc 融合蛋白之結合。舉例而言，取於 10 mM 乙酸鈉(pH 4.5)中稀釋之約 9000 RU 山羊抗人類 Fc 特異性多株抗體(Thermo Fisher Scientific Inc., Rockford, IL)，依 25 $\mu\text{g/ml}$ ，使用標準胺偶合套組，根據製造商之說明書及程序，直接通過而固定於 CM5 研究級生物感測器晶片上。用乙醇胺封阻生物感測器表面上之未反應部分。動力學分析中，利用 Scrubber 2 (BioLogic Software)、Biacore Biaevaluation 4.0.1 軟體或 Biacore T100 評估軟體，將源自 1:1 Langmuir 結合模型之速率方程式同時擬合至多次抗原注射(使用全擬合分析)。將經純化抗體或 DVD-Ig 分子於運行緩衝液中稀釋，用於通過山羊抗人類 Fc 反應表面上來捕捉。將欲捕捉成為配體之抗體或 DVD-Ig 分子(1 $\mu\text{g/ml}$)以 10 $\mu\text{l/分鐘}$ 之流速注射於反應基質上。在分析期間，所有量測皆僅參照捕獲表面(即，沒有被捕獲之抗體或 DVD-Ig 分子)。在 80 $\mu\text{l/分鐘}$ 之連續流速下測定締合及解離速率常數 k_{on} ($\text{M}^{-1}\text{s}^{-1}$)及 k_{off} (s^{-1})。藉由經過 3 倍連續稀釋液而在 1.23 - 900 nM 範圍內之不同抗原濃度，且包括僅含緩衝液之注射(欲用於雙重對照)，進行動力學結合量測，來獲得速率常數。隨後根據動力學速率常數藉由下式計算抗體與靶抗原間之反應的平衡解離常數 K_{D} (M)： $K_{\text{D}} = k_{\text{off}}/k_{\text{on}}$ 。結合記錄為時間之函數並計算動力學速率常數。在此分析中，可量測快至 $10^6 \text{ M}^{-1}\text{s}^{-1}$ 之締合速率及慢至 10^{-6} s^{-1} 之離解速率。

在一些實驗中，將以下條件用於親和力測定：

晶片表面：含有山羊抗人類 Fc IgG (5000 RU)之 CM5 晶片。

參照：山羊 IgG (捕獲約 5000 RU)。

運行緩衝液：HBS-EP, 0.1 mg/ml BSA

DVD-Ig 或 mAb 係以 1 μ g/ml、70-200 RU 捕獲。

在 0.016-50nM 下以 1:5 連續稀釋重組 ECD 蛋白。

締合時間為 5 min 且觀察到解離時間達 10 min 及 30 min。

流速為 50 μ l/min。

表面再生：以 50 μ l/min 10mM 甘胺酸(pH 1.5)之兩次 30s 脈衝。

實例 1.2：表面共振 **Fc γ RIIa**、**Fc γ RIIb**、**Fc γ RIIIa** 及 **FcRn** 結合分析

使用 Biacore T200 (GE Healthcare) 儀器來評估 VEGF/PDGF DVD-Ig 分子與經由 6 \times His 標籤捕獲之重組 Fc γ R 的結合。將含有根據 GE Healthcare 方案經由胺偶合直接固定於晶片上至 10000RU 之密度 (所有流動槽) 的小鼠抗 6 \times His 抗體之 CM5 晶片 (GE Healthcare, Pittsburgh, PA) 用於實驗。在流動槽 2、3 及 4 上捕獲人類 Fc γ R。使用流動槽 1 作為參照表面。使用 HBS-EP+ 作為運行緩衝液。以 50 μ L/分鐘之流速經 1-2 分鐘以 31.25 nM、62.5 nM、125 nM、250 nM、500 nM、1000 nM、2000 nM 及 4000 nM 之濃度將抗 VEGF/PDGF DVD-Ig 注射於所有流動槽上，然後解離 1-3 分鐘。在每一週期後藉由以 100 μ L/分鐘之流速將 10mM 甘胺酸(pH 1.5) 注射於所有四個流動槽上使晶片表面再生。

對於 FcRn 結合分析，根據製造商 (GE Healthcare) 之方案藉由胺偶合將 VEGF/PDGF DVD-Ig 直接固定於 CM5 晶片上至約 750 RU 之密度。實施空白固定之流動槽 1 不含 DVD-Ig 且用作參照表面。以 50 μ L/分鐘之流速經 1 分鐘在 2.7 nM 至 6000 nM (三倍連續稀釋) 之濃度範圍下將人類、食蟹猴、小鼠、大鼠及兔重組 FcRn 注射於所有流動槽上，然後解離 2 分鐘。藉由於所有四個流動槽上以 100 μ L/分鐘經 2 秒注射 10mM HCl、然後以 50 μ L/分鐘之流速經 30 秒注射 HBS-

EP+ (pH 7.4)使表面再生。樣品係在兩種運行緩衝液系統 pH 6.0 MES-EP+及 pH 7.4 HBS-EP-EP+中製備及運行。將重組人類 Fc γ RIIIa V158 以及大鼠及小鼠 FcRn 數據擬合至 1:1 動力學模型。將重組人類 Fc γ RIIa R131 與 Fc γ RIIa H131、Fc γ RIIIa F158 與重組人類、食蟹猴及兔 FcRn 結合數據擬合至穩態親和力模型。使用 Biacore T200 評估軟體 2.0 版來擬合所有數據。

實例 1.3：藉由捕獲 ELISA 測定之 VEGF-A 結合活性

為鑑別可結合 hVEGF₁₆₅ 之分子，實施直接結合 ELISA。用 0.25 μ g/mL / 6.51E-9 M 生物素化重組人類 VEGF₁₆₅ (AP PR-1361002, 50 μ L/孔於 D-PBS 中)塗覆 96 孔高結合中性抗生物素蛋白板(Thermo Scientific 目錄號 15507)，且在 25°C 下振盪 1.5 小時。在塗覆步驟期間，將上清液、抗體、基準化合物或 DVD-Ig 稀釋於 10% Superblock (Thermo Scientific, 目錄號 37535)中，且實施每一樣品分子之八點滴定。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次。將樣品分子滴定以 50 μ L 一式兩份添加至經塗覆之板，且在 25°C 下在振盪的同時培育 1 小時。培育後，用洗滌緩衝液將板洗滌四次。將適宜抗種 IgG HRP 偶聯物稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中，且在 25°C 下在振盪的同時經 45 分鐘添加至板(50 μ L)中。用洗滌緩衝液將板洗滌四次，且藉由添加增強的 K-藍 TMB 受質 (Neogen, Lexington, KY 目錄號 308177)來顯影。用 2N 硫酸(VWR, Radnor, PA 目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。光學密度之增加指示測試分子與生物素化重組人類 VEGF₁₆₅ 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.4：藉由抑制 VEGF-R2 與人類 VEGF₁₆₅ 之相互作用測定之 VEGF-A 阻斷活性

為鑑別可阻斷 hVEGF₁₆₅ 與 hVEGF-R2 (KDR/Flk-1)受體之結合之分子，實施競爭 ELISA。用 0.5 µg/mL / 2.27E-9 M 重組人類 VEGF-R2-Fc (R&D Systems 目錄號 357-KD)，50 µL/孔於 D-PBS 中)塗覆 96 孔 Costar 高結合板(3369 號)，在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次且用 Superblock 封阻緩衝液(Thermo Scientific，目錄號 37535)封阻。在封阻步驟期間，將上清液、抗體、基準化合物或 DVD-Ig 稀釋於 1%封阻劑 BSA (Thermo Scientific 目錄號 37525)中，且實施每一樣品分子之八點滴定。將生物素化人類 VEGF₁₆₅ (AP, PR-1361002)以 35 ng/mL 稀釋於 1%封阻劑 BSA 中。將樣品分子滴定添加至生物素化人類 VEGF₁₆₅ (17.5 ng/mL / 4.56E-10 M 最終濃度)中，且在 25°C 下在振盪的同時預培育 45 分鐘。將預培育樣品/ hVEGF₁₆₅ 複合物以 50 µL 一式兩份添加至經塗覆板中，且在 25°C 下在振盪的同時培育 30 分鐘。培育後，用洗滌緩衝液將板洗滌四次。將鏈黴抗生物素蛋白-聚 HRP-40 (Fitzgerald 目錄號 65r-s104phrp)稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中，且在 25°C 下在振盪的同時經 45 分鐘添加至板(50 µL)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen 目錄號 308177)來顯影。用 2N 硫酸 (VWR，目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。所觀察光學密度之減小指示測試分子阻斷 hVEGF₁₆₅ 與 hVEGF-R2-Fc 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.5：藉由抑制小鼠 VEGF-R2 與小鼠 VEGF₁₆₄ 之相互作用測定之小鼠 VEGF-A 阻斷活性

為鑑別可阻斷 mVEGF₁₆₄ 與 mVEGF-R2 之結合之分子，實施競爭 ELISA。用 2 µg/mL 抗人類 IgG-Fc (Thermo-Scientific，目錄 31125)

塗覆 96 孔 Costar 高結合板(3369 號)，在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次，且將 1 $\mu\text{g}/\text{mL}$ / 4.55E-9 M 重組小鼠 VEGF-R2-Fc (R&D Systems 目錄號 443-KD)(50 $\mu\text{L}/\text{孔}$ 於 D-PBS 中)添加至孔中，並在 25°C 下在振盪的同時培育 1.5 小時。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次且用 Superblock 封阻緩衝液(Thermo Scientific, 目錄號 37535)封阻。在封阻步驟期間，將雜交瘤上清液稀釋於 1%封阻劑 BSA (Thermo Scientific 目錄號 37525)中。將小鼠 VEGF₁₆₄ (R&D Systems 目錄號 493-MV-005)於 1%封阻劑 BSA 中稀釋至 20 ng/mL。將經稀釋樣品添加至小鼠 VEGF₁₆₄ (10 ng/mL / 5.15E-10 M 最終濃度)中，且在 25°C 下在振盪的同時預培育 45 分鐘。將預培育樣品/ mVEGF₁₆₄ 複合物以 50 μL 添加至經塗覆板中，且在 25°C 下在振盪的同時培育 30 分鐘。培育後，用洗滌緩衝液將板洗滌四次。將檢測試劑生物素化山羊抗 mVEGF₁₆₄ (R&D Systems 目錄號 BAF-493)稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中，且在 25°C 下在振盪的同時經 1 小時添加至板中。培育後，用洗滌緩衝液將板洗滌四次。將鏈黴抗生物素蛋白-聚 HRP-40 (Fitzgerald 目錄號 65r-s104phrp)稀釋於分析稀釋劑中，且在 25°C 下在振盪的同時經 45 分鐘添加至板(50 μL)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質 (Neogen 目錄號 308177)來顯影。用 2N 硫酸 (VWR, 目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。所觀察光學密度之減小指示測試分子阻斷 mVEGF₁₆₄ 與小鼠 VEGF-R2-Fc 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.6：藉由 VEGFR2 (Tyr1054)磷酸化測定之 VEGF-A 阻斷活性

為測試候選分子中和 hVEGF-A 活性之能力，實施基於細胞之人

類 VEGF-R2 (KDR/Flk-1)磷酸化分析。將經穩定轉染之 VEGFR2-3T3 細胞(AP)胰蛋白酶化，於 D-PBS 中洗滌且以 $3.5E5$ 個細胞/mL 重懸浮於生長培養基分析(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素 (penicillin)/ 100 $\mu\text{g}/\text{mL}$ 鏈黴素(streptomycin)、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉、400 $\mu\text{g}/\text{mL}$ 建那黴素(geneticin)及 10% FBS)中。將細胞以 $3.5E4$ 個細胞/孔平鋪於 96 孔板(Costar 目錄號 3599)中且在 37°C 、5% CO_2 下培育 6 小時。去除生長培養基且用 D-PBS 洗滌細胞。將饑餓培養基添加至孔(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/100 $\mu\text{g}/\text{mL}$ 鏈黴素及 1mM 丙酮酸鈉)中，且在 37°C 、5% CO_2 下將細胞培育 18 小時。第二天，在 25°C 下在振盪的同時，用 MSD 封阻劑-A 將 MSD 抗 VEGFR2-磷酸分析板(Mesoscale VEGFR2-Tyr1054 磷酸-MSD 套組目錄號 K151DJD-2)封阻 1 小時。在封阻期間，將抗 VEGF-A 單株抗體、基準化合物或 DVD-Ig 連續稀釋於生長培養基中，且在 25°C 下在振盪的同時與重組人類 VEGF₁₆₅ (AP, PR-1350437) (50 ng/ml / $1.3E-9$ M 最終濃度)、hVEGF₁₁₁ (R&D Systems, 目錄號 5336-VE-10/CF) (50 ng/mL / $1.9E-9$ M 最終濃度)或兔 VEGF₁₆₅ (AbbVie, PR-1563693.0) (50 ng/mL / $1.24E-9$ M 最終濃度)一起預培育 30 分鐘。自孔去除饑餓培養基且在 37°C 、5% CO_2 下經 8 分鐘將預培育樣品以一式兩份(100 μL)添加至細胞中。在培育後，立即將板轉移至冰中，其中去除培養基且用冰冷 D-PBS 洗滌細胞。在 -80°C 下將板冷凍 10 分鐘。在冰上將含有 1 mM PMSF 之冰冷溶解緩衝液(CST 目錄號 9803S)添加至細胞(50 μL)中。在 4°C 下以 3000 rpm 將板離心 15 分鐘。用洗滌緩衝液(TBS, 0.05% Tween-20)將 MSD 板洗滌四次。將細胞溶解物轉移至 MSD 板(40 μL)且在 25°C 下在振盪的同時培育 1 小時。培育後，用洗滌緩衝液將 MSD 板洗滌四次。將抗磷酸-Tyr1054-IgG-sulfotag 試劑稀釋於檢測溶液(K151DJD-2 組份)中，且在 25°C 下在振盪的同時

經 1 小時將 25 μ L 添加至箔覆蓋之孔中。用洗滌緩衝液將板洗滌四次，將 150 μ L MSD 讀取緩衝液(K151DJD-2 組份)添加至孔中且在 MSD Sector 成像儀 6000 上讀取板。所觀察信號之減少指示測試分子中和 hVEGF-A 介導之活化。使用 Graphpad Prism 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.7：藉由抑制人類 VEGF₁₆₅ 刺激之 VEGFR2-3T3 細胞增殖/存活測定之 VEGF-A 阻斷活性

為篩選候選分子中和 hVEGF₁₆₅ 活性之能力，實施基於細胞之增殖分析。將經穩定轉染之 VEGFR2-3T3 細胞(AP)胰蛋白酶化，於 D-PBS 中洗滌且以 8.5E4 個細胞/mL 重懸浮於分析培養基(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 μ g/mL 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉及 0.1% BSA)中。將細胞以 4,250 個細胞/孔(50 μ L)平鋪於黑色 96 孔板上且在 37°C、5% CO₂ 下培育 24 小時。第二天，將抗 VEGF-A 單株抗體、基準化合物或 DVD-Ig 連續稀釋於分析培養基中且在 25°C 下在溫和振盪的同時與重組人類 VEGF₁₆₅ (AP, PR-1350437) (40 ng/ml / 1.04E-9 M 最終濃度於分析孔中)一起預培育 1 小時。然後將預培育樣品以一式三份添加至細胞(50 μ L)中且在 37°C、5% CO₂ 下將板培育 72 小時。藉由根據製造商之說明書使用 ATPlite 套組(Perkin Elmer, Waltham, MA)評估 ATP 含量來間接量測細胞存活/增殖。所觀察信號之減少指示測試分子中和 hVEGF₁₆₅ 誘導之增殖。分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.8：藉由抑制人類 VEGF₁₁₁ 及人類 VEGF₁₂₁ 刺激之 VEGFR2-3T3 細胞增殖/存活測定之 VEGF-A 阻斷活性

為測試候選分子中和 hVEGF₁₁₁ 及 hVEGF₁₂₁ 活性之能力，實施基於細胞之增殖分析。將經穩定轉染之 VEGFR2-3T3 細胞(AP)胰蛋白酶

化，於 D-PBS 中洗滌且以 $8.5E4$ 個細胞/mL 重懸浮於分析培養基 (DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 $\mu\text{g}/\text{mL}$ 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉及 0.1% BSA) 中。將細胞以 4,250 個細胞/孔 (50 μL) 平鋪於黑色 96 孔板上且在 37°C 、5% CO_2 下培育 24 小時。第二天，將抗 VEGF-A 單株抗體、基準化合物或 DVD-Ig 連續稀釋於分析培養基中，且在 25°C 下在溫和振盪的同時與重組人類 VEGF₁₁₁ (R&D Systems, 目錄號 5336-VE) (10 ng/ml / $3.85E-10$ M 最終濃度) 或人類 VEGF₁₂₁ (R&D Systems, 目錄號 4644-VS) (10 ng/ml / $3.57 E-10$ M 最終濃度於分析孔中) 一起預培育 1 小時。然後將預培育樣品以一式三份添加至細胞 (50 μL) 中且在 37°C 、5% CO_2 下將板培育 72 小時。藉由根據製造商之說明書使用 ATPlite 套組 (Perkin Elmer, Waltham, MA) 評估 ATP 含量來間接量測細胞存活/增殖。所觀察信號之減少指示測試分子中和 hVEGF₁₁₁ 或 hVEGF₁₂₁ 誘導之增殖。分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應 (可變斜率) 擬合來計算 IC_{50} 值。

實例 1.9：藉由抑制兔 VEGF₁₆₅ 刺激之 VEGFR2-3T3 細胞增殖/存活測定之 VEGF-A 阻斷活性

為篩選候選者中和兔 VEGF₁₆₅ 之能力，實施基於細胞之增殖分析。將經穩定轉染之 VEGFR2-3T3 細胞 (AP) 胰蛋白酶化，於 D-PBS 中洗滌且以 $8.5E4$ 個細胞/mL 重懸浮於分析培養基 (DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 $\mu\text{g}/\text{mL}$ 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉及 0.1% BSA) 中。將細胞以 4,250 個細胞/孔 (50 μL) 平鋪於黑色 96 孔板上且在 37°C 、5% CO_2 下培育 24 小時。第二天，將抗 VEGF-A 單株抗體、基準化合物或 DVD-Ig 連續稀釋於分析培養基中，且在 25°C 下在溫和振盪的同時與重組兔 VEGF₁₆₅ (AbVie, PR-1563693.0) (40 ng/ml / $9.92E-10\text{M}$ 最終濃度於分析孔中) 一起預培

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 134

<211> 331

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 134

Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
100 105 110

Gly Gly Ser Gly Gly Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu
115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu
130 135 140

Ser Val Ser Thr Leu Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln
145 150 155 160

Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro
165 170 175

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
180 185 190

Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser
195 200 205

Trp Asn Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
210 215 220

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
225 230 235 240

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
245 250 255

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
260 265 270

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
275 280 285

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
290 295 300

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
305 310 315 320

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 135
<211> 585
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 135
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
115 120 125

Ser Gly Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu
130 135 140

Val Lys Lys Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly
145 150 155 160

Tyr Thr Phe Thr Glu Ser Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly
165 170 175

Gln Gly Leu Glu Leu Ile Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr
180 185 190

Asp Tyr Val Glu Lys Phe Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys
195 200 205

Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp
210 215 220

Thr Ala Val Tyr Phe Cys Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr
225 230 235 240

Pro Met Asp Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 136

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<400> 136
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu
 130 135 140

Ser Val Ser Thr Leu Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln
 145 150 155 160

Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro
 165 170 175

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 180 185 190

Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser
 195 200 205

Trp Asn Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

210

215

220

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 225 230 235 240

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 245 250 255

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 260 265 270

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 275 280 285

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
 290 295 300

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 305 310 315 320

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 137

<211> 577

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 137

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
 20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys

Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys
 340 345 350

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro
 355 360 365

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
 370 375 380

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
 385 390 395 400

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn
 405 410 415

Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
 420 425 430

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
 435 440 445

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
 450 455 460

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
 465 470 475 480

Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
 485 490 495

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
 500 505 510

Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu
 515 520 525

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
 530 535 540

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
 545 550 555 560

Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
 565 570 575

Lys

育 1 小時。然後將預培育樣品以一式三份添加至細胞(50 μ L)中且在 37°C、5% CO₂ 下將板培育 72 小時。藉由根據製造商之說明書使用 ATPlite 套組(Perkin Elmer, Waltham, MA)評估 ATP 含量來間接量測細胞存活/增殖。所觀察信號之減少指示測試分子中和兔 VEGF₁₆₅ 誘導之增殖。分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.10：藉由抑制人類 VEGF₁₆₅ 刺激之內皮細胞增殖/存活測定之 VEGF-A 阻斷活性

為測試中和 hVEGF₁₆₅ 之能力，實施基於細胞之增殖分析。將人類微血管內皮細胞(Lonza，目錄號 CC-2516)維持於補充有 EGM-2V singlequots (Lonza 目錄號 3202)之 EBM-2 (Lonza 目錄號 CC3156)中。在分析當天，將細胞(第 2 - 7 代)胰蛋白酶化，於 D-PBS 中洗滌且以 1E5 個細胞/mL 重懸浮於分析培養基(M199、2 mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 μ g/mL 鏈黴素、10 mM HEPES 及 10% FBS)中。將細胞以 5,000 個細胞/孔(50 μ L)平鋪於 96 孔明膠塗覆之板(BD Biocoat 目錄號 354689)上且在 37°C、5% CO₂ 下培育。將抗 VEGF-A 單株抗體、基準化合物或 DVD-Ig 連續稀釋於分析培養基中，且在 25 °C 下在溫和振盪的同時與重組人類 VEGF₁₆₅ (AP, PR-1350437) (5 ng/ml / 1.3E-10 M 最終濃度於分析孔中)一起預培育 1 小時。然後將預培育樣品以一式三份添加至細胞(50 μ L)中且在 37°C、5% CO₂ 下將板培育 72 小時。藉由根據製造商之說明書使用 CellTiter-Glo 發光細胞活力分析套組(Promega, Madison, WI)評估 ATP 含量來間接量測細胞存活/增殖。所觀察信號之減少指示測試分子中和 hVEGF₁₆₅ 誘導之增殖。分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.11：天然源性人類 VEGF-A 之產生及對抗 VEGF 抗體或抗

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 <212> PRT
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<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 138
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu
 130 135 140

Ser Val Ser Thr Leu Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln
 145 150 155 160

Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro
 165 170 175

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 180 185 190

Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser
 195 200 205

Trp Asn Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 210 215 220

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 225 230 235 240

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 245 250 255

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 260 265 270

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 275 280 285

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
 290 295 300

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 305 310 315 320

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 139

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 139

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr
225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys

580

585

<210> 140
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<220>
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<400> 140
 Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
 1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
 65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly Gly
 100 105 110

Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser
 115 120 125

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly
 130 135 140

Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln
 145 150 155 160

Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile
 165 170 175

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 180 185 190

Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser

195

200

205

Tyr Gly Ile Asn Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu
 210 215 220

Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
 225 230 235 240

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
 245 250 255

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
 260 265 270

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
 275 280 285

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
 290 295 300

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
 305 310 315 320

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 141

<211> 578

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 141

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
 20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 545 550 555 560

Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 565 570 575

Gly Lys

<210> 142

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 142

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser
 130 135 140

Gly Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Gly Ile Asn Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 143
 <211> 585
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 143
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

VEGF-A/抗 PDGF-BB DVD-Ig 蛋白之反應性

為鑑別可結合天然源性人類 VEGF-A 之分子，實施夾心 ELISA。自在二甲基草醯基甘胺酸(Sigma-Aldrich，目錄號 D3695)存在下生長之 Y-79 細胞(ATCC，目錄號 HTB-18)之上清液獲得天然人類 VEGF-A。使用 R&D Systems VEGF DuoSet 套組(目錄號 DY293B)來定量天然源性材料。用 D-PBS 中之 13.3×10^{-8} M 抗體、基準化合物或 DVD-Ig 塗覆 96 孔 Costar 高結合板(3369 號)，在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。用 Superblock 封阻緩衝液(Thermo Scientific，目錄號 37535)封阻板，然後用洗滌緩衝液(TBS, 0.05% Tween-20)洗滌四次。將天然源性人類 VEGF-A 上清液連續稀釋於分析稀釋劑(1%封阻劑 BSA; Pierce，目錄號 37525)中達 2900 ng/mL - 11.88 ng/mL 之最終測試濃度。將稀釋物添加至板(50 μ L)中，且在 25°C 下在振盪的同時培育 2 小時。培育後，用洗滌緩衝液將板洗滌四次。將來自 R&D Systems DuoSet 套組之檢測抗體(Part 840163，目錄號 DY293B)稀釋於分析稀釋劑中，且在 25°C 下在振盪的同時經 2 小時添加至板(50 μ L)中。然後用洗滌緩衝液將板洗滌四次。將來自 R&D Systems DuoSet 套組之鏈黴抗生物素蛋白-HRP (Part 890803，目錄號 DY293B)稀釋於分析稀釋劑中，且在 25°C 下在振盪的同時經 35 分鐘添加至板(50 μ L)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen，目錄號 308177)來顯影。用 2N 硫酸(VWR，目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。光學密度之增加指示測試分子與天然源性人類 VEGF-A 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.12：藉由捕獲 ELISA 測定之 PDGF-BB 結合活性

為鑑別可結合 hPDGF-BB 之分子，實施直接結合 ELISA。用 0.5

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr
225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln

565

570

575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 144

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 144

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser
 130 135 140

Gly Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu

50

55

60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 146

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 146

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
100 105 110

Gly Gly Ser Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
130 135 140

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 147

<211> 586

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 147

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys
130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
145 150 155 160

Phe Thr Asn Tyr Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly
165 170 175

Leu Glu Tyr Met Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr
180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val
195 200 205

Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala
210 215 220

Val Tyr Phe Cys Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly
225 230 235 240

Pro Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
245 250 255

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
260 265 270

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
275 280 285

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
290 295 300

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
305 310 315 320

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
325 330 335

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
340 345 350

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
355 360 365

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
370 375 380

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
385 390 395 400

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
405 410 415

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
420 425 430

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
435 440 445

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
450 455 460

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
465 470 475 480

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
485 490 495

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
500 505 510

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
515 520 525

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
530 535 540

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn

$\mu\text{g/mL}$ / $1.99\text{E-}8$ M 重組人類 PDGF-BB-生物素(CST 目錄號 8912BF；在 AbbVie 經標記， $50 \mu\text{L}$ /孔於 D-PBS 中)塗覆 96 孔高結合中性抗生物素蛋白板(Thermo Scientific 目錄號 15507)，在 25°C 下振盪 2 小時。在塗覆步驟期間，將上清液、基準化合物或 DVD-Ig 稀釋於 10% Superblock (Thermo Scientific，目錄號 37525)中，且實施每一樣品分子之八點滴定。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次。將樣品分子滴定以 $50 \mu\text{L}$ 一式兩份添加至經塗覆之板且在 25°C 下在振盪的同時培育 1 小時。培育後，用洗滌緩衝液將板洗滌四次。使適宜抗種 IgG HRP 偶聯物於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中，且在 25°C 下在振盪的同時經 1 小時添加至板($50 \mu\text{L}$)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen，目錄號 308177)來顯影。用 2N 硫酸(VWR，目錄號 BDH3500-1)終止反應且在 $450 \text{ nm} - 570 \text{ nm}$ 下讀取吸光度。光學密度之增加指示測試分子與生物素化重組人類 PDGF-BB 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC_{50} 值。

實例 1.13：藉由抑制 PDGF-R β 與人類 PDGF-BB 之相互作用測定之 PDGF-BB 阻斷活性

為鑑別可阻斷 hPDGF-BB 與 hPDGF-R β 之結合之分子，實施競爭 ELISA。用 $0.5 \mu\text{g/mL}$ / $2.98\text{E-}9$ M 重組人類 PDGF-R β -Fc (R&D Systems 編號 385-PR, $50 \mu\text{L}$ /孔於 D-PBS 中)塗覆 96 孔 Costar 高結合板(3369 號)，在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次且用 Superblock 封阻緩衝液(Thermo Scientific，目錄號 37535)封阻。在封阻步驟期間，將上清液、抗體、基準化合物或 DVD-Ig 稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中，且實施每一樣品分子之八點滴定。

35

40

45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys
130 135 140

Lys Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
145 150 155 160

Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly
165 170 175

Leu Glu Trp Met Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr
180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr
195 200 205

Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala
210 215 220

Val Tyr Tyr Cys Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly
225 230 235 240

Pro Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
245 250 255

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
260 265 270

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
275 280 285

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 290 295 300

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 305 310 315 320

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 325 330 335

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 340 345 350

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 355 360 365

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 370 375 380

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 385 390 395 400

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 405 410 415

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 420 425 430

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 435 440 445

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 450 455 460

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 465 470 475 480

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
 485 490 495

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 500 505 510

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 515 520 525

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 530 535 540

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 545 550 555 560

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr
 565 570 575

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 150

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 150

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Asp Ile Arg Met Thr Gln Ser Pro
 115 120 125

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Leu
 130 135 140

Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala Trp Tyr Gln Gln Lys Pro
 145 150 155 160

Gly Lys Ser Pro Lys Leu Leu Ile Tyr Asn Ala Asn Gly Leu Gln Asn
 165 170 175

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr
 180 185 190

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Val Ala Thr Tyr Phe Cys
 195 200 205

Gln Gln Tyr Asn Tyr Phe Pro Gly Thr Phe Gly Gln Gly Thr Lys Leu
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 151

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 151

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Gly Ser Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys
 130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro
 145 150 155 160

Phe Thr Asn Ser Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly
 165 170 175

Leu Glu Tyr Met Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr
 180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val
 195 200 205

Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala
 210 215 220

Val Tyr Phe Cys Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly
 225 230 235 240

Trp Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu

530

535

540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 152

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 152

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Ala Thr Gln Leu Thr Gln Ser Pro
 115 120 125

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Ser Cys Arg
 130 135 140

Ala Ser Glu Gly Val Tyr Ser Tyr Met His Trp Tyr Gln Gln Lys Pro

將重組人類 PDGF-BB-生物素(CST 目錄號 8912BF；在 AbbVie 經標記)以 20 ng/mL 稀釋於分析稀釋劑中。將樣品分子滴定添加至人類 PDGF-BB-生物素(10 ng/mL / 3.97E-10 M 最終濃度)中，且在 25°C 下在振盪的同時預培育 45 分鐘。將預培育樣品/PDGF-BB 複合物以 50 μ L 一式兩份添加至經塗覆板中，且在 25°C 下在振盪的同時培育 35 分鐘。培育後，用洗滌緩衝液將板洗滌四次。將檢測試劑鏈黴抗生物素蛋白-聚 HRP-40 (Fitzgerald，目錄號 65r-s104phrp)稀釋於分析稀釋劑中，且在 25°C 下在振盪的同時經 45 分鐘添加至板(50 μ L)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen，目錄號 308177)來顯影。用 2N 硫酸(VWR，目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。所觀察光學密度之減小指示測試分子阻斷 hPDGF-BB 與人類 PDGF-R β -Fc 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.14：藉由 PDGFR β (Tyr751)磷酸化測定之 PDGF-BB 阻斷活性

為測試候選分子中和 hPDGF-BB 活性之能力，實施基於細胞之 PDGF-R β 磷酸化分析。將 Balb-3T3 細胞(ATCC 目錄號 CCL-163)胰蛋白酶化，於 D-PBS 中洗滌且以 3.5E5 個細胞/mL 重懸浮於生長培養基分析(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 μ g/mL 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉及 10% FCS)中。將細胞以 3.5E4 個細胞/孔平鋪於 96 孔板(Costar 目錄號 3599)中且在 37°C、5% CO₂ 下培育 20 小時。去除生長培養基且用 D-PBS 洗滌細胞。將饑餓培養基添加至孔(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/100 μ g/mL 鏈黴素及 1mM 丙酮酸鈉)中，且在 37°C、5% CO₂ 下將細胞培育 18 小時。第二天，在 25°C 下在振盪的同時，用 MSD 封阻劑-A 將 MSD 抗 PDGF-R β 磷酸-分析板(Mesoscale PDGF-R β -

20

25

30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Gly Ser Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys
 130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
 145 150 155 160

Phe Thr Asn Tyr Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly
 165 170 175

Leu Glu Tyr Met Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr
 180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val
 195 200 205

Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala
 210 215 220

Val Tyr Phe Cys Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly
 225 230 235 240

Pro Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 245 250 255

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
 260 265 270

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 275 280 285

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 290 295 300

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 305 310 315 320

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 325 330 335

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 340 345 350

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 355 360 365

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 370 375 380

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 385 390 395 400

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 405 410 415

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 420 425 430

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 435 440 445

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 450 455 460

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 465 470 475 480

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
 485 490 495

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 500 505 510

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 515 520 525

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 530 535 540

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 545 550 555 560

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr
 565 570 575

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 154

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 154

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Asp Ile Arg Met Thr Gln Ser Pro
 115 120 125

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Glu Cys Leu
 130 135 140

Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala Trp Tyr Gln Gln Lys Pro
 145 150 155 160

Gly Lys Ser Pro Lys Leu Leu Ile Tyr Asn Ala Asn Gly Leu Gln Asn
 165 170 175

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser
 180 185 190

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Val Ala Thr Tyr Phe Cys
 195 200 205

Gln Gln Tyr Asn Tyr Phe Pro Gly Thr Phe Gly Gln Gly Thr Lys Leu
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 155

<211> 586

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 155

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys
130 135 140

Lys Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
145 150 155 160

Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly
165 170 175

Leu Glu Trp Met Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr
180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr
195 200 205

Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala
210 215 220

Val Tyr Tyr Cys Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly
225 230 235 240

Pro Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
245 250 255

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
260 265 270

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 275 280 285

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 290 295 300

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 305 310 315 320

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 325 330 335

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 340 345 350

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 355 360 365

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 370 375 380

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 385 390 395 400

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 405 410 415

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 420 425 430

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 435 440 445

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 450 455 460

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 465 470 475 480

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
 485 490 495

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 500 505 510

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn

515

520

525

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 530 535 540

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 545 550 555 560

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr
 565 570 575

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 156

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 156

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Asp Ile Arg Met Thr Gln Ser Pro
 115 120 125

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Leu

130

135

140

Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala Trp Tyr Gln Gln Lys Pro
 145 150 155 160

Gly Lys Ser Pro Lys Leu Leu Ile Tyr Asn Ala Asn Gly Leu Gln Asn
 165 170 175

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr
 180 185 190

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Val Ala Thr Tyr Phe Cys
 195 200 205

Gln Gln Tyr Asn Tyr Phe Pro Gly Thr Phe Gly Gln Gly Thr Lys Leu
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 157

<211> 578

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 157

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90
 Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125
 Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
 130 135 140
 Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser
 145 150 155 160
 Phe Ser Lys Tyr Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly
 165 170 175
 Leu Glu Trp Val Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr
 180 185 190
 Arg Asp Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys
 195 200 205
 Ser Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
 210 215 220
 Val Tyr Tyr Cys Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln
 225 230 235 240
 Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 500 505 510

Tyr751 磷酸-MSD 套組目錄號 K150DVD-2)封阻 1 小時。在封阻期間，將抗 PDGF-BB 上清液、單株抗體、基準化合物或 DVD-Ig 連續稀釋於生長培養基中，且在 25°C 下在振盪的同時與重組人類 PDGF-BB (CST，目錄號 8912BF) (20 ng/ml / 7.94E-10 M 最終濃度)及大鼠 PDGF-BB (R&D Systems，目錄號 520-BB) (70 ng/ml / 1.4E-9 M 最終濃度)一起預培育 30 分鐘。自孔去除饑餓培養基且在 37°C、5% CO₂ 下經 8 分鐘將預培育樣品以一式兩份(100 μL)添加至細胞中。在培育後，立即將板轉移至冰中，其中去除培養基且用冰冷 D-PBS 洗滌細胞。在-80°C 下將板冷凍 10 分鐘。在冰上，將含有 1 mM PMSF 之冰冷溶解緩衝液(CST 目錄號 9803S)添加至細胞(50 μL)中。在 4°C 下以 3000 rpm 將板離心 15 分鐘。用洗滌緩衝液(TBS, 0.05% Tween-20)將 MSD 板洗滌四次。將細胞溶解物轉移至 MSD 板(40 μL)且在 25°C 下在振盪的同時培育 1 小時。培育後，用洗滌緩衝液將 MSD 板洗滌四次。將抗磷酸-Tyr751-IgG-sulfotag 試劑稀釋於檢測溶液(K150DVD-2 組份)中，且在 25°C 下在振盪的同時經 1 小時將 25 μl 添加至箔覆蓋之孔中。用洗滌緩衝液將板洗滌四次，將 150 μL MSD 讀取緩衝液(K150DVD-2 組份)添加至孔中且在 MSD Sector 成像儀 6000 上讀取板。所觀察報導基因信號之減少指示測試分子中和 hPDGF-BB 介導之活化。使用 Graphpad Prism 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.15：藉由抑制人類 PDGF-BB 刺激之 NIH-3T3 細胞增殖/存活測定之 PDGF-BB 阻斷活性

為篩選候選分子中和 hPDGF-BB 活性之能力，實施基於細胞之增殖分析。將 NIH-3T3 細胞(ATCC，目錄號 CRL-1658)胰蛋白酶化，於 D-PBS 中洗滌且以 4.5E4 個細胞/mL 重懸浮於分析培養基(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 μg/mL 鏈黴素、0.1%

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 545 550 555 560

Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 565 570 575

Gly Lys

<210> 158

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 158

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Asp Ile Gln Met Thr Gln Ser Pro
 115 120 125

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
 130 135 140

Ala Ser Gln Asp Ile Asp Asp Tyr Leu Ser Trp Tyr Gln Gln Lys Pro
 145 150 155 160

Gly Lys Ser Pro Lys Leu Val Ile Tyr Ala Ala Thr Arg Leu Ala Asp
 165 170 175

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr
 180 185 190

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
 195 200 205

Leu Gln Ser Ser Ser Thr Pro Trp Thr Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 159

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 159

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Gly Ser Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys
 130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro
 145 150 155 160

Phe Thr Asn Ser Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly
 165 170 175

Leu Glu Tyr Met Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr
 180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val
 195 200 205

Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala
 210 215 220

Val Tyr Phe Cys Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly
 225 230 235 240

Trp Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro

500

505

510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 160

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 160

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Ala Thr Gln Leu Thr Gln Ser Pro

<400> 161

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 162

<211> 333

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 162

Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
 1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
 65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly Gly
 100 105 110

Gly Ser Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser
 115 120 125

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly
 130 135 140

Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln
 145 150 155 160

Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile
 165 170 175

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 180 185 190

Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser
 195 200 205

Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu
 210 215 220

Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
 225 230 235 240

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
 245 250 255

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
 260 265 270

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
 275 280 285

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
 290 295 300

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
 305 310 315 320

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 163

<211> 586

<212> PRT

<213> 人工序列

<220>

MEM 非必需胺基酸、1mM 丙酮酸鈉及 0.1% BSA)中。將細胞以 2,250 個細胞/孔(50 μ L)平鋪於黑色 96 孔板上且在 37°C、5% CO₂ 下培育 5 小時。在細胞培育期間，將抗 PDGF-BB 單株抗體、基準化合物或 DVD-Ig 連續稀釋於分析培養基中，且在 25°C 下在溫和振盪的同時與重組人類 PDGF-BB (CST, 目錄號 8912BF) (1.67 ng/ml / 6.63E-11 M 最終濃度)一起預培育 1 小時。然後將預培育樣品一式三份添加至細胞(50 μ L)中且在 37°C、5% CO₂ 下將板培育 44 小時。藉由根據製造商之說明書使用 CellTiter-Glo 發光細胞活力分析套組(Promega, Madison, WI)評估 ATP 含量來間接量測細胞存活/增殖。所觀察信號之減少指示測試分子中和 hPDGF-BB 誘導之增殖。分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.16：藉由抑制食蟹猴 PDGF-BB 刺激之 NIH-3T3 細胞增殖/存活測定之 PDGF-BB 阻斷活性

為篩選候選分子中和食蟹猴 PDGF-BB 活性之能力，實施基於細胞之增殖分析。將 NIH-3T3 細胞(ATCC, 目錄號 CRL-1658)胰蛋白酶化，於 D-PBS 中洗滌且以 4.5E4 個細胞/mL 重懸浮於分析培養基(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 μ g/mL 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉及 0.1% BSA)中。將細胞以 2,250 個細胞/孔(50 μ L)平鋪於黑色 96 孔板上且在 37°C、5% CO₂ 下培育 5 小時。在細胞培育期間，將抗 PDGF-BB 單株抗體、基準化合物或 DVD-Ig 連續稀釋於分析培養基中，且在 25°C 下在溫和振盪的同時與重組食蟹猴 PDGF-BB (AP, PR-1575400) (4 ng/ml / 1.61E-10 M 最終濃度於分析孔中)一起預培育 1 小時。然後將預培育樣品一式三份添加至細胞(50 μ L)中且在 37°C、5% CO₂ 下將板培育 44 小時。藉由根據製造商之說明書使用 CellTiter-Glo 發光細胞活力分析套組(Promega, Madison, WI)評估 ATP 含量來間接量測細胞存活/增殖。所觀察信號

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 163

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
 115 120 125

Ser Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala
 130 135 140

Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly
 145 150 155 160

Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro
 165 170 175

Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp
 180 185 190

Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp
 195 200 205

Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val
 210 215 220

Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr
 225 230 235 240

Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
245 250 255

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
260 265 270

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
275 280 285

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
290 295 300

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
305 310 315 320

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
325 330 335

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
340 345 350

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
355 360 365

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
370 375 380

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
385 390 395 400

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
405 410 415

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
420 425 430

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
435 440 445

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
450 455 460

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
465 470 475 480

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu

485

490

495

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 500 505 510

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 515 520 525

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 530 535 540

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 545 550 555 560

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr
 565 570 575

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 164
 <211> 334
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 164
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 165

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
 115 120 125

Ser Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala
 130 135 140

Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly
 145 150 155 160

Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro
 165 170 175

Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp
 180 185 190

Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp
 195 200 205

Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val
 210 215 220

Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys
 225 230 235 240

Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 245 250 255

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
 260 265 270

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 275 280 285

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 290 295 300

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 305 310 315 320

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 325 330 335

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 340 345 350

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 355 360 365

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 370 375 380

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 385 390 395 400

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 405 410 415

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 420 425 430

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 435 440 445

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 450 455 460

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 465 470 475 480

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
485 490 495

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
500 505 510

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
515 520 525

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
530 535 540

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
545 550 555 560

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr
565 570 575

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 166

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 166

Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser
 130 135 140

Gly Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Gly Ile Asn Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 167

<211> 586

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 167

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
 115 120 125

Ser Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala
 130 135 140

Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly
 145 150 155 160

Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro
 165 170 175

Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp
 180 185 190

Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp
 195 200 205

Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val
 210 215 220

Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr
225 230 235 240

Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
245 250 255

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
260 265 270

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
275 280 285

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
290 295 300

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
305 310 315 320

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
325 330 335

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
340 345 350

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
355 360 365

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
370 375 380

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
385 390 395 400

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
405 410 415

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
420 425 430

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
435 440 445

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
450 455 460

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly

之減少指示測試分子中和食蟹猴 PDGF-BB 誘導之增殖。分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.17：藉由抑制鼠類 PDGF-BB 刺激之 NIH-3T3 細胞增殖/存活測定之 PDGF-BB 阻斷活性

為測試候選分子中和小鼠 PDGF-BB 活性之能力，實施基於細胞之分析。將 NIH-3T3 細胞(ATCC，目錄號 CRL-1658)胰蛋白酶化，於 D-PBS 中洗滌且以 4.5E4 個細胞/mL 重懸浮於分析培養基(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 µg/mL 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉及 0.1% BSA)中。將細胞以 2,250 個細胞/孔(50 µL)平鋪於黑色 96 孔板上且在 37°C、5% CO₂ 下培育 5 小時。在細胞培育期間，將抗 PDGF-BB 單株抗體、基準化合物或 DVD-Ig 連續稀釋於分析培養基中，且在 25°C 下在溫和振盪的同時與重組鼠類 PDGF-BB (Abnova，目錄號 0309-200-58-S) (2 ng/ml / 8.13E-11 M 最終濃度)一起預培育 1 小時。然後將預培育樣品以一式三份添加至細胞(50 µL)中且在 37°C、5% CO₂ 下將板培育 44 小時。藉由根據製造商之說明書使用 CellTiter-Glo 發光細胞活力分析套組 (Promega, Madison, WI)評估 ATP 含量來間接量測細胞存活/增殖。所觀察信號之減少指示測試分子中和鼠類 PDGF-BB 誘導之增殖。分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.18：藉由抑制大鼠 PDGF-BB 刺激之 NIH-3T3 細胞增殖/存活測定之 PDGF-BB 阻斷活性

為測試候選分子中和大鼠 PDGF-BB 活性之能力，實施基於細胞之分析。將 NIH-3T3 細胞(ATCC，目錄號 CRL-1658)胰蛋白酶化，於 D-PBS 中洗滌且以 4.5E4 個細胞/mL 重懸浮於分析培養基(DMEM、

465 470 475 480

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
485 490 495

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
500 505 510

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
515 520 525

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
530 535 540

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
545 550 555 560

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr
565 570 575

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 168

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 168

Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly

85

90

95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 130 135 140

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 169
 <211> 578
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 169
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
 20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
 100 105 110

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Val
 115 120 125

Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu
 130 135 140

Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met
 145 150 155 160

Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu
 165 170 175

Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys
 180 185 190

Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu
 195 200 205

Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala
210 215 220

Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln
225 230 235 240

Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
545 550 555 560

Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
565 570 575

Gly Lys

<210> 170

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 170

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Ser Gly Gly
100 105 110

Gly Gly Ser Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
130 135 140

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 171
 <211> 584
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 171
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val
 130 135 140

Lys Lys Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr
 145 150 155 160

Thr Phe Thr Glu Ser Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln
 165 170 175

Gly Leu Glu Leu Ile Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp
 180 185 190

Tyr Val Glu Lys Phe Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser
 195 200 205

Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr
 210 215 220

Ala Val Tyr Phe Cys Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro
 225 230 235 240

Met Asp Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser
 245 250 255

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
 260 265 270

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
 275 280 285

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
 290 295 300

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
 305 310 315 320

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
 325 330 335

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
 340 345 350

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 355 360 365

Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 370 375 380

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 385 390 395 400

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 405 410 415

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 420 425 430

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 435 440 445

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala

450

455

460

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
465 470 475 480

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
485 490 495

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
500 505 510

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
515 520 525

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
530 535 540

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
545 550 555 560

Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys
565 570 575

Ser Leu Ser Leu Ser Pro Gly Lys
580

<210> 172

<211> 331

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 172

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 $\mu\text{g}/\text{mL}$ 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉及 0.1% BSA)中。將細胞以 2,250 個細胞/孔(50 μL)平鋪於黑色 96 孔板上且在 37°C、5% CO_2 下培育 5 小時。在細胞培育期間，將抗 PDGF-BB 單株抗體、基準化合物或 DVD-Ig 連續稀釋於分析培養基中，且在 25°C 下在溫和振盪的同時與重組大鼠 PDGF-BB (R&D Systems, 目錄號 520-BB) (2 ng/ml / 8.0E-11 M 最終濃度)一起預培育 1 小時。然後將預培育樣品以一式三份添加至細胞(50 μL)中且在 37°C、5% CO_2 下將板培育 44 小時。藉由根據製造商之說明書使用 CellTiter-Glo 發光細胞活力分析套組 (Promega, Madison, WI)評估 ATP 含量來間接量測細胞存活/增殖。所觀察信號之減少指示測試分子中和大鼠 PDGF-BB 誘導之增殖。分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC_{50} 值。

實例 1.19：天然源性人類 PDGF-BB 之產生及對抗 PDGF-BB 抗體或抗 VEGF-A/抗 PDGF-BB DVD-Ig 蛋白之反應性

根據 Antoniades 等人之修改方案(Antoniades 等人(1979) Proc. Natl. Acad. Sci. USA 76(4): 1809-1813)自血小板純化人類 PDGF 之天然形式。在該修改方案中，將 10 單位血小板(Bioreclamation Inc.)解凍，用 12 ml 血小板洗滌緩衝液(HBSS - Gibco 編號 14175 /0.3% BSA/10 mM EDTA)洗滌且離心。然後將血小板懸浮於 25 ml 緩衝液 A (20 mM NaHPO_4 (pH 7.4)、80 mM NaCl 於 50 ml 管中)中。此時使用相同方案平行處理血小板洗滌液(50 ml 管)及經懸浮之血小板。

將經懸浮之血小板及血小板洗滌管二者於沸水浴中放置 10 分鐘，此後在冰上冷卻管之內容物。藉由離心分離上清液與沈澱物。在 4°C 下將上清液置於一邊且藉由在 4°C 下攪拌過夜用 30 ml 緩衝液 B (20 mM NaHPO_4 (pH 7.4)、1M NaCl)萃取沈澱物。藉由離心分離上清液與

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 173
 <211> 585
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 173
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Gly Ser Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys
 130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
 145 150 155 160

Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly
 165 170 175

Leu Glu Tyr Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr
 180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val
 195 200 205

Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala
 210 215 220

Val Tyr Phe Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe
 225 230 235 240

Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 174
<211> 333
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 174
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Ala Thr Gln Leu Thr Gln Ser Pro
115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
130 135 140

Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Lys Gln Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly
165 170 175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
180 185 190

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln
195 200 205

Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu
210 215 220

Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
225 230 235 240

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
245 250 255

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
260 265 270

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
275 280 285

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
290 295 300

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
305 310 315 320

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 175
 <211> 578
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 175
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val
 130 135 140

Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser
 145 150 155 160

Phe Ser Lys Tyr Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly
 165 170 175

Leu Glu Trp Val Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr
 180 185 190

Arg Asp Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys
 195 200 205

Ser Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala
 210 215 220

Val Tyr Tyr Cys Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln
 225 230 235 240

Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys

435

440

445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 545 550 555 560

Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 565 570 575

Gly Lys

<210> 176

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 176

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 177

<211> 584

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 177

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
 115 120 125

Gly Gly Ser Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys
 130 135 140

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 145 150 155 160

Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
 165 170 175

Glu Tyr Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala
 180 185 190

Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser
 195 200 205

Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val
 210 215 220

Tyr Phe Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr
 225 230 235 240

Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser
 245 250 255

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
 260 265 270

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
 275 280 285

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
 290 295 300

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
 305 310 315 320

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
 325 330 335

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
 340 345 350

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 355 360 365

Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 370 375 380

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 385 390 395 400

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 405 410 415

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 420 425 430

沈澱物。將上清液置於一邊(4°C)且藉由在 4°C 下攪拌過夜用 30 ml 緩衝液 B 萃取沈澱物。將此再重複兩次。然後針對緩衝液 A 單獨透析所有上清液。自透析去除後，分析所有上清液之蛋白質含量及 PDGF-BB (ELISA) (參見表 6)。

表 6：來自人類血小板之天然 PDGF 萃取物

樣品	體積 (ml)	PDGF-BB (ng/mL)	總 PDGF-BB (ng)	蛋白質 (mg/mL)	總蛋白質 (mg)	ng PDGF- BB/mg 蛋 白質
煮沸之血小板 上清液	50	4.52	226.18	0.63	31.50	7.18
沈澱物						
萃取物 1	35	8.77	306.95	0.31	10.85	28.29
萃取物 2	35	3.79	132.76	0.25	8.58	15.48
萃取物 3	35	1.26	44.03	0.10	3.43	12.83
萃取物 4	37	1.53	56.65	0.19	7.03	8.05
血小板洗滌液						
煮沸之上清液	27	7.49	202.12	0.64	17.28	11.70
萃取之沈澱物	37	10.89	402.75	0.90	33.15	12.15
總計	256	5.36	1371.32	0.44	111.82	12.26

表 7：來自人類血小板之天然 PDGF 純化物

血小板 純化物	PDGF- BB (ng/mL)	體積 (mL)	總 PDGF- BB (ng)	總蛋 白質 (mg)	比活性 ng PDGF/mg 蛋白質	內毒素 Levels		
						EU/ml	EU/mg 蛋白質	EU/μg PDGF
溶析物 1	214.94	6.74	1449	0.443	3266.49	2.36	35.87	10.98
穿流 1	1.17	500	585	110.5	5.29			

由於低比活性(ng PDGF-BB/mg 蛋白質)，藉由 CM sepharose 使上清液經受進一步純化。將上清液施加(與洗滌緩衝液 A 一起)至 20

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 435 440 445

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 450 455 460

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 465 470 475 480

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 485 490 495

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
 500 505 510

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 515 520 525

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
 530 535 540

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 545 550 555 560

Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys
 565 570 575

Ser Leu Ser Leu Ser Pro Gly Lys
 580

<210> 178

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 178

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Ser Gly Gly
100 105 110

Gly Gly Ser Gly Gly Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser
115 120 125

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser
130 135 140

Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro
145 150 155 160

Lys Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser
165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
180 185 190

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp
195 200 205

Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 179
 <211> 585
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 179
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
 115 120 125

Gly Gly Ser Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys
 130 135 140

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 145 150 155 160

Thr Asn Tyr Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu
 165 170 175

Glu Tyr Met Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala
180 185 190

Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser
195 200 205

Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val
210 215 220

Tyr Phe Cys Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro
225 230 235 240

Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu

420

425

430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 180

<211> 331

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 180

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
290 295 300

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
305 310 315 320

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 181

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 181

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
115 120 125

Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
130 135 140

Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
145 150 155 160

Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
165 170 175

Glu Trp Met Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala
180 185 190

Asp Asp Phe Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser
195 200 205

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
210 215 220

Tyr Tyr Cys Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro
225 230 235 240

Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 182
 <211> 331
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 182
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu
 115 120 125

Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu
 130 135 140

Asp Ile Tyr Ser Asp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser
 145 150 155 160

Pro Lys Leu Leu Ile Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro
 165 170 175

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile
 180 185 190

Ser Ser Leu Gln Pro Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr
 195 200 205

Asn Tyr Phe Pro Gly Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 210 215 220

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 225 230 235 240

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 245 250 255

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 260 265 270

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 275 280 285

ml CM sepharose 管柱(GE Healthcare 目錄號 17-0719-01)且用緩衝液 B 溶析 PDGF。隨後，針對緩衝液 A 透析所溶析之蛋白質。此時分析所有經溶析且隨後經透析之蛋白質以及穿流之蛋白質含量及 PDGF-BB (ELISA)。此時比活性(溶析物 1)足夠高至在分析中進行詢問。

為鑑別可結合天然源性人類 PDGF-BB 之分子，實施夾心 ELISA。自人類血小板(AbbVie, PR-1566692)分離並純化天然人類 PDGF-BB。使用 R&D Systems PDGF-BB DuoSet 套組(目錄號 DY220)來定量此材料。用 D-PBS 中之 13.3×10^{-8} M 抗體、基準化合物或 DVD-Ig 塗覆 96 孔 Costar 高結合板(3369 號)，在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。用 Superblock 封阻緩衝液(Thermo Scientific, 目錄號 37535)封阻板，然後用洗滌緩衝液(TBS, 0.05% Tween-20)洗滌四次。將天然人類 PDGF-BB 連續稀釋於分析稀釋劑(1%封阻劑 BSA; Pierce, 目錄號 37525)中達 2000 ng/mL - 2.74 ng/mL ($5.4 \times 10^{-8} \text{ M}$ - $7.5 \times 10^{-11} \text{ M}$)之最終測試濃度。將稀釋物添加至板($50 \mu\text{L}$)中，且在 25°C 下在振盪的同時培育 2 小時。培育後，用洗滌緩衝液將板洗滌四次。將來自 R&D Systems DuoSet 套組(部分 840926, 目錄號 DY220)之檢測抗體稀釋於分析稀釋劑中，且在 25°C 下在振盪的同時經 2 小時添加至板($50 \mu\text{L}$)中。然後用洗滌緩衝液將板洗滌四次。將來自 R&D Systems DuoSet 套組(部分 890803, 目錄號 DY220)之鏈黴抗生物素蛋白-HRP 稀釋於分析稀釋劑中，且在 25°C 下在振盪的同時經 35 分鐘添加至板($50 \mu\text{L}$)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen, 目錄號 308177)來顯影。用 2N 硫酸(VWR, 目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。光學密度之增加指示測試分子與天然源性人類 PDGF-BB 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC_{50} 值。

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
290 295 300

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
305 310 315 320

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 183

<211> 577

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 183

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly
115 120 125

Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
130 135 140

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe
145 150 155 160

Ser Lys Tyr Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu
 165 170 175

Glu Trp Val Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg
 180 185 190

Asp Ser Val Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser
 195 200 205

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 210 215 220

Tyr Tyr Cys Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly
 225 230 235 240

Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
 245 250 255

Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu
 260 265 270

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
 275 280 285

Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
 290 295 300

Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
 305 310 315 320

Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro
 325 330 335

Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys
 340 345 350

Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro
 355 360 365

Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser
 370 375 380

Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp
 385 390 395 400

Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn

405

410

415

Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val
 420 425 430

Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu
 435 440 445

Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
 450 455 460

Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
 465 470 475 480

Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr
 485 490 495

Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu
 500 505 510

Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu
 515 520 525

Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys
 530 535 540

Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu
 545 550 555 560

Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly
 565 570 575

Lys

<210> 184

<211> 331

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 184

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 275 280 285

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
 290 295 300

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 305 310 315 320

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 185

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 185

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr
225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 186

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 186

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Phe Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser
 130 135 140

Gly Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Gly Ile Asn Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 187

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 187

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val

實例 1.20：抗 VEGF-A/抗 PDGF-BB DVD-Ig 蛋白在與 hPDGF-BB 一起預培育時之 hVEGF-A 中和功效

為測試候選分子在 hPDGF-BB 存在下中和 hVEGF-A 活性之能力，實施基於細胞之 VEGF-R2 (KDR/Flk-1)磷酸化分析。將經穩定轉染之 VEGFR2-3T3 細胞(AP)胰蛋白酶化，於 D-PBS 中洗滌且以 3.5E5 個細胞/mL 重懸浮於生長培養基分析(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 $\mu\text{g}/\text{mL}$ 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉、400 $\mu\text{g}/\text{mL}$ 建那黴素及 10% FBS)中。將細胞以 3.5E4 個細胞/孔平鋪於 96 孔板(Costar 目錄號 3599)中且在 37°C、5% CO₂ 下培育 6 小時。去除生長培養基且用 D-PBS 洗滌細胞。將饑餓培養基添加至孔(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/100 $\mu\text{g}/\text{mL}$ 鏈黴素及 1mM 丙酮酸鈉)中，且在 37°C、5% CO₂ 下將細胞培育 18 小時。第二天，在 25°C 下在振盪的同時，用 MSD 封阻劑-A 將 MSD 抗 VEGFR2-磷酸分析板(Mesoscale VEGFR2-Tyr1054 磷酸-MSD 套組，目錄號 K151DJD-2)封阻 1 小時。在封阻期間，將抗 VEGF-A 單株抗體、基準化合物或 DVD-Ig 連續稀釋於生長培養基中，且在 25°C 下在振盪的同時與重組人類 PDGF-BB (CST 目錄號 8912BF) (0.992 $\mu\text{g}/\text{ml}$ / 3.94E-8 M 最終濃度)一起預培育 30 分鐘。在第一預培育步驟後，在 25°C 下在振盪的同時經 30 分鐘將重組人類 VEGF₁₆₅ (AP, PR-1350437) 添加至樣品中達人類 VEGF₁₆₅ 之 50 ng/ml / 1.3E-9 M 之最終濃度及 hPDGF-BB 之 0.496 $\mu\text{g}/\text{ml}$ / 1.97E-8 M 最終濃度。自孔去除饑餓培養基且在 37°C、5% CO₂ 下經 8 分鐘將預培育樣品以一式兩份(100 μL) 添加至細胞中。在培育後，立即將板轉移至冰中，其中去除培養基且用冰冷 D-PBS 洗滌細胞。在 -80°C 下將板冷凍 10 分鐘。在冰上將含有 1 mM PMSF 之冰冷溶解緩衝液(CST 目錄號 9803S)添加至細胞(50 μL)中。在 4°C 下以 3000 rpm 將板離心 15 分鐘。用洗滌緩衝液(TBS,

1 5 10 15
 Glu Arg Ala Thr Leu Phe Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30
 Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110
 Gly Gly Ser Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125
 Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 130 135 140
 Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160
 Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175
 Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190
 Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205
 Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220
 Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240
 Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 189

<211> 584

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 189

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val
130 135 140

Lys Lys Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr
145 150 155 160

Thr Phe Thr Glu Ser Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln
165 170 175

Gly Leu Glu Leu Ile Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp
180 185 190

Tyr Val Glu Lys Phe Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser
195 200 205

Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr
210 215 220

Ala Val Tyr Phe Cys Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro
225 230 235 240

Met Asp Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser
245 250 255

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
260 265 270

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
275 280 285

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
290 295 300

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
305 310 315 320

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
325 330 335

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
340 345 350

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
355 360 365

Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
370 375 380

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
385 390 395 400

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
405 410 415

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
420 425 430

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
435 440 445

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
450 455 460

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
465 470 475 480

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
485 490 495

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
500 505 510

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
515 520 525

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
530 535 540

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
545 550 555 560

Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys
565 570 575

Ser Leu Ser Leu Ser Pro Gly Lys
580

<210> 190

<211> 331

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 190

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Phe Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu
 130 135 140

Ser Val Ser Thr Leu Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln
 145 150 155 160

Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro
 165 170 175

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 180 185 190

Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser
 195 200 205

Trp Asn Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 210 215 220

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 225 230 235 240

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 245 250 255

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
260 265 270

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
275 280 285

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
290 295 300

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
305 310 315 320

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 191

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 191

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys
 130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
 145 150 155 160

Phe Thr Asp Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly
 165 170 175

Leu Glu Trp Met Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr
 180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val
 195 200 205

Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala
 210 215 220

Val Tyr Tyr Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe
 225 230 235 240

Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys

370

375

380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 192

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 192

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro
115 120 125

Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Phe Cys Arg
130 135 140

Ala Ser Gln Ser Val Ser Asn His Met His Trp Tyr Gln Gln Lys Pro
145 150 155 160

Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ile Leu Glu Ser
165 170 175

Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
180 185 190

Leu Thr Ile Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys
195 200 205

Gln Gln Ser Trp Tyr Asp Pro Ile Thr Phe Gly Gln Gly Thr Lys Leu
210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
225 230 235 240

0.05% Tween-20)將 MSD 板洗滌四次。將細胞溶解物轉移至 MSD 板 (40 μ L)且在 25°C 下在振盪的同時培育 1 小時。培育後，用洗滌緩衝液將 MSD 板洗滌四次。將抗磷酸-Tyr1054-IgG-sulfotag 試劑稀釋於檢測溶液(K151DJD-2 組份)中，且在 25°C 下在振盪的同時經 1 小時將 25 μ L 添加至箔覆蓋之孔中。用洗滌緩衝液將板洗滌四次，將 150 μ L MSD 讀取緩衝液(K151DJD-2 組份)添加至孔中且在 MSD Sector 成像儀 6000 上讀取板。所觀察信號之減少指示測試分子在 hPDGF-BB 存在下中和 hVEGF₁₆₅ 介導之活化。使用 Graphpad Prism 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.21：抗 VEGF-A/抗 PDGF-BB DVD-Ig 蛋白在與 VEGF 一起預培育時之 PDGF 中和功效

為測試候選分子在 hVEGF-A 存在下中和 hPDGF-BB 活性之能力，實施基於細胞之增殖分析。將 NIH-3T3 細胞(ATCC，目錄號 CRL-1658)胰蛋白酶化，於 D-PBS 中洗滌且以 4.5E4 個細胞/mL 重懸浮於分析培養基(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 μ g/mL 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉及 0.1% BSA)中。將細胞以 2,250 個細胞/孔(50 μ L)平鋪於黑色 96 孔板上且在 37°C、5% CO₂ 下培育 5 小時。在細胞培育期間，將抗 PDGF-BB 單株抗體、基準化合物或 DVD-Ig 連續稀釋於含有 hVEGF₁₆₅ (4 μ g/mL/104.2 nM)之分析培養基中。在 25°C 下在溫和振盪的同時，將樣品與分析培養基中之重組人類 PDGF-BB (CST，目錄號 8912BF) (3.34 ng/ml / 1.33E-10 M 最終濃度於孔中)一起預培育 1 小時。分析孔中配體之最終濃度為 hVEGF₁₆₅ 2.6E-8 M 及 hPDGF-BB 6.63E-11 M。將預培育樣品一式三份添加至細胞(50 μ L)中且在 37°C、5% CO₂ 下將板培育 44 小時。藉由根據製造商之說明書使用 CellTiter-Glo 發光細

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 193

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 193

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys
 130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
 145 150 155 160

Phe Thr Asp Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly
 165 170 175

Leu Glu Trp Met Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr
 180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val
 195 200 205

Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala
 210 215 220

Val Tyr Tyr Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe
 225 230 235 240

Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 194

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 194

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Ser Gly Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro
 115 120 125

Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Phe Cys Arg
 130 135 140

Ala Ser Gln Ser Val Ser Asn His Met His Trp Tyr Gln Gln Lys Pro
 145 150 155 160

Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ile Leu Glu Ser
 165 170 175

Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 180 185 190

Leu Thr Ile Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys
 195 200 205

Gln Gln Ser Trp Tyr Asp Pro Ile Thr Phe Gly Gln Gly Thr Lys Leu
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 195

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 195

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Gly Ser Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys
 130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
 145 150 155 160

Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly
 165 170 175

Leu Glu Tyr Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr
 180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val
 195 200 205

Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala
 210 215 220

Val Tyr Phe Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe
 225 230 235 240

Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro

355 360 365
 Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380
 Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400
 Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415
 Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430
 Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445
 Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460
 Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480
 Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495
 Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510
 Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525
 Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540
 Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560
 Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575
 Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 196

<211> 333

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 196

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Ser Gly Gly Gly Gly Ser Gly Gly Ala Thr Gln Leu Thr Gln Ser Pro
 115 120 125

Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
 130 135 140

Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Lys Gln Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly
 165 170 175

Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln
 195 200 205

Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu
 210 215 220

Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
 225 230 235 240

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
 245 250 255

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
 260 265 270

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
 275 280 285

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
 290 295 300

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
 305 310 315 320

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 197

<211> 584

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 197

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
 115 120 125

Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys
 130 135 140

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
 145 150 155 160

Thr Asp Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
 165 170 175

Glu Trp Met Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala
 180 185 190

Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser
 195 200 205

Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val
 210 215 220

Tyr Tyr Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr
 225 230 235 240

Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser
 245 250 255

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
 260 265 270

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
 275 280 285

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
 290 295 300

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
 305 310 315 320

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
 325 330 335

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val
 340 345 350

胞活力分析套組(Promega, Madison, WI)評估 ATP 含量來間接量測細胞存活/增殖。所觀察信號之減少指示測試分子在 hVEGF₁₆₅ 存在下中和 hPDGF-BB 誘導之增殖。分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.22：抗 VEGF-R2 抗體之人類 VEGF-R2 結合活性

為鑑別可結合 VEGF-R2 (KDR/Flk-1)之分子，實施直接結合 ELISA。用 0.5 µg/mL / 2.27E-9 M 重組人類 VEGF-R2-Fc (R&D Systems 目錄號 357-KD)，50 µL/孔於 D-PBS 中)塗覆 96 孔 Costar 高結合板(3369 號)，在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次且用 Superblock 封阻緩衝液(Thermo Scientific，目錄號 37535)封阻。在封阻步驟期間，將上清液、抗體或基準化合物稀釋於 1%封阻劑 BSA (Thermo Scientific 目錄號 37525)中，且實施每一樣品分子之八點滴定。將樣品添加至孔中，且在 25°C 下在振盪的同時培育 1 小時。培育後，用洗滌緩衝液將板洗滌四次。將適宜抗種 IgG HRP 偶聯物稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中，且在 25°C 下在振盪的同時經 45 分鐘添加至板(50 µL)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen 目錄號 308177)來顯影。用 2N 硫酸(VWR，目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。所觀察光學密度之增加指示測試分子結合人類 VEGF-R2-Fc。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.23：如藉由抑制人類 VEGF-R2 與人類 VEGF₁₆₅ 之相互作用測定之抗 VEGF-R2 抗體之人類 VEGF-R2 阻斷活性

為鑑別可阻斷 VEGF-R2 (KDR/Flk-1)與 hVEGF₁₆₅ 之結合之分子，實施競爭 ELISA。用 0.5 µg/mL / 2.27E-9 M 重組人類 VEGF-R2-Fc

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 355 360 365

Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 370 375 380

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 385 390 395 400

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 405 410 415

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 420 425 430

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 435 440 445

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 450 455 460

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 465 470 475 480

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 485 490 495

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
 500 505 510

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 515 520 525

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
 530 535 540

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 545 550 555 560

Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys
 565 570 575

Ser Leu Ser Leu Ser Pro Gly Lys
 580

<210> 198

<211> 331

<212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 198

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Phe Cys Arg Ala Ser Gln
 130 135 140

Ser Val Ser Asn His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala
 145 150 155 160

Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro
 165 170 175

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 180 185 190

Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser
 195 200 205

Trp Tyr Asp Pro Ile Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 210 215 220

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
225 230 235 240

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
245 250 255

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
260 265 270

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
275 280 285

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
290 295 300

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
305 310 315 320

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 199

<211> 584

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 199

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
 115 120 125

Gly Gly Ser Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys
 130 135 140

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe
 145 150 155 160

Thr Asn Ser Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu
 165 170 175

Glu Tyr Met Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala
 180 185 190

Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser
 195 200 205

Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val
 210 215 220

Tyr Phe Cys Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp
 225 230 235 240

Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
 245 250 255

Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr
 260 265 270

Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
 275 280 285

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
 290 295 300

His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
 305 310 315 320

Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile
 325 330 335

Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val

340

345

350

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
355 360 365

Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
370 375 380

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
385 390 395 400

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
405 410 415

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
420 425 430

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
435 440 445

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
450 455 460

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
465 470 475 480

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
485 490 495

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
500 505 510

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
515 520 525

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
530 535 540

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
545 550 555 560

Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys
565 570 575

Ser Leu Ser Leu Ser Pro Gly Lys
580

<210> 200
 <211> 331
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 200
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu
 115 120 125

Ser Ala Ser Val Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu
 130 135 140

Gly Val Tyr Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln
 145 150 155 160

Pro Lys Leu Leu Ile Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro
 165 170 175

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 180 185 190

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys His Gln Asn
 195 200 205

Trp Asn Asp Pro Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 210 215 220

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 225 230 235 240

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 245 250 255

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 260 265 270

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 275 280 285

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
 290 295 300

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 305 310 315 320

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 201

<211> 582

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 201

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
115 120 125

Gly Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro
130 135 140

Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser
145 150 155 160

Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala
165 170 175

Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn
180 185 190

Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn
195 200 205

Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr
210 215 220

Tyr Tyr Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp
225 230 235 240

Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys
245 250 255

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
260 265 270

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
275 280 285

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
290 295 300

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
305 310 315 320

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
325 330 335

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
 340 345 350

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
 355 360 365

Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 370 375 380

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 385 390 395 400

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
 405 410 415

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
 420 425 430

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
 435 440 445

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
 450 455 460

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
 465 470 475 480

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
 485 490 495

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 500 505 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
 515 520 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
 530 535 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
 545 550 555 560

Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu
 565 570 575

Ser Leu Ser Pro Gly Lys
 580

<210> 202
 <211> 337
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 202
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Glu Ile Val Leu Thr Gln Ser Pro
 115 120 125

Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg
 130 135 140

Ala Ser Ser Gly Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln
 145 150 155 160

Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg
 165 170 175

Ala Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
 180 185 190

Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
 195 200 205

(R&D Systems 目錄號 357-KD), 50 μ L/孔於 D-PBS 中)塗覆 96 孔 Costar 高結合板(3369 號), 在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次且用 Superblock 封阻緩衝液(Thermo Scientific, 目錄號 37535)封阻。在封阻步驟期間, 將上清液、抗體或基準化合物稀釋於 1%封阻劑 BSA (Thermo Scientific 目錄號 37525)中, 且實施每一樣品分子之八點滴定。將樣品添加至孔中, 且在 25°C 下在振盪的同時培育 30 分鐘。將生物素化人類 VEGF₁₆₅ (AP, PR-1361002)以 35 ng/mL 稀釋於 1% BSA 中。將此添加至孔(17.5 ng/mL / 4.56E-10 M 最終濃度)中, 且在 25°C 下在振盪的同時繼續培育 30 分鐘。培育後, 用洗滌緩衝液將板洗滌四次。將鏈黴抗生物素蛋白-聚 HRP-40 (Fitzgerald 目錄號 65r-s104phrp)稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中, 且在 25°C 下在振盪的同時經 45 分鐘添加至板(50 μ L)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen 目錄號 308177)來顯影。用 2N 硫酸(VWR, 目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。所觀察光學密度之減小指示測試分子阻斷人類 VEGF-R2-Fc 與 hVEGF₁₆₅ 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.24 : 如藉由 VEGFR2 (Tyr1054)磷酸化測定之抗 VEGF-R2 抗體之 VEGF-A 阻斷活性

為測試候選分子中和 hVEGF-R2 活性之能力, 實施基於細胞之 VEGF-R2 (KDR/Flk-1)磷酸化分析。將經穩定轉染之 VEGFR2-3T3 細胞(AP)胰蛋白酶化, 於 D-PBS 中洗滌且以 3.5E5 個細胞/mL 重懸浮於生長培養基分析(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/100 μ g/mL 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉、400

Tyr Cys Gln Ser Tyr Gly Ile Asn Ile Asp Val Val Phe Gly Gly Gly
 210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 203

<211> 574

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 203

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
 20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Glu Val Thr Leu Arg Glu
115 120 125

Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys
130 135 140

Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp
145 150 155 160

Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp
165 170 175

Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr
180 185 190

Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn
195 200 205

Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser
210 215 220

Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val
225 230 235 240

Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
245 250 255

Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu
260 265 270

Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly
275 280 285

Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser
290 295 300

Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu

Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
565 570

<210> 204
<211> 337
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 204
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Glu Ile Val Leu Thr Gln Ser Pro
115 120 125

Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg
130 135 140

Ala Ser Ser Gly Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln
145 150 155 160

Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg
165 170 175

Ala Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
180 185 190

Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
 195 200 205

Tyr Cys Gln Ser Tyr Gly Ile Asn Ile Asp Val Val Phe Gly Gly Gly
 210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 205

<211> 589

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 205

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
115 120 125

Gly Pro Ser Val Phe Pro Leu Ala Pro Glu Val Thr Leu Arg Glu Ser
130 135 140

Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr
145 150 155 160

Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile
165 170 175

Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp
180 185 190

Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile
195 200 205

Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met
210 215 220

Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ser
225 230 235 240

Gly Pro Lys Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr
245 250 255

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
260 265 270

Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val
275 280 285

Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala
290 295 300

Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly
305 310 315 320

Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly
325 330 335

Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys
340 345 350

Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys
355 360 365

Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu
370 375 380

Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
385 390 395 400

Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
405 410 415

Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
420 425 430

Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu
435 440 445

Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys
450 455 460

Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys
465 470 475 480

Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser
485 490 495

Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys
500 505 510

Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln
515 520 525

Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly
530 535 540

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln
545 550 555 560

Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn
 565 570 575

Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 206
 <211> 330
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 206
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
 115 120 125

Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp
 130 135 140

Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
 145 150 155 160

Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg
 165 170 175

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
 180 185 190

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile
 195 200 205

Asn Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
 210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
 225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
 260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
 275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 207

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 207

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
 20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
115 120 125

Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
130 135 140

Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr
145 150 155 160

Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu
165 170 175

Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro
180 185 190

Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln
195 200 205

Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr
210 215 220

Tyr Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr
225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe

$\mu\text{g/mL}$ 建那黴素及 10% FBS)中。將細胞以 $3.5\text{E}4$ 個細胞/孔平鋪於 96 孔板(Costar 目錄號 3599)中且在 37°C 、5% CO_2 下培育 6 小時。去除生長培養基且用 D-PBS 洗滌細胞。將饑餓培養基添加至孔(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/100 $\mu\text{g/mL}$ 鏈黴素及 1mM 丙酮酸鈉)中，且在 37°C 、5% CO_2 下將細胞培育 18 小時。第二天，在 25°C 下在振盪的同時用 MSD 封阻劑-A 將 MSD 抗 VEGFR2-磷酸分析板(Mesoscale VEGFR2-Tyr1054 磷酸-MSD 套組目錄號 K151DJD-2)封阻 1 小時。在封阻期間，將抗 VEGF-R2 上清液、單株抗體及基準化合物連續稀釋於生長培養基中，且在 25°C 下在振盪的同時與重組人類 VEGFR2-Fc (R&D Systems，目錄號 357-KD) (500 ng/ml / $2.27\text{E}-9\text{ M}$ 最終濃度)一起預培育 30 分鐘。將重組人類 VEGF₁₆₅ (AP, PR-1350437) (50 ng/ml / $1.3\text{E}-9\text{ M}$ 最終濃度)添加至孔中，且在 25°C 下在振盪的同時繼續培育 30 分鐘。自孔去除饑餓培養基且在 37°C 、5% CO_2 下經 8 分鐘將預培育樣品以一式兩份($100\ \mu\text{L}$)添加至細胞中。在培育後，立即將板轉移至冰中，其中去除培養基且用冰冷 D-PBS 洗滌細胞。在 -80°C 下將板冷凍 10 分鐘。在冰上將含有 1 mM PMSF 之冰冷溶解緩衝液(CST 目錄號 9803S)添加至細胞($50\ \mu\text{L}$)中。在 4°C 下以 3000 rpm 將板離心 15 分鐘。用洗滌緩衝液(TBS, 0.05% Tween-20)將 MSD 板洗滌四次。將細胞溶解物轉移至 MSD 板($40\ \mu\text{L}$)且在 25°C 下在振盪的同時培育 1 小時。培育後，用洗滌緩衝液將 MSD 板洗滌四次。將抗磷酸-Tyr1054-IgG-sulfotag 試劑稀釋於檢測溶液(K151DJD-2 組份)中，且在 25°C 下在振盪的同時經 1 小時將 $25\ \mu\text{L}$ 添加至箔覆蓋之孔中。用洗滌緩衝液將板洗滌四次，將 $150\ \mu\text{L}$ MSD 讀取緩衝液(K151DJD-2 組份)添加至孔中且在 MSD Sector 成像儀 6000 上讀取板。所觀察信號之增加指示測試分子中和外源 hVEGFR2 且允許 hVEGF₁₆₅ 介導之活化。使用 Graphpad Prism 軟體分析數據且在

290

295

300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
545 550 555 560

Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser
565 570 575

Leu Ser Pro Gly Lys
580

<210> 208

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 208

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
115 120 125

Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp
130 135 140

Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
145 150 155 160

Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg
 165 170 175

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
 180 185 190

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile
 195 200 205

Asn Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
 210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
 225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
 260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
 275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 209

<211> 582

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 209

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
 130 135 140

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn
 145 150 155 160

Tyr Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr
 165 170 175

Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp
 180 185 190

Phe Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala
 195 200 205

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe
 210 215 220

Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp
 225 230 235 240

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
 245 250 255

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
 260 265 270

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
 275 280 285

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
 290 295 300

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 305 310 315 320

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
 325 330 335

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
 340 345 350

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
 355 360 365

Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 370 375 380

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 385 390 395 400

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
 405 410 415

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
 420 425 430

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
 435 440 445

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
 450 455 460

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
 465 470 475 480

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
 485 490 495

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 500 505 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
 515 520 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
 530 535 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
545 550 555 560

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
565 570 575

Ser Leu Ser Pro Gly Lys
580

<210> 210

<211> 588

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 210

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Glu Val Thr Leu Arg Glu Ser Gly
130 135 140

Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe
145 150 155 160

Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg
 165 170 175

Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp
 180 185 190

Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser
 195 200 205

Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp
 210 215 220

Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly
 225 230 235 240

Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val
 245 250 255

Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser
 260 265 270

Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys
 275 280 285

Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu
 290 295 300

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu
 305 310 315 320

Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr
 325 330 335

Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val
 340 345 350

Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro
 355 360 365

Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe
 370 375 380

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 385 390 395 400

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe

405

410

415

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
 420 425 430

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
 435 440 445

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
 450 455 460

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
 465 470 475 480

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
 485 490 495

Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
 500 505 510

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
 515 520 525

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
 530 535 540

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
 545 550 555 560

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala
 565 570 575

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 211

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 211

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Phe

20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 212
<211> 110
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 212
Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys

100

105

110

<210> 213
 <211> 578
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 213

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe
 50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Glu Val Thr Leu
 115 120 125

Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu
 130 135 140

Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val
 145 150 155 160

Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu Ala Asn
 165 170 175

Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg
 180 185 190

Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala Val Leu Thr Ile

GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC_{50} 值。
實例 1.25：如藉由抑制小鼠 VEGF-R2 與小鼠 VEGF₁₆₄ 之相互作用測定之抗 VEGF-R2 抗體之小鼠 VEGF-R2 阻斷活性

為鑑別可阻斷 mVEGF₁₆₄ 與 mVEGF-R2 之結合之分子，實施競爭 ELISA。用 1 $\mu\text{g}/\text{mL}$ / 4.55E-9 M 重組小鼠 VEGF-R2-Fc (R&D Systems 目錄號 443-KD)(50 μL /孔於 D-PBS 中)塗覆 96 孔 Costar 高結合板(3369 號)，在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次且用 Superblock 封阻緩衝液(Thermo Scientific, 目錄號 37535)封阻。在封阻步驟期間，將雜交瘤上清液及大鼠 IgG 稀釋於 1%封阻劑 BSA (Thermo Scientific 目錄號 37525)中。將樣品添加至板(50 μL)中，且在 25°C 下在振盪的同時培育 45 分鐘。將小鼠 VEGF₁₆₄ (R&D Systems 目錄號 493-MV-005)於 1%封阻劑 BSA 中稀釋至 20 ng/mL 且添加至孔中達 10 ng/mL / 5.15E-10 M 最終濃度。在 25°C 下在振盪的同時繼續培育 30 分鐘。培育後，用洗滌緩衝液將板洗滌四次。將檢測試劑生物素化山羊抗 mVEGF₁₆₄ (R&D Systems 目錄號 BAF-493)稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中，且在 25°C 下在振盪的同時經 1 小時添加至板中。培育後，用洗滌緩衝液將板洗滌四次。將鏈黴抗生物素蛋白-聚 HRP-40 (Fitzgerald 目錄號 65r-s104phrp)稀釋於分析稀釋劑中，且在 25°C 下在振盪的同時經 45 分鐘添加至板(50 μL)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen 目錄號 308177)來顯影。用 2N 硫酸(VWR, 目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。所觀察光學密度之減小指示測試分子阻斷小鼠 VEGF-R2-Fc 與 mVEGF₁₆₄ 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算

195

200

205

Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile
 210 215 220

Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr
 225 230 235 240

Met Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 545 550 555 560

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 565 570 575

Gly Lys

<210> 214

<211> 336

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 214

Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Gly
100 105 110

Gly Ser Gly Gly Gly Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu
115 120 125

Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln
130 135 140

Asp Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala
145 150 155 160

Pro Lys Val Leu Ile Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro
165 170 175

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
180 185 190

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr
195 200 205

Ser Thr Val Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
260 265 270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
275 280 285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
290 295 300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
305 310 315 320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330 335

<210> 215
 <211> 578
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 215
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Glu Val Gln Leu Val
 115 120 125

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
 130 135 140

Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr Gly Met Asn Trp Val
 145 150 155 160

Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly Trp Ile Asn Thr
 165 170 175

Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe Lys Arg Arg Phe Thr
 180 185 190

Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr Leu Gln Met Asn Ser
 195 200 205

Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys Tyr Pro His
 210 215 220

Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val Trp Gly Gln Gly Thr
 225 230 235 240

Leu Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
545 550 555 560

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
565 570 575

Gly Lys

<210> 216

<211> 336

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 216

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile
35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Ser Gly
100 105 110

Gly Gly Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
115 120 125

Val Gly Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile
130 135 140

Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
145 150 155 160

Lys Asn Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser
165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser
180 185 190

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp
195 200 205

Ile Asn Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
260 265 270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
275 280 285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
290 295 300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His

305 310 315 320
 Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330 335

 <210> 217
 <211> 579
 <212> PRT
 <213> 人工序列

 <220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

 <400> 217
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

 Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

 Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

 Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
 65 70 75 80

 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

 Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Glu Val Thr Leu
 115 120 125

 Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu
 130 135 140

 Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val
 145 150 155 160

 Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn
 165 170 175

 Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg

180 185 190
 Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala Val Leu Thr Ile
 195 200 205

 Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile
 210 215 220

 Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala Trp Gly Gln Gly
 225 230 235 240

 Thr Thr Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser
 245 250 255

 Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
 260 265 270

 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 275 280 285

 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 290 295 300

 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 305 310 315 320

 Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
 325 330 335

 Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
 340 345 350

 Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly
 355 360 365

 Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 370 375 380

 Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 385 390 395 400

 Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 405 410 415

 His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 420 425 430

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 435 440 445

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 450 455 460

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 465 470 475 480

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 485 490 495

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 500 505 510

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 515 520 525

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 530 535 540

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 545 550 555 560

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 565 570 575

Pro Gly Lys

<210> 218
 <211> 336
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 218
 Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

IC₅₀ 值。

實例 1.26：抗 PDGF-R β 抗體之 PDGF-R β 結合活性

為鑑別結合 hPDGF-R β 之分子，實施直接 ELISA。用 0.5 μ g/mL / 2.98E-9 M 重組人類 PDGF-R β -Fc (R&D Systems 編號 385-PR, 50 μ L/孔於 D-PBS 中)塗覆 96 孔 Costar 高結合板(3369 號)，在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次且用 Superblock 封阻緩衝液(Thermo Scientific, 目錄號 37535)封阻。在封阻步驟期間，將上清液、抗體及基準化合物稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中，且實施每一樣品分子之八點滴定。將樣品添加至孔中，且在 25°C 下在振盪的同時培育 1 小時。培育後，用洗滌緩衝液將板洗滌四次。將適宜抗種 IgG HRP 偶聯物稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中，且在 25°C 下在振盪的同時經 45 分鐘添加至板(50 μ L)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen, 目錄號 308177)來顯影。用 2N 硫酸(VWR, 目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。所觀察光學密度之增加指示測試分子結合人類 PDGF-R β -Fc。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.27：如藉由抑制 PDGF-R β 與人類 PDGF-BB 之相互作用測定之抗 PDGF-R β 抗體之 PDGF-R β 阻斷活性

為鑑別可阻斷 hPDGF-R β 與 hPDGF-BB 之結合之分子，實施競爭 ELISA。用 0.5 μ g/mL / 2.98E-9 M 重組人類 PDGF-R β -Fc (R&D Systems 編號 385-PR, 50 μ L/孔於 D-PBS 中)塗覆 96 孔 Costar 高結合板(3369 號)，在 25°C 下振盪 2 小時且在 4°C 下儲存過夜。然後用洗滌緩衝液(TBS, 0.05% Tween-20)將板洗滌四次且用 Superblock 封阻緩衝

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Gly
100 105 110

Gly Ser Gly Gly Gly Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu
115 120 125

Ser Ala Ser Val Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu
130 135 140

Ser Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala
145 150 155 160

Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro
165 170 175

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
180 185 190

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser
195 200 205

Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
260 265 270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
275 280 285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
290 295 300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
305 310 315 320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330 335

<210> 219

<211> 579

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 219

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Glu Val Gln Leu
115 120 125

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
130 135 140

Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr Trp
145 150 155 160

Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met Gly Trp Ile Asn
165 170 175

Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys Gly Arg Phe
180 185 190

Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr Leu Gln Met Asn
195 200 205

Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Thr Asn
210 215 220

Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr Trp Gly Gln Gly
225 230 235 240

Thr Leu Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser
245 250 255

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
260 265 270

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
275 280 285

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
290 295 300

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
305 310 315 320

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
325 330 335

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
340 345 350

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly
355 360 365

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
370 375 380

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
385 390 395 400

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
405 410 415

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
420 425 430

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 435 440 445

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 450 455 460

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 465 470 475 480

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 485 490 495

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 500 505 510

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 515 520 525

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 530 535 540

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 545 550 555 560

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 565 570 575

Pro Gly Lys

<210> 220

<211> 336

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 220

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Ser Gly
100 105 110

Gly Gly Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
115 120 125

Val Gly Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile
130 135 140

Gly Asp Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
145 150 155 160

Lys Asn Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser
165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser
180 185 190

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp
195 200 205

Ser Asp Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
260 265 270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
275 280 285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser

290

295

300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
 305 310 315 320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330 335

<210> 221

<211> 578

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 221

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Glu Val Thr Leu
 115 120 125

Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu
 130 135 140

Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val
 145 150 155 160

Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu Ala Asn

165

170

175

Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg
 180 185 190

Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala Val Leu Thr Ile
 195 200 205

Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile
 210 215 220

Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr
 225 230 235 240

Met Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 545 550 555 560

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 565 570 575

Gly Lys

<210> 222

<211> 336

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 222

Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Gly
100 105 110

Gly Ser Gly Gly Gly Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu
115 120 125

Ser Ala Ser Val Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu
130 135 140

Ser Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala
145 150 155 160

Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro
165 170 175

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
180 185 190

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser
195 200 205

Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
260 265 270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
275 280 285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
 290 295 300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
 305 310 315 320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330 335

<210> 223

<211> 578

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 223

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Glu Val Gln Leu Val
 115 120 125

Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser
 130 135 140

Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr Trp Val
 145 150 155 160

液(Thermo Scientific, 目錄號 37535)封阻。在封阻步驟期間, 將上清液、抗體及基準化合物稀釋於分析稀釋劑(含有 0.05% surfactants 之 10% Superblock)中, 且實施每一樣品分子之八點滴定。將樣品添加至孔中, 且在 25°C 下在振盪的同時培育 30 分鐘。將重組人類 PDGF-BB-生物素(CST 目錄號 8912BF; 在 ABC 經標記)以 20 ng/mL 稀釋於分析稀釋劑中。將此添加至孔(10 ng/mL / 3.97E-10 M 最終濃度)中, 且在 25°C 下在振盪的同時繼續培育 35 分鐘。培育後, 用洗滌緩衝液將板洗滌四次。將檢測試劑鏈黴抗生物素蛋白-聚 HRP-40 (Fitzgerald, 目錄號 65r-s104phrp)稀釋於分析稀釋劑中, 且在 25°C 下在振盪的同時經 45 分鐘添加至板(50 μ L)中。用洗滌緩衝液將板洗滌四次且藉由添加增強的 K-藍 TMB 受質(Neogen, 目錄號 308177)來顯影。用 2N 硫酸(VWR, 目錄號 BDH3500-1)終止反應且在 450 nm - 570 nm 下讀取吸光度。所觀察光學密度之減小指示測試分子阻斷人類 PDGF-R β -Fc 與 hPDGF-BB 之結合。使用 Softmax Pro 4.8 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.28: 如藉由 PDGFR β (Tyr751)磷酸化測定之抗 PDGF-R β 抗體之 PDGF-R β 阻斷活性

為測試候選分子中和 hPDGF-R β 活性之能力, 實施基於細胞之 PDGF-R β 磷酸化分析。將 Balb-3T3 細胞(ATCC 目錄號 CCL-163)胰蛋白酶化, 於 D-PBS 中洗滌且以 3.5E5 個細胞/mL 重懸浮於生長培養基分析(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/ 100 μ g/mL 鏈黴素、0.1% MEM 非必需胺基酸、1mM 丙酮酸鈉及 10% FCS)中。將細胞以 3.5E4 個細胞/孔平鋪於 96 孔板(Costar 目錄號 3599)中且在 37°C、5% CO₂ 下培育 20 小時。去除生長培養基且用 D-PBS 洗滌細胞。將饑餓培養基添加至孔(DMEM、2mM L-麩醯胺酸、100 單位/mL 青黴素/100 μ g/mL 鏈黴素及 1mM 丙酮酸鈉)中, 且在 37°C、5% CO₂

Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met Gly Trp Ile Asn Thr
 165 170 175

Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys Gly Arg Phe Thr
 180 185 190

Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr Leu Gln Met Asn Ser
 195 200 205

Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Thr Asn Tyr
 210 215 220

Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr Trp Gly Gln Gly Thr
 225 230 235 240

Leu Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 545 550 555 560

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 565 570 575

Gly Lys

<210> 224

<211> 336

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 224

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Ser Gly
 100 105 110

Gly Gly Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
 115 120 125

Val Gly Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile
 130 135 140

Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
 145 150 155 160

Lys Asn Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser
 165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser
 180 185 190

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp
 195 200 205

Ile Asn Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
 225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
 245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
 260 265 270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln

275

280

285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
 290 295 300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
 305 310 315 320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330 335

<210> 225

<211> 578

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 225

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Glu Val Thr Leu
 115 120 125

Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu
 130 135 140

Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val

145 150 155 160
 Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn
 165 170 175
 Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg
 180 185 190
 Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met
 195 200 205
 Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile
 210 215 220
 Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr
 225 230 235 240
 Met Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255
 Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300
 Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320
 Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335
 Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350
 Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365
 Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380
 Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 545 550 555 560

Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 565 570 575

Gly Lys

<210> 226

<211> 336

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 226

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
100 105 110

Gly Ser Gly Gly Gly Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu
115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu
130 135 140

Ser Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala
145 150 155 160

Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro
165 170 175

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
180 185 190

Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser
195 200 205

Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
260 265 270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
 275 280 285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
 290 295 300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
 305 310 315 320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330 335

<210> 227

<211> 578

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 227

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Glu Val Gln Leu Val
 115 120 125

Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala Ser Val Lys Val Ser
 130 135 140

Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr Trp Val
 145 150 155 160

Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Trp Ile Asn Thr
 165 170 175

Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys Gly Arg Phe Val
 180 185 190

Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr Leu Gln Ile Ser Ser
 195 200 205

Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr Asn Tyr
 210 215 220

Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr Trp Gly Gln Gly Thr
 225 230 235 240

Met Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 545 550 555 560

Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 565 570 575

Gly Lys

<210> 228
 <211> 336
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 228
 Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

下將細胞培育 18 小時。第二天，在 25°C 下在振盪的同時，用 MSD 封阻劑-A 將 MSD 抗 PDGFR β -磷酸-分析板(Mesoscale PDGF-R β -Tyr751 磷酸-MSD 套組目錄號 K150DVD-2)封阻 1 小時。在封阻期間，將上清液、抗體或基準化合物連續稀釋於生長培養基中，且在 25°C 下與 500 ng/mL / 2.98E-9 M hPDGF-R β (R&D System, 目錄 385-PR) 一起預培育 30 分鐘。將重組人類 PDGF-BB (CST, 目錄號 8912BF) (20 ng/ml / 7.94E-10 nM 最終濃度)添加至孔中，且在 25°C 下在振盪的同時繼續培育 30 分鐘。自孔去除饑餓培養基且在 37°C、5% CO₂ 下經 8 分鐘將預培育樣品以一式兩份(100 μ L)添加至細胞中。在培育後，立即將板轉移至冰中，其中去除培養基且用冰冷 D-PBS 洗滌細胞。在-80°C 下將板冷凍 10 分鐘。在冰上將含有 1 mM PMSF 之冰冷溶解緩衝液(CST 目錄號 9803S)添加至細胞(50 μ L)中。在 4°C 下以 3000 rpm 將板離心 15 分鐘。用洗滌緩衝液(TBS, 0.05% Tween-20)將 MSD 板洗滌四次。將細胞溶解物轉移至 MSD 板(40 μ L)且在 25°C 下在振盪的同時培育 1 小時。培育後，用洗滌緩衝液將 MSD 板洗滌四次。將抗磷酸-Tyr751-IgG-sulfotag 試劑稀釋於檢測溶液(K150DVD -2 組份)中，且在 25°C 下在振盪的同時經 1 小時將 25 μ L 添加至箔覆蓋之孔中。用洗滌緩衝液將板洗滌四次，將 150 μ L MSD 讀取緩衝液(K150DVD -2 組份)添加至孔中且在 MSD Sector 成像儀 6000 上讀取板。所觀察信號之增加指示測試分子中和外源 hPDGF-R β 且允許 hPDGF-BB 介導之活化。使用 Graphpad Prism 軟體分析數據且在 GraphPad Prism 5 中使用 S 形劑量反應(可變斜率)擬合來計算 IC₅₀ 值。

實例 1.29：抗 PDGF-BB 抗體及抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子對 ECM 締合之 PDGF-BB 之反應性

將過表現 PDGFBB-RM 之重組細胞系 HEK293 細胞及天然表現 ECM 締合之 PDGF-BB 細胞之 HUVEC 二者用於染色：

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Ser Gly
 100 105 110

Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser
 115 120 125

Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile
 130 135 140

Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
 145 150 155 160

Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp
 165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
 180 185 190

Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp
 195 200 205

Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
 225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
 245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val

260

265

270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
 275 280 285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
 290 295 300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
 305 310 315 320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330 335

<210> 229

<211> 578

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 229

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu

130

135

140

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 145 150 155 160

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 165 170 175

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 180 185 190

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 195 200 205

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 210 215 220

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 225 230 235 240

Glu Ile Lys Gly Gly Gly Ser Gly Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
545 550 555 560

Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
565 570 575

Gly Lys

<210> 230
<211> 351
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 230

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser
130 135 140

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser
145 150 155 160

Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
165 170 175

Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
180 185 190

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
195 200 205

Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp
210 215 220

Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly
225 230 235 240

Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
245 250 255

Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
 260 265 270

Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
 275 280 285

Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
 290 295 300

Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
 305 310 315 320

Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
 325 330 335

Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 340 345 350

<210> 231

<211> 576

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 231

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu
 130 135 140

Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp
 145 150 155 160

Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala
 165 170 175

Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro
 180 185 190

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 195 200 205

Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr
 210 215 220

Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile
 225 230 235 240

Lys Gly Gly Gly Ser Gly Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
 245 250 255

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
 260 265 270

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
 275 280 285

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
 290 295 300

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
 305 310 315 320

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
 325 330 335

Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr
 340 345 350

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser
 355 360 365

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
370 375 380

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
385 390 395 400

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
405 410 415

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
420 425 430

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
435 440 445

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
450 455 460

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
465 470 475 480

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
485 490 495

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
500 505 510

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
515 520 525

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
530 535 540

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
545 550 555 560

Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
565 570 575

<210> 232

<211> 349

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 232

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser
 130 135 140

Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser
 145 150 155 160

Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 165 170 175

Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe
 180 185 190

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
 195 200 205

Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp
 210 215 220

Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly
 225 230 235 240

Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser

245

250

255

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
 260 265 270

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
 275 280 285

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
 290 295 300

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
 305 310 315 320

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
 325 330 335

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 340 345

<210> 233

<211> 574

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 233

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr

HEK293 細胞染色：將 PDGFB-RM 瞬時轉染之 HEK 293 細胞及親代 HEK293 細胞以 1E6 個細胞/mL 重懸浮於 PBS 中且在室溫下在 4%多聚甲醛中固定 10 分鐘，用 PBS 洗滌並在冰上在封阻緩衝液 (10%山羊血清於 PBS 中)中將 2E5 個細胞/管培育 1 小時。用 PBS 洗滌細胞且在冰上與抗體稀釋緩衝液(5%山羊血清於 PBS 中)中之 33nM 初級抗體或 DVD-Ig 分子一起培育 1 小時。用 PBS 將細胞洗滌三次且與抗體稀釋緩衝液中之 Alexa Fluo 488 偶聯之山羊抗人類 IgG (Jackson Immune，代碼：109-546-098，批號：108427) 1：400 稀釋物一起培育，在冰上培育 45 分鐘，用 PBS 將細胞洗滌三次且旋塗至載玻片上並用含有 DAPI 之封固培養基封固。藉由螢光顯微術獲取圖片。

HUVEC 染色：進一步評估抗 VEGF/抗 PDGF DVD-Ig 對 HUVEC 細胞上之天然源性 ECM 締合之 PDGF-BB 之染色。HUVEC (Lonza，目錄號：C2519A，批號：181607)胰蛋白酶化，以 2E4 個細胞/mL 重懸浮於培養基(Lonza, EGM2 MV Bulletkit: CC-3202)中。將細胞以 10,000 個細胞/ 500 μ l /孔平鋪於 8 室載玻片中且在 37°C、5% CO₂ 下培育 16 小時。培育後，在室溫下用 200 μ l 4%多聚甲醛將細胞固定 10 分鐘，用 PBS 洗滌且在冰上在封阻緩衝液(10%山羊血清於 PBS 中)中培育 1 小時。用 PBS 將細胞洗滌 3×且在冰上與抗體稀釋緩衝液 (5%山羊血清於 PBS 中)中之 33 nM 初級抗體或 DVD-Ig 分子一起培育 1 小時。用 PBS 將細胞洗滌三次且與抗體稀釋緩衝液中之 Alexa Fluo 488 偶聯之山羊抗人類 IgG (JacksonImmune，代碼：109-546-098，批號：108427) 1：400 稀釋物一起培育，在冰上培育 45 分鐘，用 PBS 將細胞洗滌三次並用含有 DAPI 之封固培養基封固。藉由螢光顯微術獲取圖片。

A. 實例 1.30：在 HUVEC/MSC 共培養出芽分析中抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子對出芽之抑制

100 105 110
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125
 Gly Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu
 130 135 140
 Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp
 145 150 155 160
 Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala
 165 170 175
 Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro
 180 185 190
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 195 200 205
 Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr
 210 215 220
 Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile
 225 230 235 240
 Lys Gly Gly Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
 245 250 255
 Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu
 260 265 270
 Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly
 275 280 285
 Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser
 290 295 300
 Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu
 305 310 315 320
 Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr
 325 330 335
 Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr
 340 345 350

Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe
 355 360 365

Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
 370 375 380

Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val
 385 390 395 400

Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
 405 410 415

Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val
 420 425 430

Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys
 435 440 445

Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser
 450 455 460

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
 465 470 475 480

Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
 485 490 495

Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
 500 505 510

Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
 515 520 525

Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp
 530 535 540

Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
 545 550 555 560

Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 565 570

<210> 234

<211> 349

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 234

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Gly Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser
130 135 140

Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser
145 150 155 160

Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
165 170 175

Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe
180 185 190

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
195 200 205

Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp
210 215 220

Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly
225 230 235 240

Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
245 250 255

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
260 265 270

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
275 280 285

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
290 295 300

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
305 310 315 320

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
325 330 335

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
340 345

<210> 235

<211> 571

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 235

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 130 135 140

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 145 150 155 160

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 165 170 175

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 180 185 190

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 195 200 205

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 210 215 220

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 225 230 235 240

Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser
 245 250 255

Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp
 260 265 270

Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr
 275 280 285

Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr
 290 295 300

Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln
 305 310 315 320

Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp
 325 330 335

Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro
 340 345 350

Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro
 355 360 365

Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr
 370 375 380

Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn
 385 390 395 400

Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg
 405 410 415

Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val
 420 425 430

Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser
 435 440 445

Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
 450 455 460

Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu
 465 470 475 480

Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
 485 490 495

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
 500 505 510

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
 515 520 525

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
 530 535 540

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr
 545 550 555 560

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 565 570

<210> 236

<211> 349

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 236

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser
 130 135 140

Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser
 145 150 155 160

Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 165 170 175

Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe
 180 185 190

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
 195 200 205

Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp
 210 215 220

Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly

225 230 235 240
 Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
 245 250 255
 Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
 260 265 270
 Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
 275 280 285
 Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
 290 295 300
 Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
 305 310 315 320
 Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
 325 330 335
 Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 340 345

 <210> 237
 <211> 576
 <212> PRT
 <213> 人工序列

 <220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

 <400> 237
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

 Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

 Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu
 130 135 140

Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp
 145 150 155 160

Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala
 165 170 175

Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro
 180 185 190

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 195 200 205

Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr
 210 215 220

Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile
 225 230 235 240

Lys Gly Gly Gly Ser Gly Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
 245 250 255

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
 260 265 270

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
 275 280 285

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
 290 295 300

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
 305 310 315 320

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
 325 330 335

Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr
340 345 350

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser
355 360 365

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
370 375 380

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
385 390 395 400

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
405 410 415

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
420 425 430

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
435 440 445

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
450 455 460

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
465 470 475 480

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
485 490 495

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
500 505 510

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
515 520 525

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
530 535 540

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
545 550 555 560

Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
565 570 575

<210> 238

<211> 347

<212> PRT

在早期治療性治療模式中，用 HUVEC 細胞(Lonza)將 Cytodex-3 珠粒(Sigma-Aldrich，目錄號 C3275)塗覆過夜，且然後用人類間葉幹細胞(Lonza, 20,000 個細胞/孔)包埋(100 珠粒/孔)於 24 孔組織培養板中之纖維蛋白凝膠中。將新鮮 EGM-2 完全培養基(Lonza)及纖維母細胞(Lonza)條件化 EGM-2 培養基之 1:1 混合物與 2 ng/mL 重組人類 HGF 一起添加在纖維蛋白凝膠之頂部。每 2-3 天更換培養基直至實驗結束。在 EC 出芽且通常在第 4 天形成周細胞覆蓋後，將抗 VEGF-A (4G8.4)、抗 PDGFBB (9E8.)或抗 PDGFBB/VEGF-A DVD-Ig 以 10 nM 起始添加至培養基中。10 天後，在 4°C 下在 4% PFA 中將細胞固定過夜。用抗 PECAM (Abcam, ab32457)、然後用螢光偶聯之二級抗體對內皮細胞染色，且用抗 α SMA-Cy3 (Sigma, C6198)標記周細胞。然後藉由倒置螢光顯微鏡觀察細胞且捕獲 5 × 影像(圖 2 及 3)。

實例 2：用於 DVD-Ig 蛋白之物理化學性質表徵之分析方法及技術

實例 2.1：粒徑篩析層析技術

基於粒徑使用粒徑篩析層析(SEC)來分離蛋白質。蛋白質攜載於水性移動相中且通過封裝於管柱中之多孔固定相樹脂。管柱中之滯留時間係蛋白質之流體力學粒徑及封裝樹脂床中之孔徑的函數。較小分子可滲透至樹脂中之較小孔中且比較大分子滯留較長時間。將 1 mg/ml 或用調配物緩衝液稀釋至此濃度之樣品以 10 μ l 之體積注射至 SEC 管柱上。自管柱溶析後，藉由 UV 吸光度檢測蛋白質。SEC 方法使用 TSK 凝膠保護柱(TOSOH Biosciences, Montgomeryville, PA，目錄號 08543)及 TSK 凝膠 G3000SWxL (TOSOH Biosciences, Montgomeryville, PA，目錄號 08541)。移動相為 100 mM Na₂HPO₄、100 mM Na₂SO₄ (pH 6.8)。流速為 0.25 ml/分鐘。管柱溫度為室溫。自動取樣器溫度為 2°C -8°C。總運行時間為 55 分鐘。檢測係基於 214 nm 波長下之 UV 吸光度，帶寬設定為 8 nm，使用 360 nm 處之參照

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 238

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser Gly
115 120 125

Gly Gly Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser
130 135 140

Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser
145 150 155 160

Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
165 170 175

Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe
180 185 190

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
195 200 205

Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp
210 215 220

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
115 120 125

Gly Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu
130 135 140

Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp
145 150 155 160

Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala
165 170 175

Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro
180 185 190

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
195 200 205

Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr
210 215 220

Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile
225 230 235 240

Lys Gly Gly Gly Ser Gly Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
245 250 255

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
260 265 270

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
275 280 285

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
290 295 300

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
305 310 315 320

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
325 330 335

Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr
 340 345 350

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser
 355 360 365

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 370 375 380

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 385 390 395 400

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 405 410 415

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
 420 425 430

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 435 440 445

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 450 455 460

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 465 470 475 480

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
 485 490 495

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
 500 505 510

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
 515 520 525

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
 530 535 540

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
 545 550 555 560

Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 565 570 575

<210> 240

<211> 344
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 240

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp
 115 120 125

Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu
 130 135 140

Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 145 150 155 160

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
 165 170 175

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 180 185 190

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu
 195 200 205

Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr

210

215

220

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Arg Thr Val
 225 230 235 240

Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys
 245 250 255

Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg
 260 265 270

Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn
 275 280 285

Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser
 290 295 300

Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys
 305 310 315 320

Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr
 325 330 335

Lys Ser Phe Asn Arg Gly Glu Cys
 340

<210> 241

<211> 559

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 241

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
 325 330 335

Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val
 340 345 350

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
 355 360 365

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
 370 375 380

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
 385 390 395 400

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
 405 410 415

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
 420 425 430

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
 435 440 445

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
 450 455 460

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
 465 470 475 480

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
 485 490 495

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
 500 505 510

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
 515 520 525

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
 530 535 540

His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 545 550 555

<210> 242

<211> 355

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 242

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Glu Val Gln Leu Val
115 120 125

Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala Ser Val Lys Val Ser
130 135 140

Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr Trp Val
145 150 155 160

Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Trp Ile Asn Thr
165 170 175

Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys Gly Arg Phe Val
180 185 190

Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr Leu Gln Ile Ser Ser
195 200 205

Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr Asn Tyr
210 215 220

Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr Trp Gly Gln Gly Thr
 225 230 235 240

Met Val Thr Val Ser Ser Gly Gly Arg Thr Val Ala Ala Pro Ser Val
 245 250 255

Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser
 260 265 270

Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln
 275 280 285

Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val
 290 295 300

Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu
 305 310 315 320

Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu
 325 330 335

Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg
 340 345 350

Gly Glu Cys
 355

<210> 243

<211> 559

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 243

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

波長及帶寬 100 nm。藉由總信號區域之百分比分析所得層析圖之不同粒徑物質(聚集物、單體及片段)之分佈。

實例 2.2：差示掃描量熱技術

使用差示掃描量熱(DSC)儀器來評估蛋白質樣品之熱穩定性。所用 DSC 儀器係含有毛細管細胞之自動化 VP-DSC 設備(Microcal, GE Healthcare Ltd./Microcal, Buckinghamshire, UK)。在 25°C - 95°C 溫度範圍內對 1 mg/mL 之樣品施加 1°C/分鐘掃描速率來研究分子之去摺疊。所施加之其他量測參數為 16 秒之裝配時段、10 分鐘之預掃描等待時間，且以無反饋模式實施量測。對於每一量測，將 420 μ L 樣品或空白緩衝液填充至 DSC 儀器內之指定容器中。將所獲得之溫度記錄圖(熱容對溫度)擬合至非二態模型以獲得不同轉變之中點溫度及焓。

實例 2.3：樣品製備

抗體及 DVD-Ig 分子最初係以溶液形式獲得且用調配物緩衝液稀釋至 10 mg/ml 以下。然後將每一樣品插入單獨透析柱(Slide-a-lyzer 盒，10,000 MWCO, 3-12 mL 容量，Thermo Scientific, USA，目錄號 66810)中，且經由磁力攪拌棒連續攪拌 18-24 小時，相對於 2L 調配物緩衝液進行透析。然後自柱取回樣品且在離心機中簡單旋轉沉降及/或通過 0.45 μ m PVDF 過濾器以去除任何沈澱或粒子。隨後用離心旋轉過濾器(Amicon Ultra 30,000 MWCO 再生纖維素)上濃縮 DVD-Ig 溶液以，至達到期望蛋白質濃度，其係藉由 280 nm 處之 UV 量測來確認。若溶液在期望濃度以上，則用調配物緩衝液將其稀釋至該濃度。

實例 2.4：儲存穩定性分析方法

分析根據實例 2.3 製備之抗體及 DVD-Ig 分子溶液在 40°C、25°C 及/或 5°C 下儲存期間之物理穩定性。25°C (室溫)及 5°C (儲存溫度)二者係樣品在製備及儲存以供製造期間或作為最終藥品呈現之一部分時將承受的典型溫度。在 40°C 下儲存視為加速穩定性條件，其提供

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
100 105 110

Gly Ser Gly Gly Gly Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu
115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu
130 135 140

Ser Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala
145 150 155 160

Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro
165 170 175

Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
180 185 190

Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser
195 200 205

Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
210 215 220

Gly Gly Gly Ser Gly Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
225 230 235 240

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
245 250 255

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
260 265 270

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
275 280 285

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
290 295 300

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
305 310 315 320

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
 325 330 335

Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val
 340 345 350

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
 355 360 365

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
 370 375 380

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
 385 390 395 400

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
 405 410 415

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
 420 425 430

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
 435 440 445

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
 450 455 460

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
 465 470 475 480

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
 485 490 495

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
 500 505 510

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
 515 520 525

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
 530 535 540

His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 545 550 555

<210> 244

<211> 355
 <212> PRT
 <213> 人工序列

<220> .
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 244
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Glu Val Thr Leu
 115 120 125

Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu
 130 135 140

Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val
 145 150 155 160

Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn
 165 170 175

Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg
 180 185 190

Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met
 195 200 205

Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile

210

215

220

Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr
 225 230 235 240

Met Val Thr Val Ser Ser Gly Gly Arg Thr Val Ala Ala Pro Ser Val
 245 250 255

Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser
 260 265 270

Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln
 275 280 285

Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val
 290 295 300

Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu
 305 310 315 320

Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu
 325 330 335

Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg
 340 345 350

Gly Glu Cys
 355

<210> 245

<211> 575

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 245

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly

50

55

60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Ser Gly
100 105 110

Gly Gly Gly Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys
115 120 125

Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu
130 135 140

Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys
145 150 155 160

Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr
165 170 175

Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys
180 185 190

Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala
195 200 205

Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe
210 215 220

Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Leu Gly Gly
225 230 235 240

Cys Gly Gly Gly Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu
245 250 255

Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys
260 265 270

Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser
275 280 285

Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser
290 295 300

Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser
305 310 315 320

Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn
325 330 335

Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His
340 345 350

Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val
355 360 365

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
370 375 380

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
385 390 395 400

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
405 410 415

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
420 425 430

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
435 440 445

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
450 455 460

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
465 470 475 480

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
485 490 495

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
500 505 510

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
515 520 525

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
530 535 540

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
545 550 555 560

His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 565 570 575

<210> 246
 <211> 356
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 246
 Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Gly Ser Gly Gly Gly Gly Glu Val Gln Leu Val Gln Ser Gly Ser Glu
 115 120 125

Leu Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly
 130 135 140

Tyr Thr Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly
 145 150 155 160

Gln Gly Leu Glu Trp Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro
 165 170 175

Thr Tyr Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr
 180 185 190

Ser Val Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp
 195 200 205

Thr Ala Val Tyr Tyr Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr
 210 215 220

Ile Phe Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser
 225 230 235 240

Ser Leu Gly Gly Cys Gly Gly Gly Ser Arg Thr Val Ala Ala Pro Ser
 245 250 255

Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala
 260 265 270

Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val
 275 280 285

Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser
 290 295 300

Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr
 305 310 315 320

Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys
 325 330 335

Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn
 340 345 350

Arg Gly Glu Cys
 355

<210> 247

<211> 579

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 247

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
100 105 110

Gly Ser Gly Gly Gly Gly Glu Val Gln Leu Val Gln Ser Gly Ser Glu
115 120 125

Leu Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly
130 135 140

Tyr Thr Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly
145 150 155 160

Gln Gly Leu Glu Trp Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro
165 170 175

Thr Tyr Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr
180 185 190

Ser Val Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp
195 200 205

Thr Ala Val Tyr Tyr Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr
210 215 220

Ile Phe Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser
225 230 235 240

Ser Leu Gly Gly Cys Gly Gly Gly Ser Ala Ser Thr Lys Gly Pro Ser
245 250 255

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
260 265 270

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
275 280 285

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
290 295 300

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
305 310 315 320

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
325 330 335

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
340 345 350

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly
355 360 365

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
370 375 380

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
385 390 395 400

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
405 410 415

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
420 425 430

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
435 440 445

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
450 455 460

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
465 470 475 480

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
485 490 495

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
500 505 510

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
515 520 525

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val

預測長期穩定性之指標。將樣品等分至低體積容器(< 0.1 ml)中，緊密封，且置於指定溫度下(有時在水浴中)。然後依定期間隔取出樣品且移出小部分用於 SEC 分析(實例 2.1)。

實例 2.5：冷凍-解凍分析方法

分析根據實例 2.3 製備之抗體及 DVD-Ig 分子溶液在冷凍/解凍應力期間之物理穩定性。將樣品等分至低體積容器(< 1 ml)中且緊密封。然後將樣品於-80°C 下放置至少 6 小時，然後在 30°C 水浴中解凍。將此再重複三次。第二及第四次解凍後，移出每一樣品之小部分用於 SEC 分析(實例 2.1)。

DVD-Ig 溶液通常冷凍在-80°C 下以供長期儲存以及運送遠離製造現場。然後將樣品解凍以完成藥品製造過程。評估在低濃度下因冷凍-解凍所致之穩定性，以分析蛋白質分子於變性冰水界面之更大暴露。在較高濃度下，比例較小之蛋白質遇到冰水界面，取代了與其他蛋白質分子之相互作用。

實例 2.6：黏度測定方法

用 Malvern Viscosizer 200 儀器分析根據實例 2.3 製備之抗體及 DVD-Ig 分子溶液在室溫(約 23°C)下之黏度。該黏度用作樣品是否易於通過附接至注射器之小直徑針遞送(可能的藥品呈遞方式)之指示。較高黏度需要較大遞送力，且反之亦然。

實例 2.7：完整及降低分子量測定

獲取表 8 中所顯示之三個樣品之完整分子量。用 Milli-Q 水將每一樣品稀釋至 1 mg/mL。將 1.0 μ L 1 mg/mL 樣品注射至具有 C4 MicroTrap 管柱之 Agilent 6510 Q-ToF LC/MS 系統上。表 9 顯示用於完整分子量分析之 HPLC 梯度。緩衝液 A 係 0.02% TFA、0.08% FA 於水中。緩衝液 B 係 0.02% TFA、0.08% FA 於乙腈中。流速為 50 μ L/分鐘。管柱溫度設定為 60°C。質譜儀係在 5 千伏噴霧電壓下操作

530

535

540

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 545 550 555 560

His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 565 570 575

Pro Gly Lys

<210> 248

<211> 352

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 248

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Ser Gly
 100 105 110

Gly Gly Gly Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys
 115 120 125

Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu
 130 135 140

Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys

145 150 155 160
 Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr
 165 170 175
 Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys
 180 185 190
 Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala
 195 200 205
 Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe
 210 215 220
 Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Leu Gly Gly
 225 230 235 240
 Cys Gly Gly Gly Ser Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
 245 250 255
 Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
 260 265 270
 Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
 275 280 285
 Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
 290 295 300
 Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
 305 310 315 320
 Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
 325 330 335
 Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 340 345 350

<210> 249

<211> 576

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 249

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala

1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30
 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125
 Gly Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu
 130 135 140
 Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp
 145 150 155 160
 Ile Gly Glu Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala
 165 170 175
 Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro
 180 185 190
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 195 200 205
 Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr
 210 215 220
 Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile
 225 230 235 240
 Lys Gly Gly Gly Ser Gly Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
 245 250 255

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
 260 265 270

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
 275 280 285

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
 290 295 300

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
 305 310 315 320

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
 325 330 335

Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr
 340 345 350

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser
 355 360 365

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 370 375 380

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 385 390 395 400

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 405 410 415

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
 420 425 430

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 435 440 445

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 450 455 460

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 465 470 475 480

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
 485 490 495

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
 500 505 510

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
 515 520 525

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
 530 535 540

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
 545 550 555 560

Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 565 570 575

<210> 250

<211> 347

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 250

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser
 130 135 140

Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser
 145 150 155 160

Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 165 170 175

Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe
 180 185 190

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
 195 200 205

Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp
 210 215 220

Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser
 225 230 235 240

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 245 250 255

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 260 265 270

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 275 280 285

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 290 295 300

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
 305 310 315 320

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 325 330 335

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 340 345

<210> 251

<211> 576

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 251

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu
 130 135 140

Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp
 145 150 155 160

Ile Gly Glu Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala
 165 170 175

Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro
 180 185 190

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
 195 200 205

Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr
 210 215 220

Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile
 225 230 235 240

Lys Gly Gly Gly Ser Gly Ala Ser Thr Lys Gly Pro Ser Val Phe Pro
 245 250 255

Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly
 260 265 270

Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn
 275 280 285

Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln
 290 295 300

Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser
 305 310 315 320

Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser
 325 330 335

Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr
 340 345 350

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser
 355 360 365

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
 370 375 380

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
 385 390 395 400

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
 405 410 415

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
 420 425 430

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 435 440 445

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
 450 455 460

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
 465 470 475 480

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
 485 490 495

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser

500

505

510

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
 515 520 525

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
 530 535 540

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
 545 550 555 560

Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 565 570 575

<210> 252

<211> 344

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 252

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp
 115 120 125

Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu

130

135

140

Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 145 150 155 160

His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
 165 170 175

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 180 185 190

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu
 195 200 205

Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
 210 215 220

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Arg Thr Val
 225 230 235 240

Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys
 245 250 255

Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg
 260 265 270

Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn
 275 280 285

Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser
 290 295 300

Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys
 305 310 315 320

Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr
 325 330 335

Lys Ser Phe Asn Arg Gly Glu Cys
 340

<210> 253
 <211> 165
 <212> PRT
 <213> 智人

<400> 253
 Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His His Glu Val Val Lys
 1 5 10 15

且掃描範圍係 600 至 3200 質荷比。在將樣品去糖基化後，藉由 Agilent 6510 Q-Tof LC/MS 系統量測所有三個樣品之去糖基化完整分子量。將 100 μ L 1 mg/mL 樣品與 5 μ L 10% N-辛基糖苷及 2 μ L PNGase F 酶混合。在 37°C 下將樣品培育 18 小時。將 1.0 μ g 去糖基化樣品注射至具有 C4 MicroTrap 之 Agilent 6510 Q-Tof LC/MS 系統上用於去糖基化完整分子量分析。

獲得所有三個樣品之降低分子量。用 Milli-Q 水將每一樣品稀釋至 1 mg/mL。將 1.0 μ L 1M DTT 添加至 100 μ L 1 mg/mL 樣品中且在 37°C 下培育 30 分鐘。將 2.0 μ L 降低樣品注射至具有二苯基管柱之 Agilent 6510 Q-Tof LC/MS 系統上。用於降低分子量分析之 HPLC 梯度顯示於表 9 中。質譜儀係在 5 千伏噴霧電壓下操作且掃描範圍係 600 至 3200 質荷比。

表 8. VEGF/PDGF DVD-Ig 調配物

樣品 ID	批號	詳細名稱	濃度 (mg/mL)	調配物
PR-1572102	批號 2211502	hu VEGF 4G8.3-GS-hu PDGF 9E8.4 (種系) [hu IgG1/k] LALA H435A	6.5	30mM 組胺 酸、8%蔗糖 糖，pH 5.2
PR-1572105	批號 2211597	hu VEGF 4G8.3-SL-hu PDGF 9E8.4 (種系) [hu IgG1/k] LALA H435A	1.5	30 mM 組胺 酸、8%蔗糖 糖，pH 5.2
PR-1610561	批號 2213329	hu VEGF 9E10.1-GS-hu PDGF 33675 [hu IgG1/k] LALA H435A	5	30mM 組胺 酸、8%蔗糖 糖，pH 5.2

表 9. 用於完整及降低分子量之 PLC 操作條件

完整/C4		降低/二苯基	
時間(min)	緩衝液 B %	時間(min)	緩衝液 B %
0	5	0	5

Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His Pro Ile Glu Thr Leu
20 25 30

Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys
35 40 45

Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly Cys Cys Asn Asp Glu
50 55 60

Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln Ile
65 70 75 80

Met Arg Ile Lys Pro His Gln Gly Gln His Ile Gly Glu Met Ser Phe
85 90 95

Leu Gln His Asn Lys Cys Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg
100 105 110

Gln Glu Asn Pro Cys Gly Pro Cys Ser Glu Arg Arg Lys His Leu Phe
115 120 125

Val Gln Asp Pro Gln Thr Cys Lys Cys Ser Cys Lys Asn Thr Asp Ser
130 135 140

Arg Cys Lys Ala Arg Gln Leu Glu Leu Asn Glu Arg Thr Cys Arg Cys
145 150 155 160

Asp Lys Pro Arg Arg
165

<210> 254

<211> 121

<212> PRT

<213> 智人

<400> 254

Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His His Glu Val Val Lys
1 5 10 15

Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His Pro Ile Glu Thr Leu
20 25 30

Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys
35 40 45

Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly Cys Cys Asn Asp Glu
50 55 60

Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln Ile
65 70 75 80

Met Arg Ile Lys Pro His Gln Gly Gln His Ile Gly Glu Met Ser Phe
85 90 95

Leu Gln His Asn Lys Cys Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg
100 105 110

Gln Glu Lys Cys Asp Lys Pro Arg Arg
115 120

<210> 255

<211> 111

<212> PRT

<213> 智人

<400> 255

Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His His Glu Val Val Lys
1 5 10 15

Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His Pro Ile Glu Thr Leu
20 25 30

Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys
35 40 45

Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly Cys Cys Asn Asp Glu
50 55 60

Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln Ile
65 70 75 80

Met Arg Ile Lys Pro His Gln Gly Gln His Ile Gly Glu Met Ser Phe
85 90 95

Leu Gln His Asn Lys Cys Glu Cys Arg Cys Asp Lys Pro Arg Arg
100 105 110

<210> 256

<211> 165

<212> PRT

<213> 食蟹獼猴

<400> 256

Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His His Glu Val Val Lys
1 5 10 15

Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His Pro Ile Glu Thr Leu
20 25 30

Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys
 35 40 45

Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly Cys Cys Asn Asp Glu
 50 55 60

Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln Ile
 65 70 75 80

Met Arg Ile Lys Pro His Gln Gly Gln His Ile Gly Glu Met Ser Phe
 85 90 95

Leu Gln His Asn Lys Cys Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg
 100 105 110

Gln Glu Asn Pro Cys Gly Pro Cys Ser Glu Arg Arg Lys His Leu Phe
 115 120 125

Val Gln Asp Pro Gln Thr Cys Lys Cys Ser Cys Lys Asn Thr Asp Ser
 130 135 140

Arg Cys Lys Ala Arg Gln Leu Glu Leu Asn Glu Arg Thr Cys Arg Cys
 145 150 155 160

Asp Lys Pro Arg Arg
 165

<210> 257

<211> 164

<212> PRT

<213> 小鼠

<400> 257

Ala Pro Thr Thr Glu Gly Glu Gln Lys Ser His Glu Val Ile Lys Phe
 1 5 10 15

Met Asp Val Tyr Gln Arg Ser Tyr Cys Arg Pro Ile Glu Thr Leu Val
 20 25 30

Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro
 35 40 45

Ser Cys Val Pro Leu Met Arg Cys Ala Gly Cys Cys Asn Asp Glu Ala
 50 55 60

Leu Glu Cys Val Pro Thr Ser Glu Ser Asn Ile Thr Met Gln Ile Met
 65 70 75 80

Arg Ile Lys Pro His Gln Ser Gln His Ile Glu Arg Met Ser Phe Leu
85 90 95

Gln His Ser Arg Cys Glu Cys Arg Pro Lys Lys Asp Arg Thr Lys Pro
100 105 110

Glu Asn His Cys Glu Pro Cys Ser Glu Arg Arg Lys His Leu Phe Val
115 120 125

Gln Asp Pro Gln Thr Cys Lys Cys Ser Cys Lys Asn Thr Asp Ser Arg
130 135 140

Cys Lys Ala Arg Gln Leu Glu Leu Asn Glu Arg Thr Cys Arg Cys Asp
145 150 155 160

Lys Pro Arg Arg

<210> 258

<211> 164

<212> PRT

<213> 溝鼠

<400> 258

Ala Pro Thr Thr Glu Gly Glu Gln Lys Ala His Glu Val Val Lys Phe
1 5 10 15

Met Asp Val Tyr Gln Arg Ser Tyr Cys Arg Pro Ile Glu Thr Leu Val
20 25 30

Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro
35 40 45

Ser Cys Val Pro Leu Met Arg Cys Ala Gly Cys Cys Asn Asp Glu Ala
50 55 60

Leu Glu Cys Val Pro Thr Ser Glu Ser Asn Val Thr Met Gln Ile Met
65 70 75 80

Arg Ile Lys Pro His Gln Ser Gln His Ile Gly Glu Met Ser Phe Leu
85 90 95

Gln His Ser Arg Cys Glu Cys Arg Pro Lys Lys Asp Arg Thr Lys Pro
100 105 110

Glu Asn His Cys Glu Pro Cys Ser Glu Arg Arg Lys His Leu Phe Val
115 120 125

Gln Asp Pro Gln Thr Cys Lys Cys Ser Cys Lys Asn Thr Asp Ser Arg
 130 135 140

Cys Lys Ala Arg Gln Leu Glu Leu Asn Glu Arg Thr Cys Arg Cys Asp
 145 150 155 160

Lys Pro Arg Arg

<210> 259
 <211> 191
 <212> PRT
 <213> 家兔

<400> 259
 Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
 1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Glu
 20 25 30

Gly Asp Asn Lys Pro His Glu Val Val Lys Phe Met Glu Val Tyr Arg
 35 40 45

Arg Ser Tyr Cys Gln Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
 50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
 65 70 75 80

Val Arg Cys Gly Gly Cys Cys Asn Asp Glu Ser Leu Glu Cys Val Pro
 85 90 95

Thr Glu Glu Phe Asn Val Thr Met Gln Ile Met Arg Ile Lys Pro His
 100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Asn Pro Cys Gly
 130 135 140

Pro Cys Ser Glu Arg Arg Lys His Leu Phe Val Gln Asp Pro Gln Thr
 145 150 155 160

Cys Lys Cys Ser Cys Lys Asn Thr Asp Ser Arg Cys Lys Ala Arg Gln
 165 170 175

Leu Glu Leu Asn Glu Arg Thr Cys Arg Cys Asp Lys Pro Arg Arg

180

185

190

<210> 260
 <211> 109
 <212> PRT
 <213> 智人

<400> 260
 Ser Leu Gly Ser Leu Thr Ile Ala Glu Pro Ala Met Ile Ala Glu Cys
 1 5 10 15

Lys Thr Arg Thr Glu Val Phe Glu Ile Ser Arg Arg Leu Ile Asp Arg
 20 25 30

Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val Gln Arg
 35 40 45

Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Pro Thr Gln
 50 55 60

Val Gln Leu Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val Arg Lys
 65 70 75 80

Lys Pro Ile Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His Leu Ala
 85 90 95

Cys Lys Cys Glu Thr Val Ala Ala Ala Arg Pro Val Thr
 100 105

<210> 261
 <211> 241
 <212> PRT
 <213> 智人

<400> 261
 Met Asn Arg Cys Trp Ala Leu Phe Leu Ser Leu Cys Cys Tyr Leu Arg
 1 5 10 15

Leu Val Ser Ala Glu Gly Asp Pro Ile Pro Glu Glu Leu Tyr Glu Met
 20 25 30

Leu Ser Asp His Ser Ile Arg Ser Phe Asp Asp Leu Gln Arg Leu Leu
 35 40 45

His Gly Asp Pro Gly Glu Glu Asp Gly Ala Glu Leu Asp Leu Asn Met
 50 55 60

Thr Arg Ser His Ser Gly Gly Glu Leu Glu Ser Leu Ala Arg Gly Arg
 65 70 75 80

Arg Ser Leu Gly Ser Leu Thr Ile Ala Glu Pro Ala Met Ile Ala Glu
85 90 95

Cys Lys Thr Arg Thr Glu Val Phe Glu Ile Ser Arg Arg Leu Ile Asp
100 105 110

Arg Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val Gln
115 120 125

Arg Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Pro Thr
130 135 140

Gln Val Gln Leu Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val Arg
145 150 155 160

Lys Lys Pro Ile Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His Leu
165 170 175

Ala Cys Lys Cys Glu Thr Val Ala Ala Ala Arg Pro Val Thr Arg Ser
180 185 190

Pro Gly Gly Ser Gln Glu Gln Arg Ala Lys Thr Pro Gln Thr Arg Val
195 200 205

Thr Ile Arg Thr Val Arg Val Arg Arg Pro Pro Lys Gly Lys His Arg
210 215 220

Lys Phe Lys His Thr His Asp Lys Thr Ala Leu Lys Glu Thr Leu Gly
225 230 235 240

Ala

<210> 262

<211> 109

<212> PRT

<213> 食蟹獼猴

<400> 262

Ser Leu Gly Ser Leu Thr Val Ala Glu Pro Ala Met Ile Ala Glu Cys
1 5 10 15

Lys Thr Arg Thr Glu Val Phe Glu Ile Ser Arg Arg Leu Ile Asp Arg
20 25 30

Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val Gln Arg
35 40 45

Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Pro Thr Gln

50

55

60

Val Gln Leu Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val Arg Lys
65 70 75 80

Lys Pro Ile Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His Leu Ala
85 90 95

Cys Lys Cys Glu Thr Val Ala Ala Ala Arg Pro Val Thr
100 105

<210> 263

<211> 109

<212> PRT

<213> 小鼠

<400> 263

Ser Leu Gly Ser Leu Ala Ala Ala Glu Pro Ala Val Ile Ala Glu Cys
1 5 10 15

Lys Thr Arg Thr Glu Val Phe Gln Ile Ser Arg Asn Leu Ile Asp Arg
20 25 30

Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val Gln Arg
35 40 45

Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Ala Ser Gln
50 55 60

Val Gln Met Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val Arg Lys
65 70 75 80

Lys Pro Ile Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His Leu Ala
85 90 95

Cys Lys Cys Glu Thr Ile Val Thr Pro Arg Pro Val Thr
100 105

<210> 264

<211> 109

<212> PRT

<213> 溝鼠

<400> 264

Ser Leu Gly Ser Leu Ala Ala Ala Glu Pro Ala Val Ile Ala Glu Cys
1 5 10 15

Lys Thr Arg Thr Glu Val Phe Gln Ile Ser Arg Asn Leu Ile Asp Arg
20 25 30

Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val Gln Arg
 35 40 45

Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Ala Ser Gln
 50 55 60

Val Gln Met Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val Arg Lys
 65 70 75 80

Lys Pro Val Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His Leu Ala
 85 90 95

Cys Lys Cys Glu Thr Val Val Thr Pro Arg Pro Val Thr
 100 105

<210> 265
 <211> 109
 <212> PRT
 <213> 家兔

<400> 265
 Ser Leu Gly Ser Leu Ala Ala Ala Glu Pro Ala Val Ile Ala Glu Cys
 1 5 10 15

Lys Thr Arg Thr Glu Val Phe Gln Ile Ser Arg Asn Leu Ile Asp Arg
 20 25 30

Thr Asn Ala Asn Phe Leu Val Trp Pro Pro Cys Val Glu Val Gln Arg
 35 40 45

Cys Ser Gly Cys Cys Asn Asn Arg Asn Val Gln Cys Arg Ala Ser Gln
 50 55 60

Val Gln Met Arg Pro Val Gln Val Arg Lys Ile Glu Ile Val Arg Lys
 65 70 75 80

Lys Pro Val Phe Lys Lys Ala Thr Val Thr Leu Glu Asp His Leu Ala
 85 90 95

Cys Lys Cys Glu Thr Val Val Thr Pro Arg Pro Val Thr
 100 105

<210> 266
 <211> 330
 <212> PRT
 <213> 智人

<400> 266
 Ala Ser Thr Lys Gly Pro Ser Val Phe Phe Leu Ala Pro Ser Ser Lys
 1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
 225 230 235 240

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 260 265 270

5	5	5	30
5.5	95	30	40
10	95	32	90
10.5	5	37	90
15	5	39	5
		44	5

實例 2.8：藉由 Fc 分子量量測確定之寡糖特徵

用 Lys-C 酶部分消化樣品，降低且藉由 LC/MS 分析。基於藉由質譜檢測之峰強度來定量不同寡糖種類且報告不同寡糖種類之相對百分比。用 Milli-Q 水將樣品稀釋至 1 mg/mL。將每一樣品之 100 μ L 與 2 μ L 0.005 mg/mL Lys-C 酶且混合在 37°C 下培育 30 分鐘。添加 1 μ L 1 M DTT 且在 37°C 下培育 30 分鐘用於降低。將 2 μ L 樣品注射至具有二苯基管柱之 Agilent 6510 Q-ToF LC/MS 系統上且使用降低的 HPLC 梯度。管柱溫設定為 60°C。質譜儀係在 5 千伏噴霧電壓下操作且掃描範圍係 600 至 3200 質荷比。

實例 2.9：藉助弱陽離子交換層析及成像等電聚焦(icIEF)之電荷異質性

使用 Propac WCX-10 管柱用於弱陽離子交換層析分析來研究電荷異質性。移動相 A 為 20 mM MES (pH 5.5)。移動相 B 為 20 mM MES、500 mM NaCl (pH 5.5)。將每一樣品在移動相 A 中稀釋至 1 mg/mL。裝載每一樣品之 50 μ g，且 HPLC 梯度顯示於表 10 中。流速為 1 mL/分鐘流速且在 280 nm 下監測 UV 檢測器。

表 10. 用於弱陽離子交換層析之梯度

時間(分鐘)	移動相 B
0	20
5	20
25	40

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
 305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 267

<211> 330

<212> PRT

<213> 智人

<400> 267

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
 1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 100 105 110

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
225 230 235 240

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 268

<211> 330

<212> PRT

<213> 智人

<400> 268

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
225 230 235 240

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr
 305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 269

<211> 330

<212> PRT

<213> 智人

<400> 269

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
 1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 100 105 110

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
 225 230 235 240

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Arg Tyr Thr
 305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 270
 <211> 330
 <212> PRT
 <213> 智人

<400> 270
 Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
 1 5 10 15

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys

85

90

95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Ala Pro Pro Ala
 100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 165 170 175

Glu Gln Tyr Ala Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
 225 230 235 240

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Arg
 275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
 305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 325 330

<210> 271
 <211> 107
 <212> PRT
 <213> 智人

<400> 271

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
 1 5 10 15

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
 20 25 30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
 35 40 45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
 50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
 65 70 75 80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
 85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 100 105

<210> 272
 <211> 106
 <212> PRT
 <213> 智人

<400> 272

Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
 1 5 10 15

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
 20 25 30

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
 35 40 45

Val Lys Ala Gly Val Glu Thr Thr Thr Pro Ser Lys Gln Ser Asn Asn
 50 55 60

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
 65 70 75 80

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
 85 90 95

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
 100 105

<210> 273
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 273
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
 20 25 30

<210> 274
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 274
 Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
 1 5 10

<210> 275
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 275
 Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 276
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 276
 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

<210> 277
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 277
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
 20 25 30

<210> 278
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 278
 Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
 1 5 10

<210> 279
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 279
 Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 280
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 280
 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

<210> 281
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 281
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
 20 25 30

<210> 282
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 282
 Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
 1 5 10

<210> 283
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 283
 Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val Tyr Met Glu
 1 5 10 15

27	100
32	100
34	20
38	20

在來自 ProteinSimple 之 iCE 儀器上實施成像等電聚焦。用 Milli-Q 水將所有三個樣品稀釋至 1 mg/mL，然後與兩性電解質及如表 11 中所顯示之其他組份混合。將每一樣品簡單渦旋且在 10k RPM 下離心 5 分鐘，然後轉移至玻璃插入物以供分析。使每一樣品在 1500 V 下預聚焦 1 分鐘且在 3000 V 下聚焦 8 分鐘。

表 11. 用於 icIEF 之樣品製備

組份	體積(μL)
1%甲基纖維素	70
Pharmalyte 3-10	4
Pharmalyte 5-8	4
經稀釋之 pI 5.1 標記物	8
經稀釋之 pI 8.2 標記物	8
1 mg/mL 測試樣品	50
水	6
8 M 尿素	50

實例 3：藉由 DNA 免疫及大鼠雜交瘤技術之大鼠抗 VEGF-A、抗 VEGFR-II、大鼠-抗 PDGF-BB、抗 PDGFR-B 單株抗體之產生

實例 3.1：DNA 免疫、雜交瘤融合及篩選

遺傳免疫使得能夠直接自 cDNA 研發出針對任何蛋白質靶之抗體。將編碼可溶性人類 VEGFA-165、可溶性人類 PDGF-BB、人類 VEGFR-II ECD (細胞外結構域)或人類 PDGFR-BB ECD 之 cDNA 選殖至真核表現載體(Aldevron GmbH, Freiburg, Germany)中。使用用於粒子轟擊之手持式裝置(「基因槍」)藉由真皮內施用 DNA 塗覆之金粒

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 284
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 284
 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

<210> 285
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 285
 Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
 20 25 30

<210> 286
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 286
 Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
 1 5 10

<210> 287
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 287

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 288

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 288

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 1 5 10

<210> 289

<211> 30

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 289

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
 20 25 30

<210> 290

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 290

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
 1 5 10

<210> 291

<211> 32

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 291

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 292

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 292

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
1 5 10

<210> 293

<211> 30

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 293

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser
 20 25 30

<210> 294

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 294

Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala
1 5 10

<210> 295
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 295
 Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr
 1 5 10 15

Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg
 20 25 30

<210> 296
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 296
 Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 1 5 10

<210> 297
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 297
 Glu Val Thr Leu Lys Glu Ser Gly Pro Val Leu Val Lys Pro Thr Glu
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Ser
 20 25 30

<210> 298
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 298

Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala
 1 5 10

<210> 299

<211> 32

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 299

Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Ser Gln Val Val Leu Thr
 1 5 10 15

Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg
 20 25 30

<210> 300

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 300

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 1 5 10

<210> 301

<211> 30

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 301

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
 20 25 30

<210> 302

<211> 14

<212> PRT

<213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 302
 Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly
 1 5 10

<210> 303
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 303
 Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Ser Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 304
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 304
 Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 1 5 10

<210> 305
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 305
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
 20 25 30

<210> 306
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 306
 Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
 1 5 10

<210> 307
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 307
 Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 308
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 308
 Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 1 5 10

<210> 309
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 309
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser
 20 25 30

<210> 310
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 310
 Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
 1 5 10

<210> 311
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 311
 Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu
 1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 312
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 312
 Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 1 5 10

<210> 313
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 313

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
 20 25 30

<210> 314

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 314

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly
 1 5 10

<210> 315

<211> 32

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 315

Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr Met Glu
 1 5 10 15

Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 316

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 316

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 1 5 10

<210> 317

<211> 30

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 317

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 318

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 318

Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly
1 5 10

<210> 319

<211> 32

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 319

Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys
1 5 10 15

Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 320

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 320

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

來免疫韋斯大鼠(Wistar rat)。分離產生抗體之脾細胞或淋巴結細胞且根據標準程序使用聚乙二醇(PEG)與融合伴侶骨髓瘤細胞融合。為幫助鑑別陽性抗血清及雜交瘤，利用經編碼 GPI 錨定之人類 VEGF-A165、人類 PDGF-BB、人類 VEGFR-II ECD 或人類 PDGFR-BB ECD 蛋白、可溶性重組人類 VEGF-A165 及人類 PDGF-BB 蛋白或肽之篩選載體轉染之任一細胞進行篩選。下表係使用大鼠 DNA 免疫手段產生之抗體之列表。

在分析組中表徵源自大鼠雜交瘤之抗 VEGF-A 抗體之結合、功能及交叉反應性。測試上清液結合 hVEGF₁₆₅ 之能力(實例 1.3)及在競爭 ELISA 格式中阻斷 hVEGF₁₆₅ 與 hVEGFR2 之結合之能力(實例 1.4)。藉由在 Tyr1054 磷酸化分析中測試阻斷人類 VEGF₁₁₁ 及兔 VEGF₁₆₅ 之能力(實例 1.6)並阻斷鼠類 VEGF₁₆₄ 與 mVEGFR2 之結合(實例 1.5)來評估所選雜交瘤之交叉反應性。然後檢查候選大鼠 IgG 在 hVEGF₁₆₅ 誘導之細胞增殖分析中之功效(實例 1.7)、對天然 hVEGF₁₆₅ 之反應性(實例 1.11)及藉由 Biacore 分析之結合親和力量測(實例 1.1)。數據概述於下表 12 及 13 中。

<210> 321
 <211> 30
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 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 321
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 322
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 322
 Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
 1 5 10

<210> 323
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 323
 Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Ser Phe Tyr Leu Gln
 1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 324
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 324
 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

<210> 325
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 325
 Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Gly Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 326
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 326
 Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
 1 5 10

<210> 327
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 327
 Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Tyr Leu Lys
 1 5 10 15

Leu Ser Ser Val Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 328
 <211> 11
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 328

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 329

<211> 30

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 329

Glu Val Gln Leu Val Gln Ser Gly Thr Glu Val Lys Lys Pro Gly Glu
1 5 10 15

Ser Leu Lys Ile Ser Cys Lys Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 330

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 330

Trp Ile Arg Gln Met Pro Gly Lys Gly Leu Glu Trp Ile Gly
1 5 10

<210> 331

<211> 32

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 331

Gln Val Thr Ile Ser Val Asp Thr Ser Phe Asn Thr Phe Phe Leu Gln
1 5 10 15

Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Tyr Cys Ala Arg
 20 25 30

<210> 332
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 332
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 1 5 10

<210> 333
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 333
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 334
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 334
 Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly
 1 5 10

<210> 335
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 335
 Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Val Leu Thr

1 5 10 15
 Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg
 20 25 30

<210> 336
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 336
 Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 1 5 10

<210> 337
 <211> 30
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 337
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Lys Ser Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg
 20 25 30

<210> 338
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 338
 Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
 1 5 10

<210> 339
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 339

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys
20 25 30

<210> 340

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 340

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
1 5 10

<210> 341

<211> 30

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 341

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly
20 25 30

<210> 342

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 342

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
1 5 10

<210> 343

<211> 32

<212> PRT
<213> 人工序列

<220>
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<400> 343
Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys
20 25 30

<210> 344
<211> 11
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<400> 344
Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
1 5 10

<210> 345
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<213> 人工序列

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<400> 345
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys
20

<210> 346
<211> 15
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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 346
Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr

1 5 10 15

<210> 347
 <211> 32
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 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 347
 Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
 20 25 30

<210> 348
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 348
 Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 1 5 10

<210> 349
 <211> 23
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 349
 Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys
 20

<210> 350
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 350

Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
1 5 10 15

<210> 351

<211> 32

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 351

Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Ser Glu Asp Phe Ala Val Tyr Tyr Cys
 20 25 30

<210> 352

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 352

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
1 5 10

<210> 353

<211> 23

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 353

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys
 20

<210> 354

<211> 15

<212> PRT
<213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成肽」

<400> 354
Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr
1 5 10 15

<210> 355
<211> 32
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 355
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys
20 25 30

<210> 356
<211> 11
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 356
Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
1 5 10

<210> 357
<211> 23
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 357
Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys

表 12. 使用 DNA 免疫及大鼠雜交瘤技術產生之抗 VEGF-A 抗體之列表

雜交瘤純系	同型	ELISA huVEGF-A 165 結合	ELISA huVEGF-A ₁₂₁ 結合	磷酸-Tyr1054/huVEGF-A ₁₁₁ 中和	ELISA 結合至天然源性 huVEGF-A	受體競爭 ELISA huVEGF-A ₁₆₅ /huVEGF-R2 (nM)	在 hVEGF-R2 過表現細胞中之 huVEGF-A ₁₆₅ 中和功效(nM)	ELISA 小鼠 VEGF-A ₁₆₄ 結合	ELISA 大鼠 VEGF-A ₁₆₄ 結合	磷酸-Tyr1054/兔 VEGF-A ₁₆₅ 中和
BEW-1B4-C4	IgG2b/ κ	+	NT	+	+	0.18	0.09	-	NT	+
BEW-1E3-D6	IgG2b/ κ	+	NT	+	+	0.62	0.39	-	NT	+
BEW-5C3-E7	IgG2b/ κ	+	NT	+	+	0.156	0.88	-	NT	+
BEW-6C2-C8	IgG2b/ κ	+	NT	+	+	0.197	<0.1	-	NT	+
BEW-8E6-E4	IgG2a/κ	+	NT	+	+	0.342	0.41	-	NT	+
BEW-9A8-E2	IgG2a/κ	+	NT	+	+	0.249	0.16	-	NT	+
BEW-9E10-E7	IgG2a/κ	+	NT	+	+	0.274	0.17	-	NT	+
BEW-10H2-B9	IgG2b/ κ	+	NT	+	+	0.42	0.42	-	NT	+
BEW-9E3-B9	IgG2a/κ	+	NT	+	+	0.124	<0.1	-	NT	+
BEW-9E7-B4	IgG2b/ κ	+	NT	+	+	0.207	0.14	-	NT	+

20

<210> 358
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 358
 Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
 1 5 10 15

<210> 359
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 359
 Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr
 1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Ser Glu Asp Phe Ala Val Tyr Tyr Cys
 20 25 30

<210> 360
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 360
 Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
 1 5 10

<210> 361
 <211> 23
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 361

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys
 20

<210> 362
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 362
 Trp Tyr Gln Gln Lys Pro Glu Lys Ala Pro Lys Ser Leu Ile Tyr
 1 5 10 15

<210> 363
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 363
 Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
 20 25 30

<210> 364
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 364
 Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
 1 5 10

<210> 365
 <211> 23
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 365

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys
 20

<210> 366

<211> 15

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 366

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr
1 5 10 15

<210> 367

<211> 32

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 367

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
 20 25 30

<210> 368

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 368

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
1 5 10

<210> 369

<211> 22
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 369
 Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln
 1 5 10 15

Thr Ala Ser Ile Thr Cys
 20

<210> 370
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 370
 Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
 1 5 10 15

<210> 371
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 371
 Gly Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser Gly Asp Thr Ala Thr
 1 5 10 15

Leu Thr Ile Ser Gly Thr Gln Pro Met Asp Glu Ala Asp Tyr Tyr Cys
 20 25 30

<210> 372
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 372

Phe Gly Tyr Gly Thr Lys Val Thr Val Leu
 1 5 10

<210> 373
 <211> 22
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 373
 Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln
 1 5 10 15

Thr Ala Ser Ile Thr Cys
 20

<210> 374
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 374
 Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
 1 5 10 15

<210> 375
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 375
 Gly Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser Gly Asp Thr Ala Thr
 1 5 10 15

Leu Thr Ile Ser Gly Thr Gln Pro Met Asp Glu Ala Asp Tyr Tyr Cys
 20 25 30

<210> 376
 <211> 10
 <212> PRT
 <213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 376
 Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 1 5 10

<210> 377
 <211> 21
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 377
 Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln Thr
 1 5 10 15

Ala Ser Ile Thr Cys
 20

<210> 378
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 378
 Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
 1 5 10 15

<210> 379
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
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<400> 379
 Gly Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser Gly Asp Thr Ala Thr
 1 5 10 15

Leu Thr Ile Ser Gly Thr Gln Pro Met Asp Glu Ala Asp Tyr Tyr Cys
 20 25 30

<210> 380

<211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 380
 Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 1 5 10

<210> 381
 <211> 22
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 381
 Leu Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln
 1 5 10 15

Thr Ala Ser Ile Thr Cys
 20

<210> 382
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 382
 Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
 1 5 10 15

<210> 383
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 383
 Gly Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser Gly Asp Thr Ala Thr
 1 5 10 15

Leu Thr Ile Ser Gly Thr Gln Thr Met Asp Glu Ala Asp Tyr Leu Cys
 20 25 30

<210> 384
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 384
 Phe Gly Gly Gly Thr Lys Val Thr Val Leu Gly
 1 5 10

<210> 385
 <211> 23
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 385
 Glu Tyr Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys
 20

<210> 386
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 386
 Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Val Ile Tyr
 1 5 10 15

<210> 387
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 387

Gly Val Pro Ser Arg Phe Ser Gly Ser Asn Ser Gly Asp Asp Ala Thr
 1 5 10 15

Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys
 20 25 30

<210> 388

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 388

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
 1 5 10

<210> 389

<211> 23

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 389

Glu Tyr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys
 20

<210> 390

<211> 15

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 390

Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Arg Leu Val Ile Tyr
 1 5 10 15

<210> 391

<211> 32

<212> PRT

<213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 391
 Asp Ile Pro Ala Arg Phe Ser Gly Ser Asn Ser Gly Asp Glu Ala Thr
 1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Ser Glu Asp Phe Ala Val Tyr Tyr Cys
 20 25 30

<210> 392
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 392
 Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg
 1 5 10

<210> 393
 <211> 23
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 393
 Asp Tyr Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys
 20

<210> 394
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 394
 Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Val Ile Tyr
 1 5 10 15

BEW-1G1-C2	IgG1/ κ	+	NT	+	+	0.584	1.46	-	NT	+
BEW-9C2-D6	IgG2b/ κ	+	NT	+	+	0.155	<0.1	-	NT	+
BEW-9D2-E8	IgG2a/ κ	+	NT	+	+	0.127	0.09	-	NT	+
BEW-1B10-B9-C3	IgG2a/ κ	+	NT	+	+	0.326	2.8	-	NT	+
BEW-3A1-D10-G9	IgG2b/ κ	+	NT	+	+	0.124	0.96	-	NT	+
BED-4G10-C8	IgG2b/ κ	+	NT	+	+	0.13	0.38	-	NT	+
BDB-4G8-D4	IgG2b/ κ	+	NT	+	+	0.13	0.617	-	NT	+

NT = 未測試

表 13. 大鼠抗 VEGF 抗體之 Biacore 結合

抗體	k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)
BDB-4G8-D4	$\geq 1.0 \text{ E}+07$	$8.1 \text{ E}-06$	$\leq 8.1 \text{ E}-13$
BDB-4G8-D4	$1.4 \text{ E}+07$	$1.6 \text{ E}-05$	$1.2 \text{ E}-12$
BED-4G10-C8	$1.8 \text{ E}+07$	$1.1 \text{ E}-03$	$6.0 \text{ E}-11$
BEW-1B4-C4	$1.8 \text{ E}+07$	$1.3 \text{ E}-04$	$7.4 \text{ E}-12$
BEW-1B10-B9-C3	$4.4 \text{ E}+06$	$7.2 \text{ E}-05$	$1.6 \text{ E}-11$
BEW-1E3-D6	$1.4 \text{ E}+07$	$1.4 \text{ E}-04$	$1.0 \text{ E}-11$
BEW-1G1-C2	$1.6 \text{ E}+07$	$3.0 \text{ E}-05$	$1.9 \text{ E}-12$
BEW-3A1-D10-G9	$1.0 \text{ E}+07$	$1.4 \text{ E}-03$	$1.4 \text{ E}-10$
BEW-5C3-E7	$1.2 \text{ E}+07$	$4.8 \text{ E}-05$	$3.9 \text{ E}-12$
BEW-6C2-C8	$6.9 \text{ E}+06$	$8.4 \text{ E}-05$	$1.2 \text{ E}-11$

<210> 395
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 395
 Gly Ile Pro Asp Arg Phe Ser Gly Ser Asn Ser Gly Asp Asp Ala Thr
 1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys
 20 25 30

<210> 396
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 396
 Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
 1 5 10

<210> 397
 <211> 22
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 397
 Leu Pro Val Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln
 1 5 10 15

Thr Ala Ser Ile Thr Cys
 20

<210> 398
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 398

Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
 1 5 10 15

<210> 399

<211> 32

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 399

Gly Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr
 1 5 10 15

Leu Thr Ile Ser Gly Thr Gln Thr Met Asp Glu Ala Asp Tyr Leu Cys
 20 25 30

<210> 400

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 400

Phe Gly Gly Gly Thr Lys Val Thr Val Leu
 1 5 10

<210> 401

<211> 22

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 401

Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ser Pro Gly Gln
 1 5 10 15

Thr Ala Ser Ile Thr Cys
 20

<210> 402

<211> 15

<212> PRT

<213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 402
 Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Val Leu Val Ile Tyr
 1 5 10 15

<210> 403
 <211> 32
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 403
 Gly Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr
 1 5 10 15

Leu Thr Ile Ser Gly Thr Gln Thr Met Asp Glu Ala Asp Tyr Leu Cys
 20 25 30

<210> 404
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 404
 Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 1 5 10

<210> 405
 <211> 6
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成 6×His 標籤」

<400> 405
 His His His His His His
 1 5

<210> 406
 <211> 123
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 406

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 407

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 407

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 408

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 408

Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 409

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 409

Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 410

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 410

Asp Thr Val Leu Thr Gln Ser Pro Ala Leu Ala Val Ser Pro Gly Glu
 1 5 10 15

Arg Val Ser Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asp Pro Val Glu Ala Asp
 65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
 85 90 95

Phe Gly Ala Val Thr Lys Leu Glu Leu Lys
 100 105

<210> 411
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 411
 Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 412
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 412
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 413
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 413
 Gln Gln Ser Trp Asn Asp Pro Phe Thr
 1 5

<210> 414
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 414
 Gln Val Gln Leu Gln Gln Ser Gly Thr Glu Leu Val Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Asn
 20 25 30

Tyr Met His Trp Ile Arg Gln Gln Pro Gly Asn Gly Leu Glu Trp Ile
 35 40 45

Gly Trp Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn His Asn Phe
 50 55 60

Asn Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Phe Ala Val Tyr Phe Cys
 85 90 95

Ala Ser Ser Thr Arg Ala Ile Pro Gly Trp Phe Thr Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 415
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 415
 Gly Tyr Thr Phe Thr Ser Asn Tyr Met His
 1 5 10

<210> 416
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 416
 Trp Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn His Asn Phe Asn
 1 5 10 15

Gly

<210> 417
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 417
 Ser Thr Arg Ala Ile Pro Gly Trp Phe Thr Tyr
 1 5 10

<210> 418
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 418
 Asp Thr Val Leu Thr Gln Ser Pro Ala Leu Ala Val Ser Pro Gly Glu
 1 5 10 15

Arg Val Ser Ile Ser Cys Trp Ala Ser Glu Ser Val Ser Thr Leu Met
 20 25 30

His Trp Tyr Gln Gln Lys Leu Gly Gln Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Arg Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asp Pro Val Glu Ala Asp
 65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys Gln Gln Ser Trp Ser Asp Pro Tyr Thr
 85 90 95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 419
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 419
 Trp Ala Ser Glu Ser Val Ser Thr Leu Met His
 1 5 10

<210> 420
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 420
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 421
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 421
 Gln Gln Ser Trp Ser Asp Pro Tyr Thr
 1 5

<210> 422
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 422
 Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Asn Phe
 20 25 30

Gly Leu Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Arg Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Val Tyr Gly Tyr Pro Ser Trp Tyr Phe Asp Phe Trp Gly Pro
 100 105 110

Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 423
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 423
 Gly Tyr Ser Phe Thr Asn Phe Gly Leu Tyr
 1 5 10

<210> 424
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 424
 Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Arg
 1 5 10 15

Gly

<210> 425
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 425
 Val Tyr Gly Tyr Pro Ser Trp Tyr Phe Asp Phe
 1 5 10

<210> 426
 <211> 107

BEW-8E6-E4	6.9 E+06	1.2 E-04	1.7 E-11
BEW-9A8-E2	7.4 E+06	7.1 E-06	9.6 E-13
BEW-9C2-D6	5.5 E+06	≤1.0 E-06	≤1.8 E-13
BEW-9D2-E8	7.0 E+06	9.8 E-05	1.4 E-11
BEW-9E10-E7	1.3 E+07	3.9 E-05	3.1 E-12
BEW-9E3-B9	6.7 E+06	9.5 E-05	1.4 E-11
BEW-9E7-B4	5.9 E+06	2.5 E-05	4.3 E-12
BEW-10H2-B9	2.4 E+07	2.7 E-04	1.1 E-11

在分析組中表徵源自大鼠雜交瘤之抗 PDGF-BB 抗體之結合、功能及交叉反應性。測試上清液結合 hPDGF-BB 之能力(實例 1.12)及在競爭 ELISA 格式中阻斷 hPDGF-BB 與 hPDGF-R 之結合之能力(實例 1.13)。評估所選雜交瘤在 Tyr751 磷酸化分析中阻斷人類及大鼠 PDGF-BB 之能力(實例 1.14)。然後檢查候選大鼠 IgG 在人類、小鼠及食蟹猴 PDGF-BB 誘導之細胞增殖分析中之功效(實例 1.15-1.17)、對天然 hPDGF-BB 之反應性(實例 1.19)及藉由 Biacore 分析之結合親和力量測(實例 1.1)。數據概述於下表 14 及 15 中。

表 14. 使用 DNA 免疫及大鼠雜交瘤技術產生之抗 PDGF-BB 抗體之列表

雜交瘤純系	同型	ELISA huPDGF-BB 結合	ELISA 結合至天然源性 huPDGF-BB	受體競爭 ELISA huPDGF-BB /huPDGF Rβ (nM)	磷酸-Tyr751/hPDGF-BB 中和 (nM)	NIH-3T3 細胞中之 huPDGF-BB 中和功效(nM)	磷酸-Tyr751/大鼠 PDGF-BB 中和 (nM)	NIH-3T3 細胞中之 mPDGF-BB 中和功效 (nM)	NIH-3T3 細胞中之食蟹猴 PDGF-BB 中和功效 (nM)
BDI-9E8-E7	IgG2b/ κ	+	+	1.121	0.629	0.195	0.333	0.026	0.194

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 426
Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Thr Ser Leu Glu
1 5 10 15

Glu Ile Val Thr Ile Thr Cys Gln Ala Ser Gln Asp Ile Asp Asn Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Gln Leu Leu Ile
 35 40 45

His Ser Ala Thr Ser Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Arg Ser Gly Thr Gln Phe Ser Leu Lys Ile His Arg Leu Gln Val
65 70 75 80

Glu Asp Thr Gly Ile Tyr Tyr Cys Leu Gln His Phe Phe Pro Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 427
<211> 11
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 427
Gln Ala Ser Gln Asp Ile Asp Asn Tyr Leu Ser
1 5 10

<210> 428
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 428

Ser Ala Thr Ser Leu Ala Asp
1 5

<210> 429
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 429
Leu Gln His Phe Phe Pro Pro Trp Thr
1 5

<210> 430
<211> 116
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 430
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
20 25 30

Asp Met Ala Trp Phe Arg Gln Thr Pro Thr Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
65 70 75 80

Leu Gln Met Asp Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Ser Val
100 105 110

Thr Val Ser Ser
115

<210> 431

<211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 431
 Gly Phe Ser Phe Ser Lys Tyr Asp Met Ala
 1 5 10

<210> 432
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 432
 Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val Lys
 1 5 10 15

Gly

<210> 433
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 433
 Gly Tyr Gly Ala Met Asp Ala
 1 5

<210> 434
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 434
 Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Leu Glu
 1 5 10 15

Glu Ile Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Gln Leu Val Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Ser Arg Leu Gln Val
 65 70 75 80

Asp Asp Ser Gly Ile Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Asn Leu Glu Leu Lys
 100 105

<210> 435

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 435

Lys Ala Ser Gln Asp Ile Asp Asp Tyr Leu Ser
 1 5 10

<210> 436

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 436

Ala Ala Thr Arg Leu Ala Asp
 1 5

<210> 437

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 437

Leu Gln Ser Ser Ser Thr Pro Trp Thr
1 5

<210> 438

<211> 124

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 438

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Asn Tyr
20 25 30Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met
35 40 45Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Thr Asp Asp Phe
50 55 60Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Tyr Phe Cys
85 90 95Ala Arg Trp Ser Gly Asp Thr Ala Gly Ile Arg Gly Pro Trp Phe Ala
100 105 110Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 439

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 439

Gly Tyr Ser Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 440
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 440
 Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Thr Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 441
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 441
 Trp Ser Gly Asp Thr Ala Gly Ile Arg Gly Pro Trp Phe Ala Tyr
 1 5 10 15

<210> 442
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 442
 Asp Ile Arg Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Leu Gly
 1 5 10 15

Glu Thr Val Asn Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Gln Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Asp Leu Gln Lys Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser

<223> /注釋=「人工序列之描述：合成多肽」

<400> 446

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Phe Gln Ile Asn Asn Leu Lys Asn Glu Asp Leu Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 447

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 447

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 448

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 448

Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys

1 5 10 15

Gly

<210> 449
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 449
 Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr
 1 5 10

<210> 450
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 450
 Asp Thr Ala Leu Thr Gln Ser Pro Ala Leu Ala Val Ser Pro Gly Glu
 1 5 10 15

Arg Val Ser Ile Ser Cys Arg Ala Ser Glu Gly Val Asn Ser Tyr Met
 20 25 30

His Trp Tyr Gln Gln Ser Pro Gly Gln Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asp Pro Val Glu Ala Asp
 65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu Thr
 85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 451
 <211> 11

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 451
Arg Ala Ser Glu Gly Val Asn Ser Tyr Met His
1 5 10

<210> 452
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 452
Lys Ala Ser Asn Leu Ala Ser
1 5

<210> 453
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 453
Gln Gln Ser Trp Tyr Asp Pro Leu Thr
1 5

<210> 454
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 454
Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met

BDI-5H1-F6	IgG2b/ κ	+	+	0.528	0.884	0.371	0.319	NT	NT
BDI-7H10-D8	IgG2b	+	+	>10	>10	>5	>5	NT	NT
BDI-1E1-D5	IgG2b/ κ	+	NT	>10	1.057	>5	+	NT	NT
BDI-5G2-F9	IgG2b/ λ	+	NT	1.065	0.923	0.741	+	NT	NT
BDI-6A3-A9	IgG2b/ λ	+	NT	3.228	1.618	>5	-	NT	NT
BDI-7F6-D3	IgG2b	+	NT	>10	>10	>5	-	NT	NT
BDI-10E7-F9	IgG2b/ λ	+	NT	1.035	2.53	>5	-	NT	NT
BDI-8B8-F2	IgG2b/ λ	+	NT	1.086	3.159	>5	-	NT	NT
BFF-5C9-C7-B5	IgG2b/ κ	+	NT	>50	0.753	>5	NT	NT	NT
BFF-7D7-D3-E4	IgG2b/ λ	+	NT	>50	1.745	>10	NT	NT	NT

35

40

45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 455

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 455

Gly Tyr Pro Phe Thr Asn Ser Gly Met Tyr
 1 5 10

<210> 456

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 456

Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 457

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 457
 Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 1 5 10

<210> 458
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 458
 Asp Thr Val Leu Thr Gln Ser Pro Ala Leu Ala Val Ser Pro Gly Glu
 1 5 10 15

Arg Val Ser Ile Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr Met
 20 25 30

His Trp Tyr Gln Gln Asn Pro Gly Gln Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asp Pro Val Glu Ala Asp
 65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu Thr
 85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 459
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 459
 Arg Ala Ser Glu Gly Val Tyr Ser Tyr Met His
 1 5 10

<210> 460
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 460
 Lys Ala Ser Asn Leu Ala Ser
 1 5

<210> 461
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 461
 His Gln Asn Trp Asn Asp Pro Leu Thr
 1 5

<210> 462
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 462
 Gln Val Gln Leu Glu Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Thr
 1 5 10 15

Ser Val Lys Leu Ser Cys Met Ala Ser Gly Tyr Thr Ser Ser Ser Asn
 20 25 30

His Met Asn Trp Met Lys Gln Thr Thr Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Ile Ile Asn Pro Gly Ser Gly Gly Thr Arg Tyr Asn Val Lys Phe
 50 55 60

Glu Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Phe
 65 70 75 80

Met Gln Leu Asn Ser Leu Thr Pro Glu Asp Ser Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Gly Phe Pro Gly Pro Phe Ser Tyr Tyr Ala Met Gly Ala
 100 105 110

Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser
 115 120

<210> 463
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 463
 Gly Tyr Thr Ser Ser Ser Asn His Met Asn
 1 5 10

<210> 464
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 464
 Ile Ile Asn Pro Gly Ser Gly Gly Thr Arg Tyr Asn Val Lys Phe Glu
 1 5 10 15

Gly

<210> 465
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 465
 Ala Gly Phe Pro Gly Pro Phe Ser Tyr Tyr Ala Met Gly Ala
 1 5 10

<210> 466
 <211> 106
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 466

Asp Ile Gln Met Thr Gln Ser Pro Pro Val Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Leu Ser Cys Lys Ala Ser Gln Asn Ile His Asn Asn
 20 25 30

Leu Asp Trp Tyr Gln Gln Lys His Gly Glu Ala Pro Lys Leu Leu Ile
 35 40 45

Phe Tyr Thr Asn Asn Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asn Ser Gly Tyr Thr
 85 90 95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 467

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 467

Lys Ala Ser Gln Asn Ile His Asn Asn Leu Asp
 1 5 10

<210> 468

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 468

Tyr Thr Asn Asn Leu Gln Thr
 1 5

<210> 469
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 469
 Tyr Gln Tyr Asn Ser Gly Tyr Thr
 1 5

<210> 470
 <211> 118
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 470
 Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Phe Phe Cys
 85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 471
 <211> 10
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 471

Gly Tyr Thr Phe Thr Asn Tyr Gly Val Tyr
1 5 10

<210> 472

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 472

Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 473

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 473

Ala Arg Gln Leu Asp Trp Phe Val Tyr
1 5

<210> 474

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 474

Asp Thr Val Leu Thr Gln Ser Pro Ala Leu Thr Val Ser Pro Gly Glu
1 5 10 15

Arg Val Ser Ile Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser Leu
20 25 30

Cys Trp Phe Gln Gln Lys Pro Gly Gln Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asp Pro Val Glu Ala Asp
 65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Pro Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 475
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 475
 Arg Ala Arg Glu Ser Leu Thr Thr Ser Leu Cys
 1 5 10

<210> 476
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 476
 Gly Ala Ser Lys Leu Glu Ser
 1 5

<210> 477
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 477

Gln Gln Ser Trp Tyr Asp Pro Pro Thr
1 5

<210> 478
<211> 116
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 478
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Ser
1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
20 25 30

Gly Met His Trp Ile Arg Gln Ala Pro Lys Lys Gly Leu Glu Trp Met
35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Glu Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
85 90 95

Ala Ala Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Val Met Val
100 105 110

Thr Val Ser Ser
115

<210> 479
<211> 10
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 479
Gly Phe Thr Phe Ser Tyr Tyr Gly Met His
1 5 10

<210> 480

<211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 480
 Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 481
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 481
 Gly Gly Thr Ala Pro Val Tyr
 1 5

<210> 482
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 482
 Asn Ile Gln Leu Thr Gln Ser Pro Ser Leu Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Leu Gly Glu Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

BFF-7E9-C3-B6	IgG2b/ κ	+	NT	>50	>10	>10	NT	NT	NT
BFF-4G8-B4	IgG2b/ λ	+	NT	>50	1.896	>10	NT	NT	NT
BFF-4E8-E5	IgG2b/ λ	+	NT	>50	0.739	>10	NT	NT	NT
BFU-3E2-B9-B8	IgG2b/ κ	+	NT	>50	0.642	0.247	NT	NT	NT
BFU-11A8-D6-C3	IgG2b/ κ	+	NT	7.095	0.736	0.344	NT	NT	NT
BFU-3H6-D2	IgG2b	+	NT	2.287	0.639	>10	NT	NT	NT

表 15. 大鼠抗 PDGF 抗體之 Biacore 結合

抗體	k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)
BDI-1E1-D5	$\geq 1.0 \text{ E}+07$	$3.7 \text{ E}-04$ **	$\leq 3.7 \text{ E}-11$ **
BDI-5G2-F9	$\geq 1.0 \text{ E}+07$	$\leq 1.0 \text{ E}-06$	$\leq 1.0 \text{ E}-13$
BDI-5H1-F6	$\geq 1.0 \text{ E}+07$	$\leq 1.0 \text{ E}-06$	$\leq 1.0 \text{ E}-13$
BDI-6A3-A9	$\geq 1.0 \text{ E}+07$	$6.7 \text{ E}-03$ **	$\leq 6.7 \text{ E}-10$ **
BDI-7F6-D3	$\geq 1.0 \text{ E}+07$	$6.0 \text{ E}-03$	$\leq 6.0 \text{ E}-10$
BDI-7H10-D8	$\geq 1.0 \text{ E}+07$	$\leq 1.3 \text{ E}-02$ **	$\leq 1.3 \text{ E}-09$ **
BDI-8B8-F2	$\geq 1.0 \text{ E}+07$ *	$\leq 1.0 \text{ E}-06$ *	$\leq 1.0 \text{ E}-13$ *
BDI-9E8-E7	$\geq 1.7 \text{ E}+07$	$\leq 1.0 \text{ E}-06$	$\leq 5.8 \text{ E}-14$
BDI-9E8-E7	$\geq 1.0 \text{ E}+07$	$\leq 1.0 \text{ E}-06$	$\leq 1.0 \text{ E}-13$
BDI-10E7-F9	$\geq 1.0 \text{ E}+07$ *	$1.3 \text{ E}-04$ *	$\leq 1.3 \text{ E}-11$ *
BFF-4E8-E5	$\geq 1.0 \text{ E}+07$	$8.3 \text{ E}-03$ ***	$\leq 8.3 \text{ E}-10$ ***
BFF-4G4-B8	$\geq 1.0 \text{ E}+07$	$8.3 \text{ E}-03$ **	$\leq 8.3 \text{ E}-10$ **

Glu Asp Val Ala Thr Tyr Phe Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Arg
 100 105

<210> 483
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 483
 Lys Gly Ser Gln Asn Ile Ala Asn Tyr Leu Ala
 1 5 10

<210> 484
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 484
 Asn Thr Asp Ser Leu Gln Thr
 1 5

<210> 485
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 485
 Tyr Gln Ser Asn Asn Gly Tyr Thr
 1 5

<210> 486
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 486

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Ala Met His Trp Val Lys Gln Ala Pro Gly Lys Val Leu Lys Trp Met
 35 40 45

Gly Trp Ile Asn Thr Phe Thr Gly Lys Pro Thr Tyr Ile Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Glu Ala Ser Ala Ser Thr Ala Asn
 65 70 75 80

Leu Gln Ile Ser Asp Leu Lys Asn Glu Asp Thr Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Gly Asn Tyr Tyr Ser Gly Tyr Trp Tyr Phe Asp Phe Trp Gly
 100 105 110

Pro Gly Thr Met Val Thr Met Ser Ser
 115 120

<210> 487

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 487

Gly Tyr Thr Phe Thr Asp Tyr Ala Met His
 1 5 10

<210> 488

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 488

Trp Ile Asn Thr Phe Thr Gly Lys Pro Thr Tyr Ile Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 489
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 489
 Gly Asn Tyr Tyr Ser Gly Tyr Trp Tyr Phe Asp Phe
 1 5 10

<210> 490
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 490
 Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Leu Gly
 1 5 10 15

Glu Thr Ile Ser Ile Glu Cys Arg Ala Ser Glu Asp Ile Ser Ser Asn
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Ser Gly Lys Ser Pro Gln Leu Leu Ile
 35 40 45

Phe Ala Ala Asn Arg Leu Gln Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Gln Phe Ser Leu Lys Ile Ser Gly Met Gln Pro
 65 70 75 80

Glu Asp Glu Gly Asp Tyr Phe Cys Leu Gln Gly Ser Lys Phe Tyr Thr
 85 90 95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 491
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 491
 Arg Ala Ser Glu Asp Ile Ser Ser Asn Leu Ala
 1 5 10

<210> 492
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 492
 Ala Ala Asn Arg Leu Gln Asp
 1 5

<210> 493
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 493
 Leu Gln Gly Ser Lys Phe Tyr Thr
 1 5

<210> 494
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 494
 Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Phe Phe Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 495
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 495
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 496
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 496
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 497
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 497

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
1 5 10

<210> 498

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 498

Asp Thr Val Leu Thr Gln Ser Pro Ala Leu Ala Val Ser Pro Gly Glu
1 5 10 15Arg Val Ser Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Val Ile
20 25 30His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Lys Leu Leu Ile His
35 40 45Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
50 55 60Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asp Pro Val Glu Ala Asp
65 70 75 80Asp Thr Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro Thr
85 90 95Phe Gly Ala Gly Thr Lys Leu Glu Met Lys
100 105

<210> 499

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 499

Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
1 5 10

<210> 500

<211> 7

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 500
Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 501
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 501
Gln Gln His Trp Asn Asp Pro Pro Thr
1 5

<210> 502
<211> 121
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 502
Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Ile His Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Val
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Pro Leu Tyr Tyr Gly Tyr Ala His Tyr Phe Asp Tyr Trp Gly
 100 105 110

Gln Gly Val Met Val Thr Val Ser Ser
 115 120

<210> 503
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 503
 Gly Tyr Thr Phe Thr Asn Tyr Gly Ile His
 1 5 10

<210> 504
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 504
 Trp Ile Asn Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 505
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 505
 Pro Leu Tyr Tyr Gly Tyr Ala His Tyr Phe Asp Tyr
 1 5 10

<210> 506
 <211> 107
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 506

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Leu Glu
1 5 10 15

Glu Ile Val Thr Ile Thr Cys Gln Ala Ser Gln Asp Ile Gly Asn Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Gln Leu Leu Ile
35 40 45

Tyr Gly Ala Thr Ser Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Arg Ser Gly Thr Gln Tyr Ser Leu Lys Ile Ser Arg Leu Gln Val
65 70 75 80

Glu Asp Ile Gly Ile Tyr Tyr Cys Gln Gln Ala Ser Ser Val Thr Tyr
85 90 95

Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 507

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 507

Gln Ala Ser Gln Asp Ile Gly Asn Trp Leu Ala
1 5 10

<210> 508

<211> 7

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 508

Gly Ala Thr Ser Leu Ala Asp
1 5

<210> 509
 <211> 9
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 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成肽」

<400> 509
 Gln Gln Ala Ser Ser Val Thr Tyr Thr
 1 5

<210> 510
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 510
 Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Leu Ala Pro Gly Gln Gly Leu Gln Tyr Leu
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Asn Asn Leu Arg Asn Glu Asp Met Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 511
 <211> 10
 <212> PRT
 <213> 人工序列

BFF-5C9-C7-B5	$\geq 1.0 \text{ E}+07$	$5.8 \text{ E}-05$	$\leq 5.8 \text{ E}-12$
BFF-7D7-D3-E4	$\geq 1.0 \text{ E}+07$	$2.1 \text{ E}-02^{**}$	$\leq 2.1 \text{ E}-09^{**}$
BFF-7E9-C3-B6	$\geq 1.0 \text{ E}+07$	$1.2 \text{ E}-03^{**}$	$\leq 1.2 \text{ E}-10^{**}$
BFU-3E2-B9-B8	$\geq 1.0 \text{ E}+07$	$1.5 \text{ E}-06$	$\leq 1.5 \text{ E}-13$
BFU-3H6-D2	$\geq 1.0 \text{ E}+07$	$2.7 \text{ E}-04^{**}$	$\leq 2.7 \text{ E}-11^{**}$
BFU-11A8-D6-C3	$2.1 \text{ E}+07$	$\leq 1.0 \text{ E}-06$	$\leq 4.7 \text{ E}-14$

*低 Ag 反應

**異質離解速率

***低 Ag 反應及異質離解速率

在分析組中表徵源自大鼠雜交瘤之抗 VEGFR2 抗體之結合、功能及交叉反應性。測試經亞選殖之大鼠抗體結合 hVEGFR2 之能力(實例 1.22)、在競爭 ELISA 格式(實例 1.23)及 hVEGF₁₆₅ Tyr1054 磷酸化分析(實例 1.24)中阻斷 hVEGF-R2 與 hVEGF₁₆₅ 之結合之能力。然後藉由在競爭 ELISA 格式中測試候選分子阻斷 mVEGFR2 與 mVEGF₁₆₄ 之結合之能力來表徵該等候選分子之物種交叉反應性(實例 1.25)。數據概述於下表 16 中。

表 16. 使用 DNA 免疫及大鼠雜交瘤技術產生之抗 VEGFR II 抗體之列表

雜交瘤純系	同型	功效(nM)			
		hVEGFR2 -Fc 結合	hVEGF ₁₆₅ / hVEGFR2-Fc 競爭	mVEGF ₁₆₄ / mVEGFR2-Fc 競爭	Tyr1054 磷酸-分析
BCU-3D6-C9		+	NT	NT	NT
BCU-6B1-G6	IgG2a/κ	+	4.850	1.350	+
BCU-7A6-C2	IgG2b/κ	+	-	-	+

在分析組中表徵源自大鼠雜交瘤之抗 PDGF-Rβ 抗體之結合及功能。測試經亞選殖之大鼠抗體結合 hPDGF-Rβ 之能力(實例 1.26)。亦

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<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 511

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 512

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 512

Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 513

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 513

Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr
 1 5 10

<210> 514

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 514

Asp Thr Val Leu Thr Gln Ser Pro Ala Leu Thr Val Ser Pro Gly Glu
 1 5 10 15

Arg Val Ser Ile Ser Cys Arg Ala Ser Glu Trp Val Asn Ser Tyr Met
 20 25 30

His Trp Tyr Gln Gln Asn Pro Gly Gln Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Leu Asp Pro Val Glu Ala Asp
 65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu Thr
 85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 515

<211> 11

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 515

Arg Ala Ser Glu Trp Val Asn Ser Tyr Met His
 1 5 10

<210> 516

<211> 7

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 516

Lys Ala Ser Asn Leu Ala Ser
 1 5

<210> 517

<211> 9

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 517

Gln Gln Ser Trp Asn Asp Pro Leu Thr
 1 5

<210> 518
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 518
 Gln Ile Gln Leu Leu Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 519
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 519
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 520
 <211> 17
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 520

Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 521

<211> 15

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 521

Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala Tyr
1 5 10 15

<210> 522

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 522

Asp Ile Arg Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

Glu Thr Val Asn Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Arg Ser Pro Gln Leu Leu Ile
35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Gly Gly
50 55 60

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser
65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly

85

90

95

Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 523
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 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 523
 Leu Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala
 1 5 10

<210> 524
 <211> 7
 <212> PRT
 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成肽」

<400> 524
 Asn Ala Asn Gly Leu Gln Asn
 1 5

<210> 525
 <211> 9
 <212> PRT
 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成肽」

<400> 525
 Gln Gln Tyr Asn Tyr Phe Pro Gly Thr
 1 5

<210> 526
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 526

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Phe
 65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
 100 105 110

Gln Gly Ala Leu Val Thr Val Ser Ser
 115 120

<210> 527
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
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<400> 527
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 528
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
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<400> 528
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 529
 <211> 12
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 <213> 人工序列

<220>
 <221> source
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<400> 529
 Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr
 1 5 10

<210> 530
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 530
 Asp Thr Ile Leu Thr Gln Ser Pro Ala Leu Ala Val Ser Pro Gly Glu
 1 5 10 15

Arg Ile Ser Ile Ser Cys Arg Ala Ser Glu Gly Val Asn Ser Tyr Met
 20 25 30

His Trp Tyr Gln Gln Asn Pro Gly Gln Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asp Pro Val Glu Ala Asp
 65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu Thr
 85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 531
 <211> 11
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<400> 531
 Arg Ala Ser Glu Gly Val Asn Ser Tyr Met His
 1 5 10

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<400> 532
 Lys Ala Ser Asn Leu Ala Ser
 1 5

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<400> 533
 Gln Gln Ser Trp Asn Asp Pro Leu Thr
 1 5

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 <211> 123
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<400> 534
 Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Gln Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe

50

55

60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Asn Asn Leu Arg Asn Glu Asp Met Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Trp Gly Tyr Thr Ser Asp Tyr Tyr Tyr Gly Trp Phe Pro Asp
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Thr
115 120

<210> 535

<211> 10

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 535

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 536

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 536

Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 537

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 537

Trp Gly Tyr Thr Ser Asp Tyr Tyr Tyr Gly Trp Phe Pro Asp
 1 5 10

<210> 538

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 538

Asp Thr Val Leu Thr Gln Ser Pro Ala Leu Ala Val Ser Pro Gly Glu
 1 5 10 15

Arg Val Ser Ile Ser Cys Arg Ala Ser Glu Gly Val Asn Ser Tyr Met
 20 25 30

His Trp Tyr Gln Gln Asn Pro Gly Gln Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His Pro Val Glu Ala Asp
 65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys Gln Gln Asn Trp Asn Val Pro Leu Thr
 85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 539

<211> 11

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 539

Arg Ala Ser Glu Gly Val Asn Ser Tyr Met His
 1 5 10

<210> 540

<211> 7

<212> PRT

<213> 人工序列

表徵候選 IgG 在競爭 ELISA 格式(實例 1.27)及 hPDGF-BB Tyr751 磷酸化分析(實例 1.28)中阻斷 hPDGF-R β 與 hPDGF-BB 之結合之能力。數據概述於下表 17 中。

表 17. 使用 DNA 免疫及大鼠雜交瘤技術產生之抗 PDGFR-B 抗體之列表

雜交瘤純系	同型	功效(nM)		
		hPDGFR β -Fc 結合	hPDGF-BB/hPDGFR β -Fc 競爭	hPDGF-BB / Tyr751 磷酸-分析
BDE-3C9-G4	IgG2b/ κ	+	0.832	4.696
BDE-4F2-D4	IgG2a/ κ	+	0.527	+
BDE-8H6-F7		+	+	-

實例 4：藉由 DNA 選殖及測序之單株抗體可變區蛋白質序列之推導

使用 RNeasy 微型套組(Qiagen, 目錄號 74104)使用以下方案自雜交瘤細胞糰粒提取總 RNA。添加 600 μ l 緩衝液 RLT 藉由上下抽吸若干次來破壞細胞。藉由使細胞溶解物通過裝配至無 RNA 酶注射器之 20 號針 10 次來使其均質化。將 1 體積之 70%乙醇添加至均質化溶解物中且藉由抽吸充分混合。將高達 700 μ l 樣品一次性添加至 RNeasy 旋轉管柱中且在 10,000 rpm 下旋轉 15 秒, 丟棄穿流。將 700 μ l 緩衝液 RW1 添加至管柱中且在 10,000 rpm 下旋轉 15 秒, 丟棄穿流。添加 500 μ l 緩衝液 RPE 來洗滌管柱膜且在 10,000 rpm 下旋轉 15 秒, 丟棄穿流。將相同步驟再重複一次, 但將管柱離心 2 分鐘。然後在 10,000 rpm 下將樣品離心 1 分鐘以消除緩衝液 RPE 之任何遺留。用 30 μ l 無 RNA 酶水藉由在 10,000 rpm 下離心 1 分鐘來溶析 RNA。隨後, 根據以下方案使用 RT-PCR 之 SuperScript 第一鏈合成系統(Invitrogen, 目錄號 11904-018)使用 2 μ g 總 RNA 來合成第一鏈 cDNA: 在 65°C 下將 2 μ g RNA + 2 μ l dNTP + 2 μ l 寡核苷酸(dT) +

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<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 540

Lys Ala Ser Asn Leu Ala Ser

1 5

<210> 541

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 541

Gln Gln Asn Trp Asn Val Pro Leu Thr

1 5

<210> 542

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 542

Glu Val Lys Leu Gln Gln Ser Gly Asp Glu Leu Val Arg Pro Gly Ala

1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr

20 25 30

Val Met His Trp Val Lys Gln Ser Pro Gly Gln Gly Leu Glu Trp Ile

35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe

50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr

65 70 75 80

Met Glu Leu Ser Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys

85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala

100 105 110

Trp Gly Gln Gly Ala Ser Val Thr Val Ser Ser
 115 120

<210> 543
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 <213> 人工序列

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<400> 543
 Gly Tyr Thr Phe Thr Asp Tyr Val Met His
 1 5 10

<210> 544
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 544
 Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 545
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 545
 Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 1 5 10

<210> 546
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 546

Asn Ile Gln Leu Thr Gln Ser Pro Ser Leu Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Leu Gly Glu Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60

Cys Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu His Ser
 65 70 75 80

Glu Asp Leu Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 547

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 547

Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
 1 5 10

<210> 548

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 548

Lys Thr Asn Asn Leu Gln Thr
 1 5

<210> 549

<211> 8

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 549
Tyr Gln Tyr Asp Asn Gly Tyr Thr
1 5

<210> 550
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 550
Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Ser Gln Ala
65 70 75 80

Phe Leu Glu Ile Thr Asn Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Ala Ser Val Thr Val Ser Ser
115 120

<210> 551
<211> 12
<212> PRT
<213> 人工序列

<220>
<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 551

Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
1 5 10

<210> 552

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 552

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 553

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 553

Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
1 5 10

<210> 554

<211> 111

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 554

Gln Phe Thr Leu Thr Gln Pro Lys Ser Val Ser Gly Ser Leu Arg Ser
1 5 10 15

Thr Ile Thr Ile Pro Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
20 25 30

Tyr Val Ser Trp Tyr Gln Gln His Leu Gly Arg Pro Pro Ile Asn Val
35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Glu Val Ser Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Thr Asn
65 70 75 80

Leu Gln Met Asp Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ser
85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 555
<211> 13
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 555
Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
1 5 10

<210> 556
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 556
Gly Asn Asp Gln Arg Pro Ser
1 5

<210> 557
<211> 10
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 557
Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
1 5 10

<210> 558
<211> 123
<212> PRT
<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 558

Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Ser Gln Ala
 65 70 75 80

Phe Leu Glu Ile Thr Asn Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Ala Ser Val Thr Val Ser Ser
 115 120

<210> 559

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 559

Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 560

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 560

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 561

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 561

Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 562

<211> 111

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 562

Gln Phe Thr Leu Thr Gln Pro Lys Ser Val Ser Gly Ser Leu Arg Ser
 1 5 10 15

Thr Ile Thr Ile Pro Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln His Leu Gly Arg Pro Pro Ile Asn Val
 35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Glu Val Ser Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Thr Asn
 65 70 75 80

Leu Gln Met Asp Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ser
 85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 563

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 563

Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
1 5 10

<210> 564

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 564

Gly Asn Asp Gln Arg Pro Ser
1 5

<210> 565

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 565

Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
1 5 10

<210> 566

<211> 124

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 566

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Lys Phe Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Asp Ser
 20 25 30

Ala Met Ala Trp Val Arg Gln Ala Pro Lys Lys Gly Leu Glu Trp Val
 35 40 45

Ala Thr Ile Ile Tyr Asp Gly Ser Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asp Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Phe Asn Tyr Gly Asn Tyr Gly Tyr Tyr Val Met Asp
 100 105 110

Ala Trp Gly Gln Gly Ala Ser Val Thr Val Ser Ser
 115 120

<210> 567
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 567
 Gly Phe Ser Phe Ser Asp Ser Ala Met Ala
 1 5 10

<210> 568
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 568
 Thr Ile Ile Tyr Asp Gly Ser Gly Thr Tyr Tyr Arg Asp Ser Val Lys
 1 5 10 15

Gly

<210> 569
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source

DEPC-H₂O (補充至 20 μ l) 培育 5 分鐘，然後轉移至冰達至少 1 分鐘。然後將樣品添加至以下混合物中：4 μ l 10 \times RT 緩衝液+ 8 μ l 25 mM MgCl₂ + 4 μ l 0.1 M DTT + 2 μ l RNase OUT，且在 42 $^{\circ}$ C 下培育 2 分鐘。然後，將 2 μ l SuperScript II RT 添加至樣品中且在 42 $^{\circ}$ C 下培育 50 分鐘。然後在 70 $^{\circ}$ C 下將樣品培育 15 分鐘且在冰上驟冷。然後添加 2 μ l RNase H 且在 37 $^{\circ}$ C 下將樣品培育 20 分鐘。隨後使用 cDNA 作為模板用於抗體可變區之 PCR 擴增。使用第一鏈 cDNA、來自小鼠 Ig 引子組 (Novagen，目錄號 69831-3) 之引子及 Platinum Super Mix High Fidelity (Invitrogen，目錄號 12532-016) 來實施 PCR。為擴增重鏈可變區，如下組裝 PCR 樣品：22.5 μ l PCR Super Mix + 0.25 μ l 反向引子 MuIgG V_H3'-2 + 1 μ l cDNA + 1.25 μ l 正向引子 (VH-A、VH-B) 中之一者或 0.5 μ l 正向引子 (VH-C、VH-D、VH-E、VH-F) 中之一者。為擴增輕鏈可變區，如下組裝 PCR 樣品：22.5 μ l PCR Super Mix + 0.25 μ l 反向引子 MuIgKV_L-3'-1 + 1 μ l cDNA + 1.25 μ l 正向引子 (VL-A、VL-B) 中之一者或 0.5 μ l 正向引子 (VL-C、VL-D、VL-E、VL-F、VL-G) 中之一者。

對於含有引子 VH-A、VH-B、VL-A 及 VL-B 之樣品，使用以下 PCR 週期(40-45 個週期、步驟 2 至 4)：

- 1-變性 94 $^{\circ}$ C 2 分鐘。
- 2-變性 94 $^{\circ}$ C 30 秒。
- 3-退火 50 $^{\circ}$ C 30 秒。
- 4-延伸 68 $^{\circ}$ C 1 分鐘。
- 5-最終延伸 68 $^{\circ}$ C 5 分鐘。
- 6-冷卻 4 $^{\circ}$ C 一直

對於含有引子 VH-C 至 VH-F 及 VL-C 至 VL-G 之樣品，使用以下 PCR 週期(40-45 個週期，步驟 2 至 4)：

<223> /注釋=「人工序列之描述：合成肽」

<400> 569

Leu Gly Phe Asn Tyr Gly Asn Tyr Gly Tyr Tyr Val Met Asp Ala
1. 5 10 15

<210> 570

<211> 113

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 570

Gln Phe Thr Leu Thr Gln Pro Lys Ser Val Ser Gly Ser Leu Arg Asn
1 5 10 15

Thr Ile Thr Ile Pro Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
20 25 30

Tyr Val Ser Trp Tyr Gln Gln His Leu Gly Arg Pro Pro Ile Asn Val
35 40 45

Ile Phe Ala Asp Asp Gln Arg Pro Ser Glu Val Ser Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Thr Asn
65 70 75 80

Leu Gln Met Asp Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ser
85 90 95

Asn Ile Asp Ile Asn Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val
100 105 110

Leu

<210> 571

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 571

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser

1 5 10

<210> 572
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 572
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 573
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 573
 Gln Ser Tyr Asp Ser Asn Ile Asp Ile Asn Ile Val
 1 5 10

<210> 574
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 574
 Glu Val Lys Leu Gln Gln Ser Gly Asp Glu Leu Val Arg Pro Gly Ala
 1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Ala Met His Trp Val Lys Gln Ser Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Trp Asp Asn Asn Trp Gly Tyr Phe Asp Tyr Trp Gly Gln
 100 105 110

Gly Val Met Val Thr Val Ser Ser
 115 120

<210> 575
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 575
 Gly Tyr Thr Phe Thr Asp Tyr Ala Met His
 1 5 10

<210> 576
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 576
 Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 577
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 577
 Asp Trp Asp Asn Asn Trp Gly Tyr Phe Asp Tyr
 1 5 10

<210> 578

<211> 112
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 578
 Asp Val Val Leu Thr Gln Thr Pro Val Ser Leu Ser Val Thr Leu Gly
 1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Glu Tyr Ser
 20 25 30

Asp Gly Tyr Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Gly Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ile Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Pro Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Ala
 85 90 95

Thr His Asp Pro Leu Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 579
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 579
 Arg Ser Ser Gln Ser Leu Glu Tyr Ser Asp Gly Tyr Thr Tyr Leu Glu
 1 5 10 15

<210> 580
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 580

Gly Val Ser Asn Arg Phe Ser
1 5

<210> 581

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 581

Phe Gln Ala Thr His Asp Pro Leu Thr
1 5

<210> 582

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 582

Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
1 5 10 15Thr Leu Ser Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30Gly Met Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu
35 40 45Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Asn Gln Ala
65 70 75 80Phe Leu Lys Ile Thr Asn Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr
85 90 95Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110Gly Gln Gly Val Met Val Thr Val Ser Ser
115 120

<210> 583
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 583
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 584
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 584
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 585
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 585
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 586
 <211> 111
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 586
 Gln Phe Thr Leu Thr Gln Pro Lys Ser Val Ser Gly Ser Leu Arg Ser
 1 5 10 15

Thr Ile Thr Ile Pro Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln His Leu Gly Arg Pro Pro Ile Asn Val
 35 40 45

Ile Tyr Ala Asp Asp Gln Arg Pro Ser Glu Val Ser Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Thr Asn
 65 70 75 80

Leu Gln Met Asp Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ile
 85 90 95

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 587

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 587

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 588

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 588

Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 589

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 589

Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val

1 5 10

<210> 590
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 590
 Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Gln Arg Pro Gly Ala
 1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Ile Tyr Trp Val Lys Gln Arg Pro Glu Gln Ser Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
 65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Ser Val Thr Val Ser Ser
 115 120

<210> 591
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 591
 Gly Tyr Thr Phe Thr Glu Ser Tyr Ile Tyr
 1 5 10

<210> 592
 <211> 17

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 592
Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe Lys
1 5 10 15

Asn

<210> 593
<211> 12
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 593
Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala
1 5 10

<210> 594
<211> 106
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 594
Asp Thr Val Leu Thr Gln Ser Pro Thr Leu Ala Val Ser Pro Gly Glu
1 5 10 15

Arg Val Ser Ile Pro Cys Arg Ala Ser Glu Ser Val Ser Thr Leu Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile Tyr
35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asp Pro Val Glu Ala Asp
65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 595
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 595
 Arg Ala Ser Glu Ser Val Ser Thr Leu Met His
 1 5 10

<210> 596
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 596
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 597
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 597
 Gln Gln Ser Trp Asn Asp Pro Trp Thr
 1 5

<210> 598
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

- 1-變性 94°C 2 分鐘。
- 2-變性 94°C 30 秒。
- 3-退火 60°C 30 秒。
- 4-延伸 68°C 1 分鐘。
- 5-最終延伸 68°C 5 分鐘。
- 6-冷卻 4°C 一直

在 1.2%瓊脂糖凝膠上運行 PCR 產物，且自 DNA 提取物切除在預期粒徑(400-500 bp)處遷移之條帶。使用 QIAquick 凝膠提取套組 (Qiagen，目錄號 28704)根據以下方案來純化 DNA：對凝膠切片稱重。將 3 體積緩衝液 QG 對 1 體積凝膠添加至每一凝膠切片中。在 50°C 下將樣品培育 10 分鐘直至凝膠切片完全溶解，每 2-3 分鐘混合一次。然後將 1 凝膠體積異丙醇添加至每一樣品中且混合。然後將樣品施加至 QIAquick 管柱且在 13000 rpm 下離心 1 分鐘。為洗滌，將 750 μ l 緩衝液 PE 添加至樣品中且在 13000 rpm 下旋轉 1 分鐘。然後在 13,000 rpm 下將管柱再離心 1 分鐘以完全去除殘餘乙醇。藉由將 30 μ l H₂O 添加至每一管柱中並藉由在 13,000 rpm 下旋轉 1 分鐘來溶析 DNA。然後對經純化之 PCR 產物測序以鑑別可變區序列(參見下表)。

<400> 598

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Gln Arg Pro Gly Ala
 1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Lys Gln Arg Pro Glu Gln Ser Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
 65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Ser Val Thr Val Ser Ser
 115 120

<210> 599

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 599

Gly Tyr Thr Phe Thr Glu Ser Tyr Met Tyr
 1 5 10

<210> 600

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 600

Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe Lys
 1 5 10 15

Asn

<210> 601
 <211> 12
 <212> PRT
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<220>
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<400> 601
 Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala
 1 5 10

<210> 602
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 602
 Asp Thr Val Leu Thr Gln Pro Pro Ala Leu Ala Val Ser Pro Gly Glu
 1 5 10 15

Arg Val Ser Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu Met
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asp Pro Val Glu Ala Asp
 65 70 75 80

Asp Thr Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 603
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 <213> 人工序列

<220>
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<400> 603
 Arg Ala Ser Glu Ser Val Ser Thr Leu Met His
 1 5 10

<210> 604
 <211> 7
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 <213> 人工序列

<220>
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<400> 604
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 605
 <211> 9
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 <213> 人工序列

<220>
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<400> 605
 Gln Gln Ser Trp Asn Asp Pro Trp Thr
 1 5

<210> 606
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 606
 Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Glu Tyr Thr Phe Thr Asp Tyr
 20 25 30

Ala Ile His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys Trp Met
 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Glu Ala Ser Ala Ser Thr Ala Asn
 65 70 75 80

Leu Gln Ile Ser Asn Leu Lys Asn Glu Asp Thr Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg Asp Tyr Gly Gly Tyr Gly Glu Arg Arg Asp Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Val Met Val Thr Val Ser Ser
 115 120

<210> 607

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 607

Glu Tyr Thr Phe Thr Asp Tyr Ala Ile His
 1 5 10

<210> 608

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 608

Trp Ile Asn Thr Tyr Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 609

<211> 14

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 609

Asp Tyr Gly Gly Tyr Gly Glu Arg Arg Asp Tyr Phe Asp Tyr
 1 5 10

<210> 610

<211> 107

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 610

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Leu Gly
 1 5 10 15

Glu Thr Val Thr Ile Glu Cys Arg Val Ser Glu Asp Ile Tyr Asn Gly
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Gln Phe Leu Ile
 35 40 45

Tyr Asn Ala Asn Arg Leu His Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Gln Phe Ser Leu Lys Ile Asn Ser Leu Gln Ser
 65 70 75 80

Glu Asp Val Ala Asn Tyr Phe Cys Gln Gln Tyr Tyr Asp Tyr Pro Leu
 85 90 95

Thr Phe Gly Ser Ala Thr Lys Leu Glu Ile Lys
 100 105

<210> 611

<211> 11

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 611

Arg Val Ser Glu Asp Ile Tyr Asn Gly Leu Ala
 1 5 10

<210> 612

<211> 7

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 612

Asn Ala Asn Arg Leu His Thr
1 5

<210> 613

<211> 9

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 613

Gln Gln Tyr Tyr Asp Tyr Pro Leu Thr
1 5

<210> 614

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 614

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Ala Leu Gln Phe Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Phe Leu Glu Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Met Ala Thr Tyr Phe Cys
85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln

100

105

110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 615
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 615
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 616
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 616
 Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 617
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 617
 Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr
 1 5 10

<210> 618
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成多肽」

<400> 618

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

Glu Thr Val Thr Ile Glu Cys Arg Ala Ser Asp Asp Leu Tyr Ser Thr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Asp Ser Pro Gln Leu Leu Ile
35 40 45

Phe Asp Ala Asn Arg Leu Ala Ala Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Gln Tyr Ser Leu Lys Ile Asn Ser Leu Gln Ser
65 70 75 80

Glu Asp Val Ala Ser Tyr Phe Cys Gln Gln Tyr Asn Lys Phe Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 619

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 619

Arg Ala Ser Asp Asp Leu Tyr Ser Thr Leu Ala
1 5 10

<210> 620

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 620

Asp Ala Asn Arg Leu Ala Ala
1 5

<210> 621

<211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 621
 Gln Gln Tyr Asn Lys Phe Pro Trp Thr
 1 5

<210> 622
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 622
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Arg Gly
 1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Asn Ser Tyr
 20 25 30

Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Asp Leu Val
 35 40 45

Ala Asp Ile Ser Ser Lys Ser Tyr Asn Tyr Ala Thr Tyr Tyr Ala Asp
 50 55 60

Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser Met
 65 70 75 80

Val Tyr Leu Gln Met Asp Asn Leu Lys Thr Glu Asp Thr Ala Leu Tyr
 85 90 95

Tyr Cys Thr Glu Ser Leu Glu Leu Gly Gly Ala Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ser
 115

<210> 623
 <211> 10
 <212> PRT
 <213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 623
 Gly Phe Asp Phe Asn Ser Tyr Gly Met Ser
 1 5 10

<210> 624
 <211> 19
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 624
 Asp Ile Ser Ser Lys Ser Tyr Asn Tyr Ala Thr Tyr Tyr Ala Asp Ser
 1 5 10 15

Val Lys Asp

<210> 625
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 625
 Ser Leu Glu Leu Gly Gly Ala Tyr
 1 5

<210> 626
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 626
 Asp Ile Gln Met Thr Gln Ser Pro Pro Ser Leu Ser Ala Ser Leu Gly
 1 5 10 15

Asp Glu Val Thr Ile Thr Cys Gln Ala Ser Gln Asn Ile Asn Lys Phe
 20 25 30

Ile Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile

35

40

45

Arg Tyr Thr Ser Thr Leu Lys Ser Gly Thr Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Val Glu Ser
 65 70 75 80

Glu Asp Ile Ala Ser Tyr Tyr Cys Leu Gln Tyr Asp Ser Leu Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 627
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 627
 Gln Ala Ser Gln Asn Ile Asn Lys Phe Ile Ala
 1 5 10

<210> 628
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 628
 Tyr Thr Ser Thr Leu Lys Ser
 1 5

<210> 629
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 629
 Leu Gln Tyr Asp Ser Leu Pro Trp Thr
 1 5

<210> 630
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 630
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Arg
 1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Ala Trp Val Arg Gln Ala Pro Thr Gln Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Asn Ser Gly Gly Asn Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Ser Ala Lys Asn Thr Gln Tyr
 65 70 75 80

Leu Gln Met Asp Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Phe Cys
 85 90 95

Ala Arg His Thr Pro Gly Ala Asn Tyr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Leu Met Val Thr Val Ser Ser
 115

<210> 631
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 631
 Gly Phe Thr Phe Ser Asn Tyr Gly Met Ala
 1 5 10

<210> 632
 <211> 17
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 632

Ser Ile Thr Asn Ser Gly Gly Asn Thr Tyr Tyr Arg Asp Ser Val Lys
 1 5 10 15

Gly

<210> 633

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 633

His Thr Pro Gly Ala Asn Tyr Phe Asp Tyr
 1 5 10

<210> 634

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 634

Asp Ile Gln Met Thr Gln Ser Pro Pro Ser Leu Ser Ala Ser Leu Gly
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Lys Asn Tyr
 20 25 30

Ile Ala Trp Tyr Gln Leu Lys Pro Gly Thr Ala Pro Arg Leu Leu Met
 35 40 45

Arg Tyr Thr Ser Thr Leu Glu Ser Gly Thr Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Val Glu Ser
 65 70 75 80

Glu Asp Ile Ala Ser Tyr Tyr Cys Val Gln Tyr Ala Asn Leu Tyr Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 635
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 635
 Gln Ala Ser Gln Ser Ile Lys Asn Tyr Ile Ala
 1 5 10

<210> 636
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 636
 Tyr Thr Ser Thr Leu Glu Ser
 1 5

<210> 637
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 637
 Val Gln Tyr Ala Asn Leu Tyr Thr
 1 5

<210> 638
 <211> 118
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 638
 Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Met Gln Pro Ser Gln

1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Asn Tyr
 20 25 30
 Gly Val Ser Trp Val Arg Gln Phe Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45
 Ala Ala Ile Ser Ser Gly Gly Ser Thr Tyr Tyr Asn Ser Ala Leu Lys
 50 55 60
 Ser Arg Leu Ser Ile Ser Arg Asp Thr Ser Arg Ser Gln Val Phe Leu
 65 70 75 80
 Lys Met Asn Ser Leu Leu Thr Glu Asp Thr Ala Phe Tyr Phe Cys Thr
 85 90 95
 Arg Val Tyr Tyr Gly Ser Asn Tyr Phe Asp Tyr Trp Gly Pro Gly Val
 100 105 110
 Met Val Thr Val Ser Ser
 115

<210> 639
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 639
 Gly Phe Ser Leu Thr Asn Tyr Gly Val Ser
 1 5 10

<210> 640
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 640
 Ala Ile Ser Ser Gly Gly Ser Thr Tyr Tyr Asn Ser Ala Leu Lys Ser
 1 5 10 15

<210> 641
 <211> 10

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 641
Val Tyr Tyr Gly Ser Asn Tyr Phe Asp Tyr
1 5 10

<210> 642
<211> 113
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 642
Asp Ile Val Met Thr Gln Thr Pro Ser Ser Gln Ala Val Ser Ala Gly
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Gly
20 25 30

Gly Asp Gln Lys Asn Phe Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Leu Ala Ser Thr Arg Glu Ser Gly Val
50 55 60

Pro Asp Arg Phe Ile Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Asp Tyr Tyr Cys Gln Gln
85 90 95

His Tyr Gly Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile
100 105 110

Lys

<210> 643
<211> 17
<212> PRT
<213> 人工序列

<220>
<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 643

Lys Ser Ser Gln Ser Leu Leu Tyr Gly Gly Asp Gln Lys Asn Phe Leu
1 5 10 15

Ala

<210> 644

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 644

Leu Ala Ser Thr Arg Glu Ser
1 5

<210> 645

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 645

Gln Gln His Tyr Gly Tyr Pro Phe Thr
1 5

<210> 646

<211> 116

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 646

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Ser
1 5 10 15

Ser Leu Lys Leu Ser Cys Leu Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20 25 30

Asn Met Tyr Trp Ile Arg Gln Ala Pro Lys Lys Gly Leu Glu Trp Ile
35 40 45

Ala Leu Ile Phe Tyr Asp Asn Asn Asn Lys Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80

Leu Glu Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
 85 90 95

Leu Arg Asp Ser Gly Pro Phe Ser Tyr Trp Gly Gln Gly Thr Leu Val
 100 105 110

Thr Val Ser Ser
 115

<210> 647
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 647
 Gly Phe Thr Phe Ser Asn Tyr Asn Met Tyr
 1 5 10

<210> 648
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 648
 Leu Ile Phe Tyr Asp Asn Asn Asn Lys Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 649
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 649

Asp Ser Gly Pro Phe Ser Tyr
1 5

<210> 650

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 650

Asp Ile Gln Met Thr Gln Ser Pro Pro Ser Leu Ser Ala Ser Leu Gly
1 5 10 15

Asp Lys Val Thr Ile Asn Cys Gln Ala Gly Gln Asn Ile Lys Lys Tyr
20 25 30

Ile Ala Trp Tyr Gln Gln Glu Pro Gly Lys Val Pro Arg Leu Leu Ile
35 40 45

Arg Tyr Thr Ser Lys Leu Glu Ser Asp Thr Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Val Glu Ser
65 70 75 80

Glu Asp Ile Ala Ser Tyr Tyr Cys Leu Gln Tyr Asp Asn Leu Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys
100 105

<210> 651

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 651

Gln Ala Gly Gln Asn Ile Lys Lys Tyr Ile Ala
1 5 10

<210> 652

<211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 652
 Tyr Thr Ser Lys Leu Glu Ser
 1 5

<210> 653
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 653
 Leu Gln Tyr Asp Asn Leu Pro Trp Thr
 1 5

<210> 654
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 654
 Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 655
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 655
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 656
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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<400> 656

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 657

<211> 123

<212> PRT

<213> 人工序列

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<223> /注释=「人工序列之描述：合成多肽」

<400> 657

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 658
<211> 123
<212> PRT
<213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成多肽」

<400> 658
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 659
<211> 123
<212> PRT
<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 659

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 660

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 660

Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 662

Glu Ile Gln Leu Val Gln Ser Gly Thr Glu Val Lys Lys Pro Gly Glu
 1 5 10 15

Ser Leu Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Lys Ser Phe Asn Thr Ala Phe
 65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 663

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 663

Glu Ile Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 664

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 664

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 665

<211> 107

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 665
Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 666
<211> 106
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 666
Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 667

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 667

Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr
35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 668

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 668

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 669

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 669

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 670
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 670
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105

<210> 671
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 671
 Asp Thr Val Leu Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu Ile

35

40

45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 672

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 672

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 673

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 673

Gln Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 674

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 674

Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 675

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 675

Glu Ile Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Phe Phe Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 676

<211> 120

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 676
Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Phe Tyr Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 677
<211> 120
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 677
Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Phe Tyr Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 678
<211> 120
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 678
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 679
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 679
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 680
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 680
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Phe Phe Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 681

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 681

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Phe Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 682
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 682
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 683
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 683
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr

20

25

30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 684

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 684

Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln

100

105

110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 685
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 685
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 686
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 686
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 687

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 687

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 688

<211> 120

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 688

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Phe Phe Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 689

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 689

Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
 35 40 45

Lys Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 690

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 690

Glu Thr Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Gln Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65 70 75 80

Glu Asp Ala Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 691
 <211> 107
 <212> PRT
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<220>
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<400> 691
 Glu Thr Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 692
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
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<400> 692
 Glu Thr Val Leu Thr Gln Ser Pro Asp Gln Ser Val Thr Pro Lys Glu
 1 5 10 15

Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val Ile
 20 25 30

His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile His
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala Glu
 65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 693

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 693

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 694

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 694

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 695

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 695

Asp Thr Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 698

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 698

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 699
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 699
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 700
 <211> 107
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 700
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 701

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 701

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 702

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 702

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Val
20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 703

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 703

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 704
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 704
 Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 705
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 705
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr

20

25

30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
 100 105 110

Thr Val Ser Ser
 115

<210> 706

<211> 116

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 706

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
 20 25 30

Gly Met His Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Ala Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val

100

105

110

Thr Val Ser Ser
115

<210> 707
<211> 116
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 707
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Ala Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
100 105 110

Thr Val Ser Ser
115

<210> 708
<211> 106
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 708
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 709

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 709

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 710
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 710
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 711
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 711
 Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 712

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 712

Gln Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 713

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 713

Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 714

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 714

Glu Ile Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Leu Ala Pro Gly Gln Gly Leu Glu Tyr Leu
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Phe Cys
85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 715

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 715

Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Leu
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 716
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 716
 Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Leu
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 717
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 717
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 718

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 718

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser

115

120

<210> 719
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 719
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Leu Ala Pro Gly Gln Gly Leu Glu Tyr Leu
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Leu Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 720
 <211> 121
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 <213> 人工序列

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<400> 720
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Leu
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Leu Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Ala Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 721

<211> 107

<212> PRT

<213> 人工序列

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<400> 721

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Trp Val Asn Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 722
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Trp Val Asn Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 723
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Trp Val Asn Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 724

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 724

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Trp Val Asn Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 725

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 725

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Trp Val Asn Ser Tyr
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 726

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 726

Asp Thr Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Trp Val Asn Ser Tyr
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 727
<211> 121
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<400> 727
Gln Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 728
<211> 121
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<223> /注釋=「人工序列之描述：合成多肽」

<400> 728
Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala

1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30
 Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
 85 90 95
 Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 729

<211> 121

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 729

Glu Ile Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Phe Cys

85

90

95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 730

<211> 121

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 730

Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 731

<211> 121

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 731

Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
 85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 732

<211> 121

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 732

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 733

<211> 121

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 733

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 734

<211> 121

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 734

Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 735

<211> 121

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 735

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Pro Ser Asp Tyr Tyr Asp Gly Phe Trp Phe Pro Tyr Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 736

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 736

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Gly Val Asn Ser Tyr
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 737

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 737

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Gly Val Asn Ser Tyr
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 738

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 738

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Gly Val Asn Ser Tyr
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 739
<211> 107
<212> PRT
<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 739
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Gly Val Asn Ser Tyr
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 740
<211> 107
<212> PRT
<213> 人工序列

<220>
<221> source
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<400> 740
Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Gly Val Asn Ser Tyr

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 741

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 741

Asp Thr Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Gly Val Asn Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 742

<211> 118
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 742
 Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 743
 <211> 118
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 743
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 744
<211> 118
<212> PRT
<213> 人工序列

<220>
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<400> 744
Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Val Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 745
 <211> 118
 <212> PRT
 <213> 人工序列

<220>
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<400> 745
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Phe Phe Cys
 85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 746
 <211> 118
 <212> PRT
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<400> 746
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 747

<211> 118

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<400> 747

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
115

<210> 748
<211> 118
<212> PRT
<213> 人工序列

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<400> 748
Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Val Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 749
<211> 118
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 749
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 750

<211> 118

<212> PRT

<213> 人工序列

<220>

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<223> /注释=「人工序列之描述：合成多肽」

<400> 750

Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Thr Leu Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Phe Phe Cys
 85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 751
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 751
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Pro
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 752
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 752
 Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser

20

25

30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Pro
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 753

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 753

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Pro
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 754

<211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 754
 Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Pro
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 755
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 755
 Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Pro
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 756

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 756

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
20 25 30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Pro
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 757

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 757

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Pro
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 758

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 758

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Pro
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 759
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 759
 Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 760
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 760
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 761

<211> 124

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 761

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 762
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 762
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 763
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 763
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser

1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30
 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110
 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 764
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 764
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30
 Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45
 Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys

85

90

95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 765
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 765
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 766
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 766

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 767

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 767

Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 768
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 768
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 769
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 769
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
 20 25 30

Asp Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
 100 105 110

Thr Val Ser Ser
 115

<210> 770

<211> 116

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 770

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
 20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
 100 105 110

Thr Val Ser Ser
115

<210> 771
<211> 116
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 771
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser
115

<210> 772
<211> 107
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 772
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 773

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 773

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 774
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 774
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 775
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 775
 Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe

50

55

60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 776

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 776

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 777

<211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 777

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 778
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 778

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 779
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 779
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 780
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 780
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Leu Glu Ile Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 781
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 781
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Leu Glu Ile Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 782

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 782

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 783
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 783
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 784
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 784
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 785

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 785

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 786

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 786

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
20 25 30Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80Glu Asp Phe Ala Thr Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
85 90 95Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 787

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 787

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
20 25 30Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu

85

90

95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 788
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 788
 Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 789
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 789
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 790

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 790

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Phe Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 791
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 791
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Phe Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 792
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 792

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 793

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 793

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 794

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 794

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Phe Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 795

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 795

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Phe Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 796

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 796

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Asp Asp Leu Tyr Ser Thr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Val Pro Lys Leu Leu Ile
35 40 45

Tyr Asp Ala Asn Arg Leu Ala Ala Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn Lys Phe Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 797

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 797

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Glu Cys Arg Ala Ser Asp Asp Leu Tyr Ser Thr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
35 40 45

Phe Asp Ala Asn Arg Leu Ala Ala Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Lys Phe Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 798

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 798

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Asp Asp Leu Tyr Ser Thr
 20 25 30
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45
 Phe Asp Ala Asn Arg Leu Ala Ala Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Lys Phe Pro Trp
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 799

<211> 119

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 799

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Asn Ser Gly Gly Asn Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg His Thr Pro Gly Ala Asn Tyr Phe Asp Tyr Trp Gly Gln Gly

100

105

110

Thr Met Val Thr Val Ser Ser
115

<210> 800
<211> 119
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 800
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20 25 30

Gly Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Thr Asn Ser Gly Gly Asn Thr Tyr Tyr Arg Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Gln Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg His Thr Pro Gly Ala Asn Tyr Phe Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Met Val Thr Val Ser Ser
115

<210> 801
<211> 106
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 801
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Lys Asn Tyr
 20 25 30

Ile Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Tyr Thr Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Val Gln Tyr Ala Asn Leu Tyr Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 802

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 802

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Lys Asn Tyr
 20 25 30

Ile Ala Trp Tyr Gln Leu Lys Pro Gly Lys Ala Pro Arg Leu Leu Met
 35 40 45

Arg Tyr Thr Ser Thr Leu Glu Ser Gly Thr Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Arg Asp Tyr Thr Phe Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Val Gln Tyr Ala Asn Leu Tyr Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 803
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 803
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Lys Asn Tyr
 20 25 30

Ile Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
 35 40 45

Arg Tyr Thr Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Arg Asp Tyr Thr Phe Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Val Gln Tyr Ala Asn Leu Tyr Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 804
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 804
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 805
<211> 10
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 805
Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 806
<211> 17
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 806
Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 807
<211> 14
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 807

Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 808

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 808

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 809

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 809

Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 810

<211> 7

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 810
Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 811
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 811
Gln Gln Ser Trp Asn Asp Pro Phe Thr
1 5

<210> 812
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 812
Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 813
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 813
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 814
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 814
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 815
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 815
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 816
 <211> 107
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 816

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 817

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 817

Arg Ala Ser Glu Ser Val Ser Thr His Met His
1 5 10

<210> 818

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 818

Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 819
 <211> 9
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 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 819
 Gln Gln Ser Trp Asn Asp Pro Phe Thr
 1 5

<210> 820
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 820
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 821
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 821
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 822
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 822
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 823
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 823
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 824
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 824
 Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
 1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
 65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 825
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
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<400> 825
 Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 826
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 826
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 827
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 827
 Gln Gln Ser Trp Asn Asp Pro Phe Thr
 1 5

<210> 828
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 828
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 829
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 829
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 830
 <211> 17
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 830

Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 831

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 831

Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
1 5 10

<210> 832

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 832

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe

85

90

95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 833
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 833
 Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 834
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 834
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 835
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 835
 Gln Gln Ser Trp Asn Asp Pro Phe Thr
 1 5

<210> 836
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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<400> 836

Glu Ile Gln Leu Val Gln Ser Gly Thr Glu Val Lys Lys Pro Gly Glu
 1 5 10 15

Ser Leu Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Lys Ser Phe Asn Thr Ala Phe
 65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 837

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成肽」

<400> 837

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 838

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成肽」

<400> 838

Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 839
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 839
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 840
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 840
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105

<210> 841
 <211> 11
 <212> PRT
 <213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 841
 Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 842
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 842
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 843
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 843
 Gln Gln Ser Trp Asn Asp Pro Phe Thr
 1 5

<210> 844
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 844
 Glu Ile Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe

50

55

60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 845

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 845

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 846

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 846

Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 847

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 847

Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 848

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 848

Asp Thr Val Leu Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 849

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 849

Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 850

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 850

Gly Ala Ser Asn Leu Glu Ser

1 5

<210> 851

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 851

Gln Gln Ser Trp Asn Asp Pro Phe Thr

1 5

<210> 852

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 852

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr

20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met

35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe

50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr

65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys

85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr

100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 853
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 853
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 854
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 854
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 855
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 855
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 856
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 856

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 857

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 857

Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 858

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 858

Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 859

<211> 9

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 859
Gln Gln Ser Trp Asn Asp Pro Phe Thr
1 5

<210> 860
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 860
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 861
<211> 10
<212> PRT
<213> 人工序列

<220>
<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 861

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 862

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 862

Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 863

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 863

Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
1 5 10

<210> 864

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 864

Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
 65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 865
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 865
 Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 866
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 866
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 867
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 867
 Gln Gln Ser Trp Asn Asp Pro Phe Thr
 1 5

<210> 868
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 868
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 869
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 869
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 870
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 870
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 871
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 871
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 872
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 872
 Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 873
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<220>
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<400> 873
 Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 874
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<400> 874
 Gly Ala Ser Asn Leu Glu Ser
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<210> 875
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<400> 875
 Gln Gln Ser Trp Asn Asp Pro Phe Thr
 1 5

<210> 876
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<400> 876
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala

1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30
 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45
 Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95
 Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 877
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 878
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<400> 878
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 879
 <211> 14
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<400> 879
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 880
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<400> 880
 Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 881
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<400> 881

Arg Ala Ser Glu Ser Val Ser Thr His Met His
1 5 10

<210> 882

<211> 7

<212> PRT

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<400> 882

Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 883

<211> 9

<212> PRT

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<400> 883

Gln Gln Ser Trp Asn Asp Pro Phe Thr
1 5

<210> 884

<211> 123

<212> PRT

<213> 人工序列

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<400> 884

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 885
Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 886
<211> 17
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<400> 886
Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 887
<211> 14
<212> PRT
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<400> 887

Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
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<210> 888

<211> 106

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 888

Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
 1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
 65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 889

<211> 11

<212> PRT

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<400> 889

Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 890

<211> 7

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 890

Gly Ala Ser Asn Leu Glu Ser

1 5

<210> 891

<211> 9

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 891

Gln Gln Ser Trp Asn Asp Pro Phe Thr

1 5

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<211> 123

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<400> 892

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr

20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met

35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe

50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys

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100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 893
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 894
 <211> 17
 <212> PRT
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<400> 894
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 1 5 10 15

Gly

<210> 895
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<400> 895
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 1 5 10

<210> 896
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 <212> PRT
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<400> 896

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 897

<211> 11

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 897

Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 898

<211> 7

<212> PRT

<213> 人工序列

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<400> 898

Gly Ala Ser Asn Leu Glu Ser
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<210> 899

<211> 9

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<400> 899

Gln Gln Ser Trp Asn Asp Pro Phe Thr
1 5

<210> 900

<211> 123

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<400> 900

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 901
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 902
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<400> 902
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 1 5 10 15

Gly

<210> 903
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<400> 903
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 904
 <211> 107
 <212> PRT
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<220>
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<400> 904
 Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 905

<211> 11

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 905

Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 906

<211> 7

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<400> 906

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 1 5

<210> 907

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<400> 907

Gln Gln Ser Trp Asn Asp Pro Phe Thr
 1 5

<210> 908

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<400> 908
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

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<400> 910
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Gly

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<400> 911
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 1 5 10

<210> 912
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 1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
 65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 913
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 1 5 10

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 1 5

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 1 5

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<400> 916
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 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 917
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<210> 918
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<400> 918
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Gly

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<400> 920
 Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 921

Arg Ala Ser Glu Ser Val Ser Thr His Met His
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<210> 922

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<400> 922

Gly Ala Ser Asn Leu Glu Ser
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<210> 923

<211> 9

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<400> 924

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 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
 20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

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	BDI-5G2-F9	CDR-H1	SEQ ID NO.:之殘 基 26-37	GFSLSTFGMGVG
	BDI-5G2-F9	CDR-H2	SEQ ID NO.:之殘 基 52-67	NIWWDDDKYYNPSLKN
	BDI-5G2-F9	CDR-H3	SEQ ID NO.:之殘 基 100-112	ISTGISSYYVMDA
	BDI-5G2-F9 VL			QFTLTQPKSVSGSLRSTITIPCERSGG DIGDTYVSWYQQHLGRPPINVIYGNDQ RPSEVSDRFSGSIDSSSNSASLTITNL QMDDEADYFCQSYDSIDIDIVFGGGTKL TVL
	BDI-5G2-F9	CDR-L1	SEQ ID NO.:之殘 基 23-35	ERSSGDIGDTYVS
	BDI-5G2-F9	CDR-L2	SEQ ID NO.:之殘 基 51-57	GNDQRPS
	BDI-5G2-F9	CDR-L3	SEQ ID NO.:之殘 基 92-101	QSYDSIDIDIV
	BDI-5H1-F6 VH			QVTLKESGPGILQPSQTLSLTCTFSGF SLSTFGMGVGVWIRQPSGKGLEWLANIW WDDDKYYNPSLKNRLTISKDTSNSQAF LEITNVDTADTATYYCARISTGISSYY VMDAWGQGASVTVSS

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
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Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
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Thr Val Ser Ser
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<400> 926
Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val Lys
1 5 10 15

Gly

<210> 927
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<223> /注釋=「人工序列之描述：合成肽」

<400> 927
Gly Tyr Gly Ala Met Asp Ala
1 5

<210> 928
 <211> 107
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 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 928
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 929
 <211> 11
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 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成肽」

<400> 929
 Lys Ala Ser Gln Asp Ile Asp Asp Tyr Leu Ser
 1 5 10

<210> 930
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<223> /注釋=「人工序列之描述：合成肽」

<400> 930

Ala Ala Thr Arg Leu Ala Asp
1 5

<210> 931

<211> 9

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<223> /注釋=「人工序列之描述：合成肽」

<400> 931

Leu Gln Ser Ser Ser Thr Pro Trp Thr
1 5

<210> 932

<211> 116

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 932

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser

115

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<400> 933
 Gly Phe Ser Phe Ser Lys Tyr Asp Met Ala
 1 5 10

<210> 934
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<400> 934
 Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val Lys
 1 5 10 15

Gly

<210> 935
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<400> 935
 Gly Tyr Gly Ala Met Asp Ala
 1 5

<210> 936
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<400> 936

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 937

<211> 11

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 937

Lys Ala Ser Gln Asp Ile Asp Asp Tyr Leu Ser
 1 5 10

<210> 938

<211> 7

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<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 938

Ala Ala Thr Arg Leu Ala Asp
 1 5

<210> 939

<211> 9

<212> PRT

<213> 人工序列

<220>
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<400> 939
 Leu Gln Ser Ser Ser Thr Pro Trp Thr
 1 5

<210> 940
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<400> 940
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 941
 <211> 10
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 <213> 人工序列

<220>
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<400> 941
 Gly Tyr Pro Phe Thr Asn Ser Gly Met Tyr
 1 5 10

<210> 942
 <211> 17
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 942
 Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 943
 <211> 14
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<400> 943
 Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 1 5 10

<210> 944
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<400> 944
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly

50

55

60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 945

<211> 11

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 945

Arg Ala Ser Glu Gly Val Tyr Ser Tyr Met His
 1 5 10

<210> 946

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 946

Lys Ala Ser Asn Leu Ala Ser
 1 5

<210> 947

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 947

His Gln Asn Trp Asn Asp Pro Leu Thr
 1 5

<210> 948

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 948

Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Leu Glu Ile Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 949

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 949

Gly Tyr Pro Phe Thr Asn Ser Gly Met Tyr
1 5 10

<210> 950

<211> 17

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 950

Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 951

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 951

Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
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<210> 952

<211> 107

<212> PRT

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<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 952

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 953
 Arg Ala Ser Glu Gly Val Tyr Ser Tyr Met His
 1 5 10

<210> 954
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<400> 954
 Lys Ala Ser Asn Leu Ala Ser
 1 5

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<400> 955
 His Gln Asn Trp Asn Asp Pro Leu Thr
 1 5

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<400> 956
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser

20

25

30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Leu Glu Ile Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

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<400> 957
 Gly Tyr Pro Phe Thr Asn Ser Gly Met Tyr
 1 5 10

<210> 958
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<400> 958
 Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 959
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<212> PRT
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<400> 959
Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
1 5 10

<210> 960
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<400> 960
Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 961
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<400> 961

Arg Ala Ser Glu Gly Val Tyr Ser Tyr Met His
 1 5 10

<210> 962
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 <212> PRT
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<220>
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<400> 962
 Lys Ala Ser Asn Leu Ala Ser
 1 5

<210> 963
 <211> 9
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<400> 963
 His Gln Asn Trp Asn Asp Pro Leu Thr
 1 5

<210> 964
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<400> 964
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 965
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<400> 965
 Gly Tyr Pro Phe Thr Asn Ser Gly Met Tyr
 1 5 10

<210> 966
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<400> 966
 Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
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Gly

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<400> 967
 Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 1 5 10

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<400> 968
 Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 969
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<400> 969
 Arg Ala Ser Glu Gly Val Tyr Ser Tyr Met His
 1 5 10

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<400> 970

Lys Ala Ser Asn Leu Ala Ser
1 5

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<223> /注釋=「人工序列之描述：合成肽」

<400> 971

His Gln Asn Trp Asn Asp Pro Leu Thr
1 5

<210> 972

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<400> 972

Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
20 25 30Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80Leu Glu Ile Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
85 90 95Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
100 105 110Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 973
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<400> 973
 Gly Tyr Pro Phe Thr Asn Ser Gly Met Tyr
 1 5 10

<210> 974
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<400> 974
 Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 975
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<400> 975
 Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 1 5 10

<210> 976
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<400> 976
 Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 977
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<400> 977
 Arg Ala Ser Glu Gly Val Tyr Ser Tyr Met His
 1 5 10

<210> 978
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<400> 978
 Lys Ala Ser Asn Leu Ala Ser
 1 5

<210> 979
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<400> 979

His Gln Asn Trp Asn Asp Pro Leu Thr
1 5

<210> 980

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 980

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Val Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 981

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<400> 981

Gly Tyr Thr Phe Thr Asn Tyr Gly Val Tyr

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	BDI-6A3-A9	CDR-L1	SEQ ID NO.:之殘 基 23-35	ERSSGDIGDSYVS
	BDI-6A3-A9	CDR-L2	SEQ ID NO.:之殘 基 51-57	ADDQRPS
	BDI-6A3-A9	CDR-L3	SEQ ID NO.:之殘 基 92-103	QSYDSNIDINIV
	BDI-7H10-D8 VH			EVKLLQSGDELVRPGASVKMCKASGY TFTDYAMHWVKQSPGQGLEWIGTIPL IDTTSYNQKFKGKATLTADTSSNTAYM ELSRLTSEDSAVYYCARDWNNWGYFD YWGQGVMTVSS
	BDI-7H10-D8	CDR-H1	SEQ ID NO.:之殘 基 26-35	GYTFTDYAMH
	BDI-7H10-D8	CDR-H2	SEQ ID NO.:之殘 基 50-66	TIIPLIDTTSYNQKFKG
	BDI-7H10-D8	CDR-H3	SEQ ID NO.:之殘 基 99-109	DWNNWGYFDY
	BDI-7H10-D8 VL			DVVLTTQTPVSLSVTLGDQASISCRSSQ SLEYS DGYTYLEWYLQKPGQSPQLLIY GVSNRFS GVPDRFIGSGSDFTLTKIS RVEPEDLG VYYCFQATHDPLTFGSGTK LEIK

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<400> 982
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 983
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<400> 983
 Ala Arg Gln Leu Asp Trp Phe Val Tyr
 1 5

<210> 984
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<400> 984
 Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Pro
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 985
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<400> 985
 Arg Ala Arg Glu Ser Leu Thr Thr Ser Leu Ser
 1 5 10

<210> 986
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<400> 986
 Gly Ala Ser Lys Leu Glu Ser
 1 5

<210> 987
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<400> 987
 Gln Gln Ser Trp Tyr Asp Pro Pro Thr
 1 5

<210> 988
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<400> 988

Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
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<400> 989

Gly Tyr Thr Phe Thr Asn Tyr Gly Val Tyr
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<210> 990

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<400> 990

Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 991

<211> 9

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<400> 991

Ala Arg Gln Leu Asp Trp Phe Val Tyr
 1 5

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<400> 992

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Pro
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

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 Arg Ala Arg Glu Ser Leu Thr Thr Ser Leu Ser
 1 5 10

<210> 994
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<400> 994
 Gly Ala Ser Lys Leu Glu Ser
 1 5

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<400> 995
 Gln Gln Ser Trp Tyr Asp Pro Pro Thr
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<210> 996
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<400> 996
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 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
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Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
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<400> 997
 Gly Tyr Thr Phe Thr Asn Tyr Gly Val Tyr
 1 5 10

<210> 998
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<400> 998
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 999
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<223> /注釋=「人工序列之描述：合成肽」

<400> 999

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1 5

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<211> 107

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1000

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly

1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser

20 25 30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile

35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly

50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

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Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

100 105

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Arg Ala Arg Glu Ser Leu Thr Thr Ser Leu Ser

1 5 10

<210> 1002
 <211> 7
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<220>
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<400> 1002
 Gly Ala Ser Lys Leu Glu Ser
 1 5

<210> 1003
 <211> 9
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1003
 Gln Gln Ser Trp Tyr Asp Pro Pro Thr
 1 5

<210> 1004
 <211> 118
 <212> PRT
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<220>
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<400> 1004
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Val Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 1005
 <211> 10
 <212> PRT
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<220>
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<400> 1005
 Gly Tyr Thr Phe Thr Asn Tyr Gly Val Tyr
 1 5 10

<210> 1006
 <211> 17
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1006
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1007
 <211> 9
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1007
 Ala Arg Gln Leu Asp Trp Phe Val Tyr
 1 5

<210> 1008
 <211> 107

<212> PRT
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<400> 1008
Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
20 25 30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Pro
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 1009
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<400> 1009
Arg Ala Arg Glu Ser Leu Thr Thr Ser Leu Ser
1 5 10

<210> 1010
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<400> 1010

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	BDI-7H10-D8	CDR-L2	SEQ ID NO.:之殘 基 55-61	GVS NRFS
	BDI-7H10-D8	CDR-L3	SEQ ID NO.:之殘 基 94-102	FQATHDPLT
	BDI-9E8-E7 VH			QVTLKESGPGILQPSQTL SLTCTFSGF SLSTYGMVGWIRQPSGKGLEWLANIW WDDDKYYNPSLKNRLTISKDTSNQAF LKITNVDTADTATYYCARIESIGTTYS FDYWGQGVMTVSS
	BDI-9E8-E7	CDR-H1	SEQ ID NO.:之殘 基 26-37	GFSLSTYGMVG
	BDI-9E8-E7	CDR-H2	SEQ ID NO.:之殘 基 52-67	NIWDDDKYYNPSLKN
	BDI-9E8-E7	CDR-H3	SEQ ID NO.:之殘 基 100-111	IESIGTTYSFDY
	BDI-9E8-E7 VL			QFTLTQPKSVSGSLRSTITIP CERSSG DIGDSYVSWYQOHLGRPPINVIYADDQ RPSEVSDRFGSIDSSSNSASLTITNL QMDDEADYFCQSYDINIDIVFGGGTKL TVL
	BDI-9E8-E7	CDR-L1	SEQ ID NO.:之殘 基 23-35	ERSSGDIGDSYVS
	BDI-9E8-E7	CDR-L2	SEQ ID NO.:之殘 基 51-57	ADDQRPS
	BDI-9E8-E7	CDR-L3	SEQ ID NO.:之殘 基 92-101	QSYDINIDIV

Gly Ala Ser Lys Leu Glu Ser
1 5

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<400> 1011
Gln Gln Ser Trp Tyr Asp Pro Pro Thr
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<211> 118
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<400> 1012
Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Val Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Ala Arg Gln Leu Asp Trp Phe Val Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 1013

<211> 10
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<400> 1013
 Gly Tyr Thr Phe Thr Asn Tyr Gly Val Tyr
 1 5 10

<210> 1014
 <211> 17
 <212> PRT
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<220>
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<400> 1014
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1015
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 <212> PRT
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<220>
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<400> 1015
 Ala Arg Gln Leu Asp Trp Phe Val Tyr
 1 5

<210> 1016
 <211> 107
 <212> PRT
 <213> 人工序列

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<400> 1016
 Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Pro
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1017
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 <212> PRT
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<220>
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<400> 1017
 Arg Ala Arg Glu Ser Leu Thr Thr Ser Leu Ser
 1 5 10

<210> 1018
 <211> 7
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<400> 1018
 Gly Ala Ser Lys Leu Glu Ser
 1 5

<210> 1019
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<400> 1019

Gln Gln Ser Trp Tyr Asp Pro Pro Thr
1 5

<210> 1020

<211> 118

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1020

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30Gly Val Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60Lys Gly Arg Phe Thr Phe Thr Leu Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
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100 105 110Leu Val Thr Val Ser Ser
115

<210> 1021

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1021

Gly Tyr Thr Phe Thr Asn Tyr Gly Val Tyr
1 5 10

<210> 1022
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<400> 1022
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1023
 <211> 9
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<220>
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<400> 1023
 Ala Arg Gln Leu Asp Trp Phe Val Tyr
 1 5

<210> 1024
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<400> 1024
 Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Arg Glu Ser Leu Thr Thr Ser
 20 25 30

Leu Ser Trp Phe Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1028

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
 20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
 100 105 110

Thr Val Ser Ser
 115

<210> 1029

<211> 10

<212> PRT

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<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1029

Gly Phe Thr Phe Ser Tyr Tyr Gly Met His
1 5 10

<210> 1030

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1030

Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val Lys

1 5 10 15

Gly

<210> 1031
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<400> 1031
 Gly Gly Thr Ala Pro Val Tyr
 1 5

<210> 1032
 <211> 106
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<400> 1032
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1033
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<212> PRT
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<223> /注釋=「人工序列之描述：合成肽」

<400> 1033
Lys Gly Ser Gln Asn Ile Ala Asn Tyr Leu Ala
1 5 10

<210> 1034
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<400> 1034
Asn Thr Asp Ser Leu Gln Thr
1 5

<210> 1035
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<400> 1035
Tyr Gln Ser Asn Asn Gly Tyr Thr
1 5

<210> 1036
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<400> 1036
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
 20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val

35

40

45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
 100 105 110

Thr Val Ser Ser
 115

<210> 1037
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 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1037
 Gly Phe Thr Phe Ser Tyr Tyr Gly Met His
 1 5 10

<210> 1038
 <211> 17
 <212> PRT
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<220>
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<400> 1038
 Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 1039
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<220>

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	BFU-11A8-D6-C3 VH			EVQLQQSGPELQRPGLSCKASGY TFTESYIYWVKQRPEQSLELIGRIDPE DGSTDYVEKFKNKATLTADTSSNTAYM QLSSLTSEDATYFCARFGARSYFYPM DAWGQTSVTVSS
	BFU-11A8-D6-C3	CDR-H1	SEQ ID NO.:之殘 基 26-35	GYTFTESYIY
	BFU-11A8-D6-C3	CDR-H2	SEQ ID NO.:之殘 基 50-66	RIDPEDGSTDYVEKFKN
	BFU-11A8-D6-C3	CDR-H3	SEQ ID NO.:之殘 基 99-110	FGARSYFYPMDA
	BFU-11A8-D6-C3 VL			DTVLTQSPTLAVSPGERVSI PCRASES VSTLMHWYQQKPGQQRLLIYGASNLE SGVPARFSGSGGTDFTLTIDPVEADD TATYFCQQSWNDPWTFGGGTKLELK
	BFU-11A8-D6-C3	CDR-L1	SEQ ID NO.:之殘 基 23-33	RASESVSTLMH
	BFU-11A8-D6-C3	CDR-L2	SEQ ID NO.:之殘 基 49-55	GASNLES
	BFU-11A8-D6-C3	CDR-L3	SEQ ID NO.:之殘 基 88-96	QQSWNDPWT
	BFU-3E2-B9-B8 VH			EVQLQQSGPELQRPGLSCKASGY TFTESYMYWVKQRPEQSLELIGRIDPE DGSTDYVEKFKNKATLTADTSSNTAYM QLSSLTSEDSATYFCARFGARSYFYPM DAWGQTSVTVSS
	BFU-3E2-B9-B8	CDR-H1	SEQ ID NO.:之殘 基 26-35	GYTFTESYMY

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1039
 Gly Gly Thr Ala Pro Val Tyr
 1 5

<210> 1040
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1040
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1041
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1041
 Lys Gly Ser Gln Asn Ile Ala Asn Tyr Leu Ala
 1 5 10

<210> 1042
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1042
 Asn Thr Asp Ser Leu Gln Thr
 1 5

<210> 1043
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1043
 Tyr Gln Ser Asn Asn Gly Tyr Thr
 1 5

<210> 1044
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1044
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
 20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
 100 105 110

Thr Val Ser Ser
 115

<210> 1045
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1045
 Gly Phe Thr Phe Ser Tyr Tyr Gly Met His
 1 5 10

<210> 1046
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1046
 Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 1047
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1047
 Gly Gly Thr Ala Pro Val Tyr
 1 5

<210> 1048
 <211> 106
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1048

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1049

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1049

Lys Gly Ser Gln Asn Ile Ala Asn Tyr Leu Ala
 1 5 10

<210> 1050

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1050

Asn Thr Asp Ser Leu Gln Thr
 1 5

<210> 1051
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1051
 Tyr Gln Ser Asn Asn Gly Tyr Thr
 1 5

<210> 1052
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1052
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
 20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
 100 105 110

Thr Val Ser Ser
 115

<210> 1053
 <211> 10
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1053

Gly Phe Thr Phe Ser Tyr Tyr Gly Met His
1 5 10

<210> 1054

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1054

Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 1055

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1055

Gly Gly Thr Ala Pro Val Tyr
1 5

<210> 1056

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1056

Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1057
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1057
 Lys Gly Ser Gln Asn Ile Ala Asn Tyr Leu Ala
 1 5 10

<210> 1058
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1058
 Asn Thr Asp Ser Leu Gln Thr
 1 5

<210> 1059
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1059

Tyr Gln Ser Asn Asn Gly Tyr Thr
1 5

<210> 1060
<211> 116
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1060
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
20 25 30

Gly Met His Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Ala Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
100 105 110

Thr Val Ser Ser
115

<210> 1061
<211> 10
<212> PRT
<213> 人工序列

<220>
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<400> 1061
Gly Phe Thr Phe Ser Tyr Tyr Gly Met His
1 5 10

<210> 1062

<211> 17
 <212> PRT
 <213> 人工序列

<220>
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<400> 1062
 Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 1063
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1063
 Gly Gly Thr Ala Pro Val Tyr
 1 5

<210> 1064
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1064
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

<400> 1068

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
 20 25 30

Gly Met His Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Ala Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
 100 105 110

Thr Val Ser Ser
 115

<210> 1069

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1069

Gly Phe Thr Phe Ser Tyr Tyr Gly Met His
 1 5 10

<210> 1070

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1070

Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 1071
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1071
 Gly Gly Thr Ala Pro Val Tyr
 1 5

<210> 1072
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1072
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1073
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1073
 Lys Gly Ser Gln Asn Ile Ala Asn Tyr Leu Ala
 1 5 10

<210> 1074
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
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<400> 1074
 Asn Thr Asp Ser Leu Gln Thr
 1 5

<210> 1075
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1075
 Tyr Gln Ser Asn Asn Gly Tyr Thr
 1 5

<210> 1076
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1076
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
 20 25 30

Gly Met His Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Ala Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
 100 105 110

Thr Val Ser Ser
 115

<210> 1077
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1077
 Gly Phe Thr Phe Ser Tyr Tyr Gly Met His
 1 5 10

<210> 1078
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1078
 Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 1079
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
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<400> 1079

Gly Gly Thr Ala Pro Val Tyr
1 5

<210> 1080

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1080

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
20 25 30Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45Tyr Asn Thr Asp Ser Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
85 90 95Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 1081

<211> 11

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1081

Lys Gly Ser Gln Asn Ile Ala Asn Tyr Leu Ala
1 5 10

<210> 1082

<211> 7

<212> PRT
<213> 人工序列

<220>
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<400> 1082
Asn Thr Asp Ser Leu Gln Thr
1 5

<210> 1083
<211> 8
<212> PRT
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<400> 1083
Tyr Gln Ser Asn Asn Gly Tyr Thr
1 5

<210> 1084
<211> 116
<212> PRT
<213> 人工序列

<220>
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<400> 1084
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
20 25 30

Gly Met His Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Ala Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Ala Gly Gly Thr Ala Pro Val Tyr Trp Gly Gln Gly Thr Met Val
 100 105 110

Thr Val Ser Ser
 115

<210> 1085
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
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<400> 1085
 Gly Phe Thr Phe Ser Tyr Tyr Gly Met His
 1 5 10

<210> 1086
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
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<400> 1086
 Leu Ile Tyr Tyr Asp Ser Ser Lys Met Tyr Tyr Ala Asp Ser Val Lys
 1 5 10 15

Gly

<210> 1087
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
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<400> 1087
 Gly Gly Thr Ala Pro Val Tyr
 1 5

<210> 1088
 <211> 106
 <212> PRT
 <213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1088
 Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Ala Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Thr Asp Ser Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Tyr Gln Ser Asn Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1089
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
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<400> 1089
 Lys Gly Ser Gln Asn Ile Ala Asn Tyr Leu Ala
 1 5 10

<210> 1090
 <211> 7
 <212> PRT
 <213> 人工序列

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<400> 1090
 Asn Thr Asp Ser Leu Gln Thr
 1 5

<210> 1091
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
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<400> 1091
 Tyr Gln Ser Asn Asn Gly Tyr Thr
 1 5

<210> 1092
 <211> 120
 <212> PRT
 <213> 人工序列

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<400> 1092
 Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1093
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1093
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1094
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1094
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1095
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1095
 Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
 1 5 10

<210> 1096
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1096
 Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
	BCU-3D6-C9	CDR-H2	SEQ ID NO.: 之殘基 50-66	WINTYTGKPTYADDFKG
	BCU-3D6-C9	CDR-H3	SEQ ID NO.: 之殘基 99-112	DYGGYGERRDYFDY
	BCU-3D6-C9 VL			DIQMTQSPASLSASLGETVTIECRVSE DIYNGLAWYQQKPGKSPQFLIYNANRL HTGVPSRFRSGSGSGTQFSLKINSLOSE DVANYFCQQYYDYPLTFGSATKLEIK
	BCU-3D6-C9	CDR-L1	SEQ ID NO.: 之殘基 24-34	RVSEDIYNGLA
	BCU-3D6-C9	CDR-L2	SEQ ID NO.: 之殘基 50-56	NANRLHT
	BCU-3D6-C9	CDR-L3	SEQ ID NO.: 之殘基 89-97	QQYYDYPLT
	BCU-6B1-G6 VH			QIQLVQSGPELKKPGESVKISCKASGY TFTNYGMYWVKQAPGQALQFMGWINTE TGQPTYADDFKGRFVFFLETSASTAYL QINNLKNEDEMATYFCARLGNNYGIWFA YWGQGLVTVSS
	BCU-6B1-G6	CDR-H1	SEQ ID NO.: 之殘基 26-35	GYTFTNYGMY
	BCU-6B1-G6	CDR-H2	SEQ ID NO.: 之殘基 50-66	WINTETGQPTYADDFKG
	BCU-6B1-G6	CDR-H3	SEQ ID NO.: 之殘基 99-109	LGNNYGIWFAY

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
 35 40 45

Lys Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1097

<211> 11

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1097

Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
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<210> 1098

<211> 7

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<400> 1098

Gly Ala Ser Asn Leu Glu Ser
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<210> 1099

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Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

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<400> 1100
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

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<400> 1101
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
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<400> 1102

Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 1103

<211> 11

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1103

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
1 5 10

<210> 1104

<211> 107

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1104

Glu Thr Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Gln Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
65 70 75 80

Glu Asp Ala Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro

85

90

95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 1105
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1106
 <211> 7
 <212> PRT
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<400> 1106
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1107
 <211> 9
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<220>
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<400> 1107
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1108
 <211> 120
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<400> 1108

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
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<400> 1109

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
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<223> /注釋=「人工序列之描述：合成肽」

<400> 1110

Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1111
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<220>
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<400> 1111
 Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
 1 5 10

<210> 1112
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 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1113
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<223> /注釋=「人工序列之描述：合成肽」

<400> 1113

Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
1 5 10

<210> 1114

<211> 7

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1114

Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 1115

<211> 9

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1115

Gln Gln His Trp Asn Asp Pro Pro Thr
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<210> 1116

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1116

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe

50

55

60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1117
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<220>
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<400> 1117
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1118
 <211> 17
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<220>
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<400> 1118
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1119
 <211> 11
 <212> PRT
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<220>
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<400> 1119

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
1 5 10

<210> 1120

<211> 107

<212> PRT

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<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1120

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
20 25 30Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
85 90 95Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 1121

<211> 11

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1121

Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
1 5 10

<210> 1122

<211> 7

<212> PRT

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<400> 1122
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1123
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 <212> PRT
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1123
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1124
 <211> 120
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1124
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Phe Phe Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	BCU-6B1-G6 VL			DIQMTQSPASLSASLGGETVTIECRASD DLYSTLAWYQQKPGDSPQLLIFDANRL AAGVPSRFRSGSGSGTQYSLKINSLQSE DVASYFCQQYNKFPWTFGGGTKLELK
	BCU-6B1-G6	CDR-L1	SEQ ID NO.: 之殘基 24-34	RASDDLSTLA
	BCU-6B1-G6	CDR-L2	SEQ ID NO.: 之殘基 50-56	DANRLAA
	BCU-6B1-G6	CDR-L3	SEQ ID NO.: 之殘基 89-97	QQYNKFPWT
	BCU-7A6-C2 VH			EVQLVESGGGLVQPRGSLKLSCAASGF DFNSYGMWVRQAPGKGLDLVADISSK SYNYATYYADSVKDRFTISRDDSQSMV YLQMDNLKTEDTALYYCTESLELGGAY WGQGTLLVTVSS
	BCU-7A6-C2	CDR-H1	SEQ ID NO.: 之殘基 26-35	GDFNSYGMW
	BCU-7A6-C2	CDR-H2	SEQ ID NO.: 之殘基 50-68	DISSKSYNYATYYADSVKD
	BCU-7A6-C2	CDR-H3	SEQ ID NO.: 之殘基 101- 108	SLELGGAY
	BCU-7A6-C2 VL			DIQMTQSPPSLSASLGDEVTITCQASQ NINKFIAWYQQKPGKAPRLLIRYTSTL KSGTSPRFRSGSGSGRDYSFISISNVESE DIASYYCLOQYDSLPTWTFGGGTKLELK
	BCU-7A6-C2	CDR-L1	SEQ ID NO.: 之殘基 24-34	QASQNINKFIA

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1125
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1125
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1126
 <211> 17
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1126
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1127
 <211> 11
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1127
 Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
 1 5 10

<210> 1128
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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<400> 1128

Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
 35 40 45

Lys Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1129

<211> 11

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1129

Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1130

<211> 7

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1130

Gly Ala Ser Asn Leu Glu Ser
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<210> 1131

<211> 9

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<400> 1131
Gln Gln His Trp Asn Asp Pro Pro Thr
1 5

<210> 1132
<211> 120
<212> PRT
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<400> 1132
Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Phe Phe Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1133
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<220>
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<223> /注釋=「人工序列之描述：合成肽」

<400> 1133

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 1134

<211> 17

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1134

Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 1135

<211> 11

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1135

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
1 5 10

<210> 1136

<211> 107

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1136

Glu Thr Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Gln Pro Lys Leu Leu Ile
35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65 70 75 80

Glu Asp Ala Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1137
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1137
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1138
 <211> 7
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1138
 Gly Ala Ser Asn Leu Glu Ser
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<210> 1139
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<400> 1139
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1140
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<400> 1140
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Phe Phe Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
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<210> 1141
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<400> 1141
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1142
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<223> /注釋=「人工序列之描述：合成肽」

<400> 1142

Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1143

<211> 11

<212> PRT

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<400> 1143

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
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<210> 1144

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1144

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1145
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<400> 1145
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1146
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<400> 1146
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1147
 <211> 9
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<400> 1147
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1148
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1148
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Phe Phe Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1149

<211> 10

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1149

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
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<210> 1150

<211> 17

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1150

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 1 5 10 15

Gly

<210> 1151
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 1 5 10

<210> 1152
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<400> 1152
 Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 1153
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1154
 <211> 7
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 <213> 人工序列

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<400> 1154
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1155
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<400> 1155
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1156
 <211> 120
 <212> PRT
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<400> 1156
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1157

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1157

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1158

<211> 17

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1158

Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1159

<211> 11

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1159

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr

1 5 10

<210> 1160
 <211> 107
 <212> PRT
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<220>
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<400> 1160
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1161
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<220>
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<400> 1161
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1162
 <211> 7
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<220>

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<400> 1162
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1163
 <211> 9
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1163
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1164
 <211> 120
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<220>
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<400> 1164
 Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1165
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<400> 1165
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
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<210> 1166
 <211> 17
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<400> 1166
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1167
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<400> 1167
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<400> 1168

Glu Thr Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Gln Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65 70 75 80

Glu Asp Ala Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1169

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1169

Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
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<210> 1170

<211> 7

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<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1170

Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1171

<211> 9

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<400> 1171

Gln Gln His Trp Asn Asp Pro Pro Thr

1 5

<210> 1172

<211> 120

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1172

Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr

20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met

35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe

50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr

65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys

85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln

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Gly Thr Leu Val Thr Val Ser Ser

115 120

<210> 1173

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<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1173

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1174

<211> 17

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1174

Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1175

<211> 11

<212> PRT

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<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1175

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
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<210> 1176

<211> 107

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1176

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1177
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1177
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1178
 <211> 7
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<400> 1178
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1179
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1179
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1180
 <211> 120

<212> PRT
<213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1180
Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1181
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<400> 1181
Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 1182
<211> 17
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SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	BDE-3C9-G4	CDR-L1	SEQ ID NO.: 之殘基 24-34	QASQSIKNYIA
	BDE-3C9-G4	CDR-L2	SEQ ID NO.: 之殘基 50-56	YTSTLES
	BDE-3C9-G4	CDR-L3	SEQ ID NO.: 之殘基 89-96	VQYANLYT
	BDE-4F2-D4 VH			QVQLKESGPGLMQPSQTLSTCTVSG FSLTNYGVSWVRQFPKGLEWIAAIS SGGSTYINSALKSRLSISRDTSRSQV FLKMNSLLTETAIFYFCTRVYYGSNY FDYWGPVMTVSS
	BDE-4F2-D4	CDR-H1	SEQ ID NO.: 之殘基 26-35	GFSLTNYGVS
	BDE-4F2-D4	CDR-H2	SEQ ID NO.: 之殘基 50-65	AISSGGSTYINSALKS
	BDE-4F2-D4	CDR-H3	SEQ ID NO.: 之殘基 98-107	VYYGSNYFDY
	BDE-4F2-D4 VL			DIVMTQTPSSQAVSAGEKVTMSCKSS QSLLYGGDQKNFLAWYQQKPGQSPKL LIYLASTRESGVPDRFIGSGSGTDFT LTISSVQAEDLADYYCQQHYGYPFTF GSGTKLEIK
	BDE-4F2-D4	CDR-L1	SEQ ID NO.: 之殘基 24-40	KSSQSLLYGGDQKNFLA
	BDE-4F2-D4	CDR-L2	SEQ ID NO.: 之殘基 56-62	LASTRES
	BDE-4F2-D4	CDR-L3	SEQ ID NO.: 之殘基 95-103	QQHYGYPFT

<223> /注釋=「人工序列之描述：合成肽」

<400> 1182

Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 1183

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1183

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
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<210> 1184

<211> 107

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1184

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

100

105

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<400> 1185
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1186
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<400> 1186
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1187
 <211> 9
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<400> 1187
 Gln Gln His Trp Asn Asp Pro Pro Thr
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<210> 1188
 <211> 120
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1188
 Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1189

<211> 10

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<400> 1189

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1190

<211> 17

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

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 1 5 10 15

Gly

<210> 1191

<211> 11
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<400> 1191
 Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
 1 5 10

<210> 1192
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 <212> PRT
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<400> 1192
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1193
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
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<400> 1193
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1194
 <211> 7
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<220>
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<400> 1194
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1195
 <211> 9
 <212> PRT
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<220>
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<400> 1195
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1196
 <211> 120
 <212> PRT
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<400> 1196
 Glu Val Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Pro Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Met Asp Thr Ser Ala Ser Thr Ala Tyr

<210> 1200
 <211> 107
 <212> PRT
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<220>
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<400> 1200
 Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1201
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 <212> PRT
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<400> 1201
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1202
 <211> 7
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<400> 1202
 Gly Ala Ser Asn Leu Glu Ser
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<210> 1203
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<220>
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<400> 1203
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1204
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 <212> PRT
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<220>
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<400> 1204
 Glu Ile Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Phe Phe Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1205
 <211> 10
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1205
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1206
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1206
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1207
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1207
 Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
 1 5 10

<210> 1208
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1208
 Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys

1 5 10 15
 Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30
 Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
 35 40 45
 Lys Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65 70 75 80
 Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1209
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 <212> PRT
 <213> 人工序列

<220>
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<400> 1209
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1210
 <211> 7
 <212> PRT
 <213> 人工序列

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<400> 1210
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1211
 <211> 9
 <212> PRT
 <213> 人工序列

<220>

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	BDE-8H6-F7 VH			EVQLVESGGGLVQP GSS LKLSCLASG FTFSNYNMYWIRQAPKKGLEWIALIF YDNNNKYYADSVKGRFTISRDN SKNT LYLEMNSLRSEDTAMYYCLRDSGPFS YWGQGT LVT VSS
	BDE-8H6-F7	CDR-H1	SEQ ID NO.: 之殘基 26-35	GFTFSNYNMY
	BDE-8H6-F7	CDR-H2	SEQ ID NO.: 之殘基 50-66	LI FYDNNNKYYADSVKG
	BDE-8H6-F7	CDR-H3	SEQ ID NO.: 之殘基 99-105	DSGPFSY
	BDE-8H6-F7 VL			DIQMTQSPPSLSASLGDKVTINCQAG QNIKKYIAWYQQEPGKVPRL LIRYTS KLES DTPSRFSGSGSRDYSF SISNV ESED IASY YCLQYDNL PWT FGGG TKL ELK
	BDE-8H6-F7	CDR-L1	SEQ ID NO.: 之殘基 24-34	QAGQNIKKYIA
	BDE-8H6-F7	CDR-L2	SEQ ID NO.: 之殘基 50-56	YTSKLES
	BDE-8H6-F7	CDR-L3	SEQ ID NO.: 之殘基 89-97	LQYDNL PWT

實例 5：嵌合抗體之產生

將大鼠 mAb 之重鏈及輕鏈之可變結構域分別框內選殖至突變體人類 IgG1 (L234, 235A)重鏈及 κ 輕鏈恆定區。在基於 ELISA 之結合及競爭分析或 Biacore 結合分析中確認所得嵌合抗體之活性，且與其親代大鼠 mAb 相當。

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1211

Gln Gln His Trp Asn Asp Pro Pro Thr
1 5

<210> 1212

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1212

Glu Ile Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Phe Phe Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1213

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1213

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1214
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1214
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1215
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1215
 Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
 1 5 10

<210> 1216
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1216
 Glu Thr Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Gln Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
65 70 75 80

Glu Asp Ala Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 1217
<211> 11
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1217
Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
1 5 10

<210> 1218
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1218
Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 1219
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1219
Gln Gln His Trp Asn Asp Pro Pro Thr
1 5

<210> 1220
<211> 120
<212> PRT
<213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1220
 Glu Ile Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Phe Phe Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1221
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1221
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1222
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1222

Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1223

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1223

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
 1 5 10

<210> 1224

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1224

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1225
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1225
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1226
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1226
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1227
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1227
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1228
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1228
 Glu Ile Gln Leu Val Gln Ser Gly His Glu Val Lys Gln Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Met Ala Met Phe Phe Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1229
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1229
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1230
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1230
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1231
 <211> 11
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1231

Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr
1 5 10

<210> 1232

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1232

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 1233

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1233

Arg Ala Ser Glu Ser Val Ser Thr Val Ile His

1 5 10

<210> 1234
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1234
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1235
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1235
 Gln Gln His Trp Asn Asp Pro Pro Thr
 1 5

<210> 1236
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1236
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

在分析組中表徵嵌合抗 VEGF-A 抗體之結合、功能及交叉反應性。表徵所有嵌合分子在 hVEGF₁₆₅ 誘導之細胞增殖分析中之功效(實例 1.7)。藉由 Biacore 分析量測該等分子對 hVEGF₁₆₅ 之結合親和力(實例 1.1)。測試所選嵌合分子在競爭 ELISA 格式(實例 1.4)及 hVEGF₁₁₁ Tyr1054 磷酸化分析(實例 1.6)中阻斷 hVEGF₁₆₅ 與 hVEGFR2 之結合之能力。然後檢查候選分子在 HMVEC-d hVEGF₁₆₅ 誘導之增殖分析中之功效(實例 1.10)及在 rabVEGF₁₆₅ 誘導之細胞增殖分析中之物種交叉反應性(實例 1.9)。數據概述於下表 22 及 23 中。

表 22. 嵌合抗人類 VEGF-A 單株抗體之表徵

嵌合純系	ELISA huVEGF-A ₁₆₅ 結合	受體競爭 ELISA huVEGF-A ₁₆₅ /huVEGFR2 (nM)	磷酸-Tyr1054/huVEGF-A ₁₁₁ 中和 (nM)	hVEGFR2 過表現細胞中之 huVEGF-A ₁₆₅ 中和功效(nM)	hVEGFR2 過表現細胞中之兔 VEGF-A ₁₆₅ 中和功效 (nM)	HMVEC-d 細胞中之 huVEGF-A ₁₆₅ 中和功效(nM)
chBEW-1B4	NT	NT	NT	1.428	NT	NT
chBEW-1B4 半體	NT	NT	NT	1.669	NT	NT
chBEW-1E3	NT	NT	NT	0.657	NT	NT
chBEW-1E3 半體	NT	NT	NT	3.752	NT	NT
chBEW-5C3	NT	NT	NT	0.244	NT	NT
chBEW-5C3 半體	NT	NT	NT	2.264	NT	NT
chBEW-6C2	NT	0.148	0.435	>10	0.58	0.031

<211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1240
 Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
 35 40 45

Lys Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1241
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1241
 Arg Ala Ser Glu Ser Val Ser Thr Val Ile His
 1 5 10

<210> 1242
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1242

Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 1243

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1243

Gln Gln His Trp Asn Asp Pro Pro Thr
1 5

<210> 1244

<211> 124

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1244

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
50 55 60Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
100 105 110Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1245
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1245
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1246
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1246
 Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1247
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1247
 Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala Tyr
 1 5 10 15

<210> 1248
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1248
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1249

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1249

Leu Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala
 1 5 10

<210> 1250

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1250

Asn Ala Asn Gly Leu Gln Asn
 1 5

<210> 1251

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1251

Gln Gln Tyr Asn Tyr Phe Pro Gly Thr
1 5

<210> 1252

<211> 124

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1252

Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
50 55 60Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
100 105 110Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1253

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1253

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 1254
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1254
 Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1255
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1255
 Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala Tyr
 1 5 10 15

<210> 1256
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1256
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 1257
<211> 11
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1257
Leu Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala
1 5 10

<210> 1258
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1258
Asn Ala Asn Gly Leu Gln Asn
1 5

<210> 1259
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1259
Gln Gln Tyr Asn Tyr Phe Pro Gly Thr
1 5

<210> 1260
<211> 124
<212> PRT
<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1260

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1261

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1261

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 1262

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1262

Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1263
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1263
 Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala Tyr
 1 5 10 15

<210> 1264
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1264
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1265

<211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1265
 Leu Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala
 1 5 10

<210> 1266
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1266
 Asn Ala Asn Gly Leu Gln Asn
 1 5

<210> 1267
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1267
 Gln Gln Tyr Asn Tyr Phe Pro Gly Thr
 1 5

<210> 1268
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1268
 Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

chBEW-6C2 半體	NT	NT	NT	>10	NT	NT
chBEW-8E6	NT	NT	NT	0.499	NT	NT
chBEW-8E6 半體	NT	NT	NT	>10	NT	NT
chBEW-9A8	NT	0.097	0.260	0.416	0.510	0.026
chBEW-9A82 半體	NT	NT	NT	1.584	NT	NT
chBEW-9E10	NT	NT	NT	0.448	NT	NT
chBEW-9E10 半體	NT	NT	NT	0.598	NT	NT
chBEW-10H2	NT	NT	NT	0.912	NT	NT
chBEW-10H2-B9 半體	NT	NT	NT	2.562	NT	NT
chBEW-9C2	NT	NT	NT	2.090	NT	NT
chBEW-9C2 半體	NT	NT	NT	2.740	NT	NT
chBEW-9D2	NT	NT	NT	1.556	0.740	2.150
chBEW-9D2 半體	NT	NT	NT	>10	NT	NT

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1269
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1269
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1270
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1270
 Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1271
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1271
 Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala Tyr
 1 5 10 15

<210> 1272
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1272
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1273
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1273
 Leu Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala
 1 5 10

<210> 1274
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1274
 Asn Ala Asn Gly Leu Gln Asn
 1 5

<210> 1275
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1275
 Gln Gln Tyr Asn Tyr Phe Pro Gly Thr
 1 5

<210> 1276
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1276
 Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys

85

90

95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1277
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1277
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1278
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1278
 Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1279
 <211> 15
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1279
 Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala Tyr
 1 5 10 15

<210> 1280
 <211> 107
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1280

Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 1281

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1281

Leu Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala
1 5 10

<210> 1282

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1282

Asn Ala Asn Gly Leu Gln Asn

1 5

<210> 1283
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1283
 Gln Gln Tyr Asn Tyr Phe Pro Gly Thr
 1 5

<210> 1284
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1284
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1285
 <211> 10

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1285
Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 1286
<211> 17
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1286
Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 1287
<211> 15
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1287
Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala Tyr
1 5 10 15

<210> 1288
<211> 107
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1288
Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp

20

25

30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1289

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1289

Leu Ala Ser Glu Asp Ile Tyr Ser Asp Leu Ala
 1 5 10

<210> 1290

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1290

Asn Ala Asn Gly Leu Gln Asn
 1 5

<210> 1291

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1291

Gln Gln Tyr Asn Tyr Phe Pro Gly Thr
1 5

<210> 1292

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1292

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe
50 55 60Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
65 70 75 80Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val
100 105 110Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1293

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1293

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Asn
1 5 10

<210> 1294
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1294
 Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe Lys
 1 5 10 15

Arg

<210> 1295
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1295
 Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val
 1 5 10

<210> 1296
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1296
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile
 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

chBEW-1B10	NT	NT	NT	0.377	NT	NT
chBEW-3A1	NT	NT	NT	0.680	NT	NT
chBEW-3A1 半體	NT	NT	NT	>10	NT	NT
chBDB-4G8	NT	0.157	0.575	0.687	NT	0.195
chBEW-1C6 半體	NT	NT	NT	3.595	NT	NT

NT - 未測試

表 23. 大鼠及大鼠-人類嵌合體抗 VEGF 之 Biacore 結合

抗體	k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)
chBDB-4G8	1.7 E+07	2.4 E-05	1.9 E-12
chBDB-4G8	1.2 E+07	4.7 E-05	3.8 E-12
chBED-4G10-C8	1.0 E+07	5.9 E-03	5.9 E-10
chBEW-1B4-C4	1.1 E+07	1.2 E-04	1.1 E-11
chBEW-1B10-B9-C3	5.5 E+06	5.2 E-05	9.4 E-12
chBEW-1E3-D6	7.2 E+06	8.0 E-05	1.1 E-11
chBEW-3A1-D10-G9	3.5 E+07	8.0 E-04	2.3 E-11
chBEW-5C3-E7	6.8 E+06	8.2 E-05	1.2 E-11
chBEW-6C2	4.9 E+06	4.3 E-05	8.8 E-12
chBEW-8E6-E4	6.2 E+06	1.0 E-04	1.6 E-11
chBEW-9A8	8.9 E+06	≤1.0 E-06	≤1.1 E-13
chBEW-10H2-B9	2.8 E+07	3.5 E-04	1.3 E-11

在分析組中表徵嵌合抗 PDGF-BB 抗體之結合、功能及交叉反應性。首先測試在直接結合 ELISA 中嵌合分子結合 hPDGF-BB 之能力 (實例 1.12)。然後藉由 Biacore 分析量測該等分子對 hPDGF-BB 之結

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1297
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1297
 Ser Ala Ser Gln Asp Ile Ser Asn Tyr Leu Asn
 1 5 10

<210> 1298
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1298
 Phe Thr Ser Ser Leu His Ser
 1 5

<210> 1299
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1299
 Gln Gln Tyr Ser Thr Val Pro Trp Thr
 1 5

<210> 1300
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1300

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1301

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1301

Gly Tyr Thr Phe Thr Asp Tyr Val Met His
 1 5 10

<210> 1302

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1302

Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 1303
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1303
 Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 1 5 10

<210> 1304
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1304
 Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1305
 <211> 11
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1305

Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
1 5 10

<210> 1306

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1306

Lys Thr Asn Asn Leu Gln Thr
1 5

<210> 1307

<211> 8

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1307

Tyr Gln Tyr Asp Asn Gly Tyr Thr
1 5

<210> 1308

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1308

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1309

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1309

Gly Tyr Thr Phe Thr Asp Tyr Val Met His
 1 5 10

<210> 1310

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1310

Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 1311

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1311

Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
1 5 10

<210> 1312

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1312

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 1313

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1313

Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
1 5 10

<210> 1314

<211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1314
 Lys Thr Asn Asn Leu Gln Thr
 1 5

<210> 1315
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1315
 Tyr Gln Tyr Asp Asn Gly Tyr Thr
 1 5

<210> 1316
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1316
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1317
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1317
 Gly Tyr Thr Phe Thr Asp Tyr Val Met His
 1 5 10

<210> 1318
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1318
 Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 1319
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1319
 Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 1 5 10

<210> 1320
 <211> 106
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1320

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1321

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1321

Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
 1 5 10

<210> 1322

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1322

Lys Thr Asn Asn Leu Gln Thr
 1 5

<210> 1323
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1323
 Tyr Gln Tyr Asp Asn Gly Tyr Thr
 1 5

<210> 1324
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1324
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1325
 <211> 10
 <212> PRT
 <213> 人工序列

合親和力(實例 1.1)。該等分子之功能表徵包括測試在競爭 ELISA 格式(實例 1.13)及 hPDGFR β Tyr751 磷酸化分析(實例 1.14)中阻斷 hPDGF-BB 與 hPDGF-R β 之結合之能力。進一步表徵在 hPDGF-BB 誘導之細胞增殖分析中之功效(實例 1.15)。候選分子係高級的且測定在基於細胞之增殖分析中對小鼠及大鼠/兔 PDGF-BB 之交叉反應性(實例 1.17-1.18)。數據概述於下表 24 及 25 中。

表 24. 嵌合抗人類 PDGF-BB 單株抗體之表徵

嵌合分子	ELISA huPDGF- BB 結合	受體競爭 ELISA huPDGF- BB /huPDGFR	磷酸- Tyr751/hPDGF -BB 中和(nM)	NIH-3T3 細胞中之 huPDGF- BB 中和功 效(nM)	NIH-3T3 細胞 B (nM)中 之大鼠 PDGF- BB 中和 功效 (nM)	NIH-3T3 細胞中之 mPDGF- BB 中和 功效(nM)
chBDI- 9E8	0.38	0.791	0.388	0.058	0.075	0.08
chBDI- 9E8 半體	NT	NT	NT	1.84	NT	NT
chBDI- 5H1	0.12	1.039	1.602	0.275	0.17	NT
chBDI- 5H1 半體	NT	NT	NT	>10	NT	NT
chBDI- 7H10	>10	10.1	2.476	>10	NT	NT
chBDI- 5G2	NT	1.08	NT	0.181	0.118	NT
chBDI- 1E1	NT	0.417	NT	>5	NT	NT

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1325

Gly Tyr Thr Phe Thr Asp Tyr Val Met His
 1 5 10

<210> 1326

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1326

Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 1327

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1327

Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 1 5 10

<210> 1328

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1328

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1329
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1329
 Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
 1 5 10

<210> 1330
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1330
 Lys Thr Asn Asn Leu Gln Thr
 1 5

<210> 1331
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1331
 Tyr Gln Tyr Asp Asn Gly Tyr Thr

1 5

<210> 1332
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1332
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1333
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1333
 Gly Tyr Thr Phe Thr Asp Tyr Val Met His
 1 5 10

<210> 1334
 <211> 17

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1334
Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 1335
<211> 14
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1335
Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
1 5 10

<210> 1336
<211> 106
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1336
Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1337
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1337
 Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
 1 5 10

<210> 1338
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1338
 Lys Thr Asn Asn Leu Gln Thr
 1 5

<210> 1339
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1339
 Tyr Gln Tyr Asp Asn Gly Tyr Thr
 1 5

<210> 1340
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1340

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1341

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1341

Gly Tyr Thr Phe Thr Asp Tyr Val Met His
 1 5 10

<210> 1342

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1342

Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

<210> 1343
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1343
 Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 1 5 10

<210> 1344
 <211> 106
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1344
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1345
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1345
 Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
 1 5 10

<210> 1346
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1346
 Lys Thr Asn Asn Leu Gln Thr
 1 5

<210> 1347
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1347
 Tyr Gln Tyr Asp Asn Gly Tyr Thr
 1 5

<210> 1348
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1348
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 1349

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1349

Gly Tyr Thr Phe Thr Asp Tyr Val Met His
1 5 10

<210> 1350

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1350

Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 1351

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1351

Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 1 5 10

<210> 1352

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1352

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 1353

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1353

Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
 1 5 10

<210> 1354

<211> 7

<212> PRT

chBDI-1E1 半體	NT	NT	NT	>10	NT	NT
chBDI-8B8	NT	0.179	NT	>10	NT	NT
chBFU-3E2	NT	NT	NT	0.099	NT	NT
chBFU-3E2 半體	NT	NT	NT	2.494	NT	NT
chBFU-11A8	NT	NT	NT	0.086	NT	NT
chBFU-11A8 半體	NT	NT	NT	>10	NT	NT

NT - 未測試

表 25. 大鼠及大鼠-人類嵌合體抗 PDGF 之 Biacore 結合

抗體	k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)
BFU-11A8-D6-C3	2.1 E+07	≤ 1.0 E-06	≤ 4.7 E-14
chBDI-5H1	≥ 1.0 E+07	1.5 E-04	≤ 1.5 E-11
chBDI-9E8	≥ 1.0 E+07	1.2 E-04	≤ 1.2 E-11
chBFU-3E2-B9-B8	≥ 1.0 E+07	1.9 E-04	≤ 1.9 E-11
chBFU-11A8-D6-C3	≥ 1.0 E+07	1.5 E-04	≤ 1.5 E-11

測試在競爭 ELISA 格式中嵌合抗 VEGFR2 抗體阻斷 VEGFR2 與 hVEGF₁₆₅ 之結合之能力，如實例 1.22 中所述。數據概述於表 26 中。

表 26. 嵌合抗人類 VEGFR II 單株抗體之表徵

嵌合分子	hVEGF ₁₆₅ / hVEGFR2-Fc 競爭
chBCU-6B1-G6	0.498
chBCU-7A6-C2	NT

實例 6：大鼠單株抗體之人類化

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1354

Lys Thr Asn Asn Leu Gln Thr
1 5

<210> 1355

<211> 8

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1355

Tyr Gln Tyr Asp Asn Gly Tyr Thr
1 5

<210> 1356

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1356

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Leu Thr Ala Asp Lys Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala

100

105

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Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 Tyr Gln Tyr Asp Asn Gly Tyr Thr
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 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Ala Thr Leu Thr Ala Asp Lys Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

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 1 5 10 15

Gly

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 Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 1 5 10

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 Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile

35

40

45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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Tyr Gln Tyr Asp Asn Gly Tyr Thr
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 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Ala Thr Leu Thr Ala Asp Lys Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

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 Gly Tyr Thr Phe Thr Asp Tyr Val Met His
 1 5 10

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 Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

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 1 5 10

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
 1 5 10

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 Lys Thr Asn Asn Leu Gln Thr
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 Tyr Gln Tyr Asp Asn Gly Tyr Thr
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 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser

1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30
 Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60
 Lys Gly Arg Ala Thr Leu Thr Ala Asp Lys Ser Thr Asn Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 100 105 110
 Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

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 Gly Tyr Thr Phe Thr Asp Tyr Val Met His
 1 5 10

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<400> 1382
 Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
 1 5 10 15

Gly

下文係大鼠單株抗體之人類化設計，然後係所選人類化抗體之胺基酸序列及表徵之概述。

實例 6.1：PDGF-BB 抗體之人類化

實例 6.1.1：人類化方法

抗體人類化係藉由以下方式來達成：將齧齒類動物抗體之 CDR 移植至「類似」人類框架(受體)上並納入齧齒類動物抗體之最少量之經選擇以維持原始 CDR 構象的關鍵框架殘基(回復突變)，以最小化免疫原性，同時保留最佳抗原結合。

實例 6.1.2：用於構築 CDR 移植、人類化 PDGF 抗體之人類種系序列選擇

藉由應用上文所提及之方法，將單株抗體 BDI-5H1-F6、BDI-9E8-E7、BDI-7H10-D8、BDI-1E1-D5、BDI-6A3-A9、BFU-3E2 及 BFU-11A8 之 VH 及 VL 鏈之 CDR 序列移植至不同的人類重鏈及輕鏈受體序列上。

實例 6.1.2.1：BDI-5H1-F6

基於與本發明單株抗體 BDI-5H1-F6 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV2-70*01 及 IGHJ6*01 用於構築重鏈受體序列
- 2.IGHV2-70*04 及 IGHJ6*01 作為替代受體序列用於構築重鏈
- 3.IGHV3-66*01 及 IGHJ1 *01 作為替代受體序列用於構築重鏈
- 4.IGLV6-57*01 及 IGJL2*01 用於構築輕鏈受體序列
- 5.IGKV3-20*01 及 IGJK4*01 作為替代受體序列用於構築輕鏈
- 6.IGKV4-1*01 及 IGJK4*01 作為替代受體序列用於構築輕鏈
- 7.IGKV1-39*01 及 IGJK1*01 作為替代受體序列用於構築輕鏈

藉由將 BDI-5H1-F6 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

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 Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
 1 5 10

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 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

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Gly Tyr Thr Phe Thr Asp Tyr Val Met His
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Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 1391

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 1 5 10

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 Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 Lys Gly Ser Gln Asn Ile Asn Asn Tyr Leu Ala
 1 5 10

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 Lys Thr Asn Asn Leu Gln Thr
 1 5

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 Tyr Gln Tyr Asp Asn Gly Tyr Thr
 1 5

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 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

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 Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

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<400> 1398
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1399
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 Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1400
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 Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Ser Pro Thr Thr Val
 35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser
 85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 1401
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 Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

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 Gly Asn Asp Gln Arg Pro Ser
 1 5

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Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
1 5 10

<210> 1404

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Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

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Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly

1. 5 10

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<400> 1406
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1407
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<400> 1407
 Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1408
 Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1409
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1409
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1410
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1410
 Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1411
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1411
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1412
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

實例 6.1.2.2 : BDI-9E8-E7

基於與本發明單株抗體 BDI-9E8-E7 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV2-70*01 及 IGHJ3*01 用於構築重鏈受體序列
- 2.IGHV2-70*04 及 IGHJ6*01 作為替代受體序列用於構築重鏈
- 3.IGHV3-66*01 及 IGHJ1 *01 作為替代受體序列用於構築重鏈
- 4.IGLV6-57*01 及 IGJL2*01 用於構築輕鏈受體序列
- 5.IGKV3-20*01 及 IGJK4*01 作為替代受體用於構築輕鏈序列
- 6.IGKV4-1*01 及 IGJK4*01 作為替代受體序列用於構築輕鏈
- 7.IGKV1-39*01 及 IGJK1*01 作為替代受體序列用於構築輕鏈

藉由將 BDI-9E8-E7 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.1.2.3 : BDI-7H10-D8

基於與本發明單株抗體 BDI-7H10-D8 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV1-69*01 及 IGHJ3*01 用於構築重鏈受體序列
- 2.IGKV2-29*02 及 IGK2*01 用於構築輕鏈受體序列

藉由將 BDI-7H10-D8 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.1.2.4 : BDI-1E1-D5

基於與本發明單株抗體 BDI-1E1-D5 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV1-69*06 及 IGHJ6*01 用於構築重鏈受體序列
- 2.IGKV1D-13*01 及 IGKJ2*01 用於構築輕鏈受體序列
- 3.IGKV3-11*01 及 IGKJ2*01 作為替代受體序列用於構築輕鏈

藉由將 BDI-1E1-D5 之相應 VH 及 VL CDR 移植至該等受體序列

<400> 1412

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1413

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1413

Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1414

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1414

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1415
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1415
 Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1416
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1416
 Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1417
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1417

Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1418

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1418

Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1419

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1419

Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1420

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1420

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1421
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1421
 Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1422
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1422
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1423
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1423
 Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1424

<211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1424
 Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1425
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1425
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1426
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1426
 Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1427
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1427
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1428
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1428
 Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1429
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1429
 Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1430
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1430
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1431
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1431
 Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1432
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1432
 Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1433
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1433
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1434
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1434
 Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1435
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1435
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val

1 5 10

<210> 1436
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1436
 Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Ser Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1437
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1437
 Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1438
 <211> 16

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1438
Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 1439
<211> 13
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1439
Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
1 5 10

<210> 1440
<211> 110
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1440
Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Arg Asn
35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
85 90 95

中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.1.2.5 : BDI-6A3-A9

基於與本發明單株抗體 BDI-6A3-A9 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV3-7*01 及 IGHJ6*01 用於構築重鏈受體序列
- 2.IGHV1-3*01 及 IGHJ6*01 作為替代受體序列用於構築重鏈
- 3.IGLV6-57*01 及 IGJL2*01 用於構築輕鏈受體序列

藉由將 BDI-6A3-A9 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.1.2.6 : BFU-3E2

基於與本發明單株抗體 BFU-3E2 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV1-69*01 及 IGHJ6*01 用於構築重鏈受體序列
- 2.IGKV3-11*01 及 IGKJ4*01 用於構築輕鏈受體序列
- 3.IGKV1-13*01 及 IGKJ4*01 作為替代受體序列用於構築輕鏈

藉由將 BFU-3E2 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.1.2.7 : BFU-11A8

基於與本發明單株抗體 BFU-11A8 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV1-69*01 及 IGHJ6*01 用於構築重鏈受體序列
- 2.IGKV3-11*01 及 IGKJ4*01 用於構築輕鏈受體序列
- 3.IGKV1-5*01 及 IGKJ4*01 作為替代受體序列用於構築輕鏈

藉由將 BFU-11A8 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.1.3 : 在 CDR 移植抗體中引入潛在框架回復突變

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1441
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1441
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1442
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1442
 Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1443
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1443
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1444
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1444
 Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Ser Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1445

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1445

Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1446

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1446

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1447

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1447

Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1448

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1448

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1449

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1449

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1450
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1450
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1451
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1451
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1452
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1452
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1453
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1453
 Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1454
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1454
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1455
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1455
 Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1456
 <211> 111
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1456

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Pro Pro Thr Asn Val
35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ser
85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 1457

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1457

Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
1 5 10

<210> 1458

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1458

Gly Asn Asp Gln Arg Pro Ser
1 5

<210> 1459
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1459
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1460
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1460
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1461
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1461
 Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1462
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1462
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1463
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1463
 Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1464
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1464
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1465
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1465
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1466
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1466
 Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1467
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1467
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1468
 <211> 123

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1468
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 1469
<211> 12
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1469
Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
1 5 10

<210> 1470
<211> 16
<212> PRT
<213> 人工序列

<220>
<221> source

為產生具有潛在框架回復突變之人類化抗體，鑑別該等突變並藉由從頭合成可變結構域或誘變寡核苷酸引子及聚合酶鏈式反應或藉由業內所熟知之方法將其引入 CDR 移植抗體序列中。對於每一 CDR 移植物如下構築回復突變及其他突變之不同組合。該等突變之殘基編號係基於 Kabat 編號系統。

BDI-5H1-F6

當選擇 IGHV2-70*01 及 IGHJ6*01 作為 BDI-5H1-F6 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、A44→G、K75→N、V78→A、M82→I (具或不具 N65)→T (CDR 變化)。

當選擇 IGHV2-70*04 及 IGHJ6*01 作為 BDI-5H1-F6 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q→1E、K5→R、K75→N、N76→S、V78→A 及 M82→I。

當選擇 IGHV3-66*01 及 IGHJ1*01 作為 BDI-5H1-F6 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：A24→F、V37→I、V48→L、S49→A、F67→L、R71→K、N73→T、T77→Q、L78→A 及 M82→I。

當選擇 IGLV6-57*01 及 IGJL2*01 作為 BDI-5H1-F6 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：N1→Q、S22→P、S43→P、T46→N、G57→E、P59→S 及 Y87→F。

當選擇 IGKV3-20*01 及 IGJK4*01 作為 BDI-5H1-F6 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→F、A43→P、L46→N、L47→V、I58→V、G66→I、G68→S、T69→N、F71→A、Y87→F 且具或不具兩個殘基插入 D66a、S66b 及 T10 缺失。

當選擇 IGKV4-1*01 及 IGJK4*01 作為 BDI-5H1-F6 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→F、M4→L、L46→N、L47→V、T69→N、D70→S、F71→A、Y87→F。

<223> /注釋=「人工序列之描述：合成肽」

<400> 1470

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 1471

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1471

Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
1 5 10

<210> 1472

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1472

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ser Asp
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 1473

<211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1473
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1474
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1474
 Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1475
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1475
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1476
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1476
 Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1477
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1477
 Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1478
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1478
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1479
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1479

Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1480

<211> 111

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1480

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Ser Pro Thr Thr Val
 35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser
 85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 1481

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1481

Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1482

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1482

Gly Asn Asp Gln Arg Pro Ser
1 5

<210> 1483

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1483

Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
1 5 10

<210> 1484

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1484

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala

100

105

110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1485
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1485
 Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1486
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1486
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1487
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1487
 Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1488
 <211> 111
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1488

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Pro Pro Thr Asn Val
 35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ser
 85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 1489

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1489

Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1490

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1490

Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1491

<211> 10

<212> PRT

<213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1491
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1492
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1492
 Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1493
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1493

Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1494

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1494

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1495

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1495

Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1496

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1496

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu

當選擇 IGKV1-39*01 及 IGJK1*01 作為 BDI-5H1-F6 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→F、M4→L、L46→N、L47→V、T69→N、D70→S、F71→A 及 Y87→F。

BDI-9E8-E7

當選擇 IGHV2-70*01 及 IGHJ6*01 作為 BDI-9E8-E7 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、A44→G、V78→A、M82→I (具或不具 N65)→T (CDR 變化)。

當選擇 IGHV2-70*04 及 IGHJ6*01 作為 BDI-9E8-E7 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、K5→R、V78→A 及 M82→I。

當選擇 IGHV3-66*01 及 IGHJ1*01 作為 BDI-9E8-E7 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：A24→F、V37→I、V48→L、S49→A、F67→L、R71→K、N73→T、T77→Q、L78→A 及 M82→I。

當選擇 IGLV6-57*01 及 IGJL2*01 作為 BDI-9E8-E7 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：S43→P、T46→N 及 Y87→F。

當選擇 IGKV3-20*01 及 IGJK4*01 作為 BDI-9E8-E7 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→F、A43→P、L46→N、L47→V、I58→V、G66→I、T69→N、F71→A、Y87→F 且具或不具兩個殘基插入(D66a、S66b)及 T10 缺失。

當選擇 IGKV4-1*01 及 IGJK4*01 作為 BDI-9E8-E7 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→F、M4→L、L46→N、L47→V、T69→N、D70→S、F71→A、T72→S 及 Y87→F。

當選擇 IGKV1-39*01 及 IGJK1*01 作為 BDI-9E8-E7 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→F、M4→L、L46

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1500

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 1501

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1501

Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
1 5 10

<210> 1502

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1502

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn

1 5 10 15

<210> 1503
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1503
 Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1504
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1504
 Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1505
 <211> 13
 <212> PRT
 <213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1505
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1506
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1506
 Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1507
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1507
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1508
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1508
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser

50

55

60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1509

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1509

Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val Gly
 1 5 10

<210> 1510

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1510

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1511

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1511

Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 1 5 10

<210> 1512
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1512
 Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1513
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1513
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr Tyr Val Ser
 1 5 10

<210> 1514
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1514
 Gly Asn Asp Gln Arg Pro Ser
 1 5

<210> 1515
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1515
 Gln Ser Tyr Asp Ser Asp Ile Asp Ile Val
 1 5 10

<210> 1516
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1516
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1517
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1517
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1518
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1518
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1519
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1519
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 1520
 <211> 111
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1520
 Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser

20

25

30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Ser Pro Thr Thr Val
 35 40 45

Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ile
 85 90 95

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 1521
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1521
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1522
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1522
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1523
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1523

Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
1 5 10

<210> 1524

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1524

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 1525

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1525

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 1526
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1526
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1527
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1527
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 1528
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1528
 Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

→N、L47→V、T69→N、D70→S、F71→A 及 T72→S。

BDI-7H10-D8

當選擇 IGHV1-69*01 及 IGHJ3*01 作為 BDI-7H10-D8 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、M48→I、V67→A、I69→L、E73→T、S76→N (具或不具 CDR 變化) Y27→G 及 T30→S。

當選擇 IGKV2-29*02 及 IGKJ2*01 作為 BDI-7H10-D8 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→V 及 M4→L。

BDI-1E1-D5

當選擇 IGHV1-69*06 及 IGHJ6*01 作為 BDI-1E1-D5 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、M48→I、V67→A、I69→L 及 S76→N。

當選擇 IGKV1D-13*01 及 IGKJ2*01 作為 BDI-1E1-D5 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：V58→I 及 F71→Y。

當選擇 IGKV3-11*01 及 IGKJ2*01 作為 BDI-1E1-D5 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：F71→Y 及 V85→T。

BDI-6A3-A9

當選擇 IGHV3-7*01 及 IGHJ6*01 作為 BDI-6A3-A9 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：S28→T、R60→V、N76→S。

當選擇 IGHV1-3*01 及 IGHJ6*01 作為 BDI-6A3-A9 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、R44→G、M48→V、G49→A、V67→F、T73→N、A78→L 及 M80→L。

當選擇 IGLV6-57*01 及 IGJL2*01 作為 BDI-6A3-A9 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：S43→P、T46→N、Y49→F 及 Y87→F。

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1529
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1529
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1530
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1530
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1531
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1531
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1532
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1532
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80
 Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1533
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1533
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1534
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1534
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1535
 <211> 12

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1535
Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
1 5 10

<210> 1536
<211> 110
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1536
Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 1537
<211> 13
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1537

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1538
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1538
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1539
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1539
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1540
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1540
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1541
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1541
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1542
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1542
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1543
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1543
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 1544
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1544
 Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1545
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1545
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1546
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1546
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1547
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1547
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1548
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1548
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1549
 <211> 12
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1549

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 1550

<211> 16

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1550

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 1551

<211> 12

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1551

Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
1 5 10

<210> 1552

<211> 110

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1552

Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1553

<211> 13

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1553

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1554

<211> 7

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1554

Ala Asp Asp Gln Arg Pro Ser
 1 5

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1555

Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1556
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1556
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1557
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1557
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1558
 <211> 16
 <212> PRT
 <213> 人工序列

BFU-3E2

當選擇 IGHV1-69*01 及 IGHJ6*01 作為 BFU-3E2 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：R38-->K、G44-->S、W47-->L、M48-->I、R66-->K、V67-->A、I69-->L、S76-->N、Y91-->F。

當選擇 IGKV3-11*01 及 IGKJ4*01 作為 BFU-3E2 輕鏈受體序列時，可如下回復突變以下各項中之一或多者：I2-->T、A43-->Q、I58-->V、Y87-->F。

當選擇 IGKV1-13*01 及 IGKJ4*01 作為 BFU-3E2 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2-->T、T22-->S、A43-->Q、K45-->R、Y87-->F。

BFU-11A8

當選擇 IGHV1-69*01 及 IGHJ6*01 作為 BFU-11A8 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：R38-->K、W47-->L、M48-->I、R66-->K、V67-->A、I69-->L、S76-->N 及 Y91-->F。

當選擇 IGKV3-11*01 及 IGKJ4*01 作為 BFU-11A8 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2-->T、S22-->P、A43-->Q、I58-->V、Y87-->F。

當選擇 IGKV1-5*01 及 IGKJ4*01 作為 BFU-11A8 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2-->T、M4-->L、T22-->P、A43-->Q、Y87-->F。

實例 6.1.4：在 CDR 移植抗體中含有框架回復突變之針對 PDGF 之人類化抗體之產生

將鼠類單株 PDGF 抗體之以下人類化可變區選殖至 IgG 表現載體中用於功能表徵。

實例 6.1.4.1：BDI-5H1-F6

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1558

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1559

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1559

Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 1560

<211> 111

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1560

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Pro Pro Thr Asn Val
 35 40 45

Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ile
 85 90 95

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 1561
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1561
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1562
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1562
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1563
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1563
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1564
 <211> 122
 <212> PRT
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<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1564
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1565
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1565
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1566
 <211> 16
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1566
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1567
 <211> 12
 <212> PRT
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<220>
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<223> /注釋=「人工序列之描述：合成肽」

<400> 1567

Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
1 5 10

<210> 1568

<211> 110

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1568

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 1569

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1569

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
1 5 10

<210> 1570

<211> 7
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1570
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1571
 <211> 10
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1571
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1572
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1572
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1573
 <211> 12
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1573
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1574
 <211> 16
 <212> PRT
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<400> 1574
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1575
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
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<400> 1575
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 1576
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1576

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1577

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1577

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1578

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1578

Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1579

<211> 10

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1579

Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
1 5 10

<210> 1580

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1580

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1581

<211> 12

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1581

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 1582

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1582

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 1583

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1583

Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
1 5 10

<210> 1584

<211> 111

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1584

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
1 5 10 15Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
20 25 30Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Ser Pro Thr Thr Val
35 40 45Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ile
85 90 95

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 1585
<211> 13
<212> PRT
<213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成肽」

<400> 1585
Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
1 5 10

<210> 1586
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1586
Ala Asp Asp Gln Arg Pro Ser
1 5

<210> 1587
<211> 10
<212> PRT
<213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成肽」

<400> 1587
Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
1 5 10

<210> 1588
<211> 122
<212> PRT
<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1588

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1589

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1589

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1590

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1590

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1591

<211> 12

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1591

Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 1592

<211> 111

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1592

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Pro Pro Thr Asn Val
 35 40 45

Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ile
 85 90 95

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 1593

<211> 13

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1593

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1594

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1594

Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1595

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1595

Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1596

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1596

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1597
 <211> 12
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1597
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1598
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
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<400> 1598
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1599
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
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<400> 1599
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr

1 5 10

<210> 1600
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1600
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1601
 <211> 13
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1601
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1602
 <211> 7
 <212> PRT
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<220>

<21> source
 <23> /注釋=「人工序列之描述：合成肽」

<400> 1602
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1603
 <211> 10
 <212> PRT
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<220>
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 <23> /注釋=「人工序列之描述：合成肽」

<400> 1603
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1604
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <23> /注釋=「人工序列之描述：合成多肽」

<400> 1604
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1605
 <211> 12
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<400> 1605
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1606
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<400> 1606
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1607
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1607
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 1608
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1608
 Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1609

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1609

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1610

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1610

Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1611

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1611

Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
1 5 10

<210> 1612

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1612

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 1613

<211> 12

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1613

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 1614
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 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1614
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1615
 <211> 12
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1615
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 1616
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1616
 Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1617
 <211> 13
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1617
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 1618
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1618
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1619
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1619
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1620
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1620

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1621

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1621

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 1622

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1622

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 1623
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1623
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 1624
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1624
 Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 1625
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1625
 Glu Arg Ser Ser Gly Asp Ile Gly Glu Ser Tyr Val Ser
 1 5 10

<210> 1626
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1626
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 1627
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1627
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 1628
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1628
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 1629
<211> 10
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1629
Gly Tyr Thr Phe Thr Glu Ser Tyr Met Tyr
1 5 10

<210> 1630
<211> 17
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1630
Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe Lys
1 5 10 15

Asn

<210> 1631
<211> 12
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1631
Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala
1 5 10

<210> 1632
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1632
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1633
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1633
 Arg Ala Ser Glu Ser Val Ser Thr Leu Met His
 1 5 10

<210> 1634
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成肽」

<400> 1634

Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 1635

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1635

Gln Gln Ser Trp Asn Asp Pro Trp Thr
1 5

<210> 1636

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1636

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
50 55 60

Lys Asn Arg Val Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser

115

120

<210> 1637
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1637
 Gly Tyr Thr Phe Thr Glu Ser Tyr Met Tyr
 1 5 10

<210> 1638
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1638
 Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe Lys
 1 5 10 15

Asn

<210> 1639
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1639
 Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala
 1 5 10

<210> 1640
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1640

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1641

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1641

Arg Ala Ser Glu Ser Val Ser Thr Leu Met His
 1 5 10

<210> 1642

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1642

Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1643

<211> 9

<212> PRT

<213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 1643
 Gln Gln Ser Trp Asn Asp Pro Trp Thr
 1 5

<210> 1644
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1644
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 1645
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

	蛋白質區域	序列
		123456789012345678901234567890
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	hBDI-5H1-F6VL.1	NFMLTQPHSVSESPGKTVTISCERSSGDIG DTYVSWYQQRPGSSPTTVIYGNDQRPSGVP DRFSGSIDSSSNSASLTISGLKTEDEADYY CQSYDSDIDIVFGGGTKLTVL
	hBDI-5H1-F6VL.1a	NFMLTQPHSVSESPGKTVTISCERSSGDIG DTYVSWYQQRPGSPPTNVIYGNDQRPSGVP DRFSGSIDSSSNSASLTISGLKTEDEADYF CQSYDSDIDIVFGGGTKLTVL
	hBDI-5H1-F6VL.1b	QFMLTQPHSVSESPGKVTI PC ERSSGDIG DTYVSWYQQRPGSPPTNVIYGNDQR PSEVS DRFSGSIDSSSNSASLTISGLKTEDEADYF CQSYDSDIDIVFGGGTKLTVL
	hBDI-5H1-F6VL.1c	QFMLTQPHSVSESPGKTVTISCERSSGDIG DTYVSWYQQRPGSSPTTVIYGNDQRPSGVP DRFSGSIDSSSNSASLTISGLKTEDEADYF CQSYDSDIDIVFGGGTKLTVL
	hBDI-5H1-F6VL.2	EIVLTQSPGTL SL SPGERATL SC ERSSGDI GDTYVSWYQ QKPGQ APRLLIYGNDQRPSGI PDRFSGSGSGTDFTLTISRLEPEDFAVYYC QSYDSDIDIVFGGGTKVEIK
	hBDI-5H1-F6L.2a	EFVLTQSPGL SL SPGERATL SC ERSSGDIG DTYVSWYQ QKPGQ PPRNVIYGNDQRPSGVP DRFSGSIDSSNDATLTISRLEPEDFAVYF CQSYDSDIDIVFGGGTKVEIK

<400> 1645

Gly Tyr Thr Phe Thr Glu Ser Tyr Met Tyr
1 5 10

<210> 1646

<211> 17

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1646

Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe Lys
1 5 10 15

Asn

<210> 1647

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1647

Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala
1 5 10

<210> 1648

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1648

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
20 25 30Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly

50

55

60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1649

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1649

Arg Ala Ser Glu Ser Val Ser Thr Leu Met His
 1 5 10

<210> 1650

<211> 7

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1650

Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1651

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1651

Gln Gln Ser Trp Asn Asp Pro Trp Thr
 1 5

<210> 1652

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1652

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
50 55 60

Lys Asn Arg Val Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 1653

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1653

Gly Tyr Thr Phe Thr Glu Ser Tyr Met Tyr
1 5 10

<210> 1654

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1654

Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe Lys
 1 5 10 15

Asn

<210> 1655

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1655

Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala
 1 5 10

<210> 1656

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1656

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1657
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1657
 Arg Ala Ser Glu Ser Val Ser Thr Leu Met His
 1 5 10

<210> 1658
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1658
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 1659
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1659
 Gln Gln Ser Trp Asn Asp Pro Trp Thr
 1 5

<210> 1660
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1660
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr

20

25

30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Phe Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1661

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1661

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1662

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1662

Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1663

<211> 11

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1663
Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr
1 5 10

<210> 1664
<211> 107
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1664
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Glu Cys Arg Ala Ser Asp Asp Leu Tyr Ser Thr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
35 40 45

Phe Asp Ala Asn Arg Leu Ala Ala Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Lys Phe Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 1665
<211> 11
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1665

Arg Ala Ser Asp Asp Leu Tyr Ser Thr Leu Ala
 1 5 10

<210> 1666
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1666
 Asp Ala Asn Arg Leu Ala Ala
 1 5

<210> 1667
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1667
 Gln Gln Tyr Asn Lys Phe Pro Trp Thr
 1 5

<210> 1668
 <211> 120
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1668
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Phe Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 1669
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1669
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1670
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1670
 Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1671
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1671
 Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr
 1 5 10

<210> 1672
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1672
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Arg Ala Ser Asp Asp Leu Tyr Ser Thr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Phe Asp Ala Asn Arg Leu Ala Ala Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Lys Phe Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1673
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1673
 Arg Ala Ser Asp Asp Leu Tyr Ser Thr Leu Ala
 1 5 10

<210> 1674
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

蛋白質區域	序列
	123456789012345678901234567890
hBDI-5H1-F6L.2b	EFVLTQSPGTLSSLSPGERATLSC ERS SGDI GDTYVSWYQQKPGQAPRLVIY GNDQR PSGI PDRFSGSGSGTDFTLTISRLEPEDFAVYYC QSYDS DIDIV FGGGTKVEIK
hBDI-5H1-F6L.2c	EFVLTQSPGTLSSLSPGERATLSC ERS SGDI GDTYVSWYQQKPGQPPRNVIY GNDQR PSGV PDRFSGSGSGTDFTLTISRLEPEDFAVYFC QSYDS DIDIV FGGGTKVEIK
hBDI-5H1-F6VL.v6	DFVLTQSPDSLAVSLGERATIN CERS SGDI GDTYVSWYQQKPGQPPKNVIY GNDQR PSGV PDRFSGSGSGNSATLTIS SLQAEDVAVYFC QSYDS DIDIV FGGGTKVEIK
hBDI-5H1-F6VL.v7	DFQLTQSPSSLSASVGDRVTIT CERS SGDI GDTYVSWYQQKPGKAPKNVIY GNDQR PSGV PSRFSGSGSGNSATLTIS SLQPEDFATYFC QSYDS DIDIV FGQGTKVEIK

• **hBDI-5H1-F6VH.1z** 係含有 IGHV2-70*01 及 IGHJ6 框架序列之 CDR 移植、人類化 BDI-5H1-F6 VH。

• **hBDI-5H1-F6VH.1** 係基於 .1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

• **hBDI-5H1-F6VH.1a** 係基於 .1 之人類化設計且含有 4 個所提出框架回復突變(A44G、K75N、V78A 及 M82I)。

• **hBDI-5H1-F6VH.1b** 係介於 .1 與 .1a 間之中間設計且僅具有 2 個所提出框架回復突變(A44G 及 M82I)。

• **hBDI-5H1-F6VH.1c** 係基於 .1b 且具有一個額外 CDR 種系變化 N65T 以改良與人類種系序列之一致性。

• **hBDI-5H1-F6VH.2z** 係含有 IGHV2-70*04 及 IGHJ6 框架序列

<400> 1674

Asp Ala Asn Arg Leu Ala Ala
1 5

<210> 1675

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1675

Gln Gln Tyr Asn Lys Phe Pro Trp Thr
1 5

<210> 1676

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1676

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Phe Met
35 40 45Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
100 105 110Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1677
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1677
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 1678
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1678
 Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1679
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1679
 Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr
 1 5 10

<210> 1680
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1680
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Arg Ala Ser Asp Asp Leu Tyr Ser Thr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Phe Asp Ala Asn Arg Leu Ala Ala Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Lys Phe Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1681
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1681
 Arg Ala Ser Asp Asp Leu Tyr Ser Thr Leu Ala
 1 5 10

<210> 1682
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1682
 Asp Ala Asn Arg Leu Ala Ala
 1 5

<210> 1683
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1683

Gln Gln Tyr Asn Lys Phe Pro Trp Thr
1 5

<210> 1684

<211> 120

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1684

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Phe Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 1685

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1685

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr

1 5 10

<210> 1686
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1686
 Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 1687
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1687
 Leu Gly Asn Asn Tyr Gly Ile Trp Phe Ala Tyr
 1 5 10

<210> 1688
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1688
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Asp Asp Leu Tyr Ser Thr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Phe Asp Ala Asn Arg Leu Ala Ala Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Lys Phe Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 1689
<211> 11
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1689
Arg Ala Ser Asp Asp Leu Tyr Ser Thr Leu Ala
1 5 10

<210> 1690
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1690
Asp Ala Asn Arg Leu Ala Ala
1 5

<210> 1691
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 1691
Gln Gln Tyr Asn Lys Phe Pro Trp Thr
1 5

<210> 1692
<211> 119
<212> PRT
<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1692

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Asn Ser Gly Gly Asn Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Gln Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg His Thr Pro Gly Ala Asn Tyr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Met Val Thr Val Ser Ser
 115

<210> 1693

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1693

Gly Phe Thr Phe Ser Asn Tyr Gly Met Ala
 1 5 10

<210> 1694

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1694

Ser Ile Thr Asn Ser Gly Gly Asn Thr Tyr Tyr Arg Asp Ser Val Lys
 1 5 10 15

Gly

<210> 1695

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 1695

His Thr Pro Gly Ala Asn Tyr Phe Asp Tyr
 1 5 10

<210> 1696

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1696

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Lys Asn Tyr
 20 25 30

Ile Ala Trp Tyr Gln Leu Lys Pro Gly Lys Ala Pro Arg Leu Leu Met
 35 40 45

Arg Tyr Thr Ser Thr Leu Glu Ser Gly Thr Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Arg Asp Tyr Thr Phe Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Val Gln Tyr Ala Asn Leu Tyr Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1697
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1697
 Gln Ala Ser Gln Ser Ile Lys Asn Tyr Ile Ala
 1 5 10

<210> 1698
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1698
 Tyr Thr Ser Thr Leu Glu Ser
 1 5

<210> 1699
 <211> 8
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1699
 Val Gln Tyr Ala Asn Leu Tyr Thr
 1 5

<210> 1700
 <211> 119
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1700
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Asn Ser Gly Gly Asn Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg His Thr Pro Gly Ala Asn Tyr Phe Asp Tyr Trp Gly Gln Gly
 100 105 110

Thr Met Val Thr Val Ser Ser
 115

<210> 1701
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1701
 Gly Phe Thr Phe Ser Asn Tyr Gly Met Ala
 1 5 10

<210> 1702
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 1702
 Ser Ile Thr Asn Ser Gly Gly Asn Thr Tyr Tyr Arg Asp Ser Val Lys
 1 5 10 15

Gly

<210> 1703
 <211> 10
 <212> PRT
 <213> 人工序列

之 CDR 移植、人類化 BDI-5H1-F6 VH。

- **hBDI-5H1-F6VH.2** 係基於 .2z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

- **hBDI-5H1-F6VH.2a** (hBDI-5H1-F6VH.1d) 係基於 .2 且含有 4 個所提出框架回復突變(K75N、N76S、V78A 及 M82I)。

- **hBDI-5H1-F6VH.2b** (hBDI-5H1-F6VH.v2) 係介於 .2 與 .2a 間之中間設計且僅具有 2 個所提出框架回復突變(V78A 及 M82I)。

- **hBDI-5H1-F6VH.2c** (hBDI-5H1-F6VH.v6) 係基於 .2 且含有 3 個所提出框架回復突變(K5R、V78A、M82I)。

- **hBDI-5H1-F6VH.v7** 係具有 10 個所提出框架回復突變(A24F、V37I、V48L、S49A、F67L、R71K、N73T、T77Q、L78A 及 M82I) 之含有 IGHV3-66*01 及 IGHJ1 框架序列之人類化 BDI-5H1-F6 VH。

- **hBDI-5H1-F6VL.1** 係含有 IGLV6-57*01 及 IGJL2*01 框架序列之 CDR 移植、人類化 BDI-5H1-F6 VL。

- **hBDI-5H1-F6VL.1a** 係具有 3 個所提出框架回復突變(S43P、T46N 及 Y87F) 之基於 .1 之人類化設計。

- **hBDI-5H1-F6VL.1b** 係具有 7 個所提出框架回復突變(N1Q、S22P、S43P、T46N、G57E、P59S、Y87F) 之基於 .1 之人類化設計。

- **hBDI-5H1-F6VL.1c** 係具有 2 個回復突變(N1Q 及 Y87F) 之介於 .1 與 .1b 間之中間設計。

- **hBDI-5H1-F6VL.2** 係含有 IGKV3-20*01 及 IGJK4*01 框架序列之 CDR 移植、人類化 BDI-5H1-F6 VL。

- **hBDI-5H1-F6VL.2a** 係具有 10 個所提出框架回復突變(I2F、A43P、L46N、L47V、I58V、G66I、G68S、T69N、F71A、Y87F) 及 1 個殘基缺失(T10) 及 2 個殘基插入(D66a 及 S66b) 之基於 .2 之人類化設計。

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 1703

His Thr Pro Gly Ala Asn Tyr Phe Asp Tyr
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<400> 1704

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Lys Asn Tyr
 20 25 30

Ile Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
 35 40 45

Arg Tyr Thr Ser Thr Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Arg Asp Tyr Thr Phe Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Val Gln Tyr Ala Asn Leu Tyr Thr
 85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 1705

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<400> 1705

Gln Ala Ser Gln Ser Ile Lys Asn Tyr Ile Ala
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<400> 1706
Tyr Thr Ser Thr Leu Glu Ser
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<400> 1707
Val Gln Tyr Ala Asn Leu Tyr Thr
1 5

<210> 1708
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<400> 1708
Asp Asp Phe Lys Gly
1 5

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<400> 1709
Gln Gly Phe Thr Gly
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<400> 1710
 His Met His Trp
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<400> 1711
 Tyr Leu Ala Trp
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 <223> 任一胺基酸

<400> 1712
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Arg Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Xaa Pro Ala Tyr Ala Asp Asp Phe
 50 55 60

Lys Arg Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1714

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Tyr Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Lys Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Gly Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1715

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<400> 1715

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ile Asn Tyr
 20 25 30

Arg Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Val Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Lys Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1716

<211> 123

<212> PRT

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<223> 任一胺基酸

<400> 1716

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ile Tyr Tyr Tyr Xaa Lys Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1717
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<400> 1717
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Pro Thr Tyr Tyr Tyr Trp Ile Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1718
 <211> 123
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<220>
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 <223> 任一胺基酸

<400> 1718

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Cys Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Arg Asn Tyr Tyr Tyr Xaa Cys Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1719

<211> 123

<212> PRT

<213> 人工序列

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<400> 1719

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Ser Pro Ala Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Thr Tyr Tyr Tyr Cys Ser Tyr Thr Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1720
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 <222> (104)..(104)
 <223> 任一胺基酸

<220>
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 <222> (107)..(107)
 <223> 任一胺基酸

<400> 1720
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Gly Thr Gly Xaa Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Xaa Asn Tyr Tyr Tyr Xaa Ser Tyr Xaa Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1721
<211> 123
<212> PRT
<213> 人工序列

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<400> 1721
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Lys Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Lys Pro Leu Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Met Gly Tyr Arg Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1722
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<212> PRT
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<400> 1722

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Pro Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Val Pro Ser Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Ser Tyr Arg Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1723

<211> 123

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

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<222> (57)..(57)

<223> 任一胺基酸

<400> 1723

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ile Asn Tyr
20 25 30

Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Trp Ile Asn Thr Ala Thr Gly Xaa Pro Ser Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Phe Asp Thr Ser Val Ser Thr Thr Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Thr Tyr Tyr Tyr Arg Arg Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1724

<211> 123

<212> PRT

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<223> /注释=「人工序列之描述：合成多肽」

<400> 1724

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Leu Tyr Tyr Tyr Arg Arg Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

<210> 1725
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<400> 1725
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ile Lys Tyr
 20 25 30

 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

 Gly Trp Ile Asn Thr Glu Thr Gly Arg Pro Ala Tyr Ala Asp Asp Phe
 50 55 60

 Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

 Ala Arg Ile Arg Tyr Tyr Tyr Gly Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1726
 <211> 123
 <212> PRT
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<400> 1726
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Lys Asn Tyr
 20 25 30

Glu Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Arg Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Asn Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Val Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1727

<211> 123

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1727

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Leu Tyr
 20 25 30

Ser Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr His Thr Gly Asn Pro Ser Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Thr Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1728
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<400> 1728
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Met Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1729
 <211> 123
 <212> PRT
 <213> 人工序列

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<400> 1729
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Cys Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Leu Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Arg Asn Tyr Tyr Tyr Gly Gly Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1730

<211> 123

<212> PRT

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<221> MOD_RES

<222> (31)..(31)

<223> 任一胺基酸

<400> 1730

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Xaa Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Gln Thr Gly Pro Pro Pro Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

85

90

95

Ala Arg Xaa Xaa Tyr Tyr Tyr Xaa Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1732

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1732

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Asn Pro Ala Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Thr Tyr Tyr Tyr Arg Val Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1733

<211> 123

<212> PRT

<213> 人工序列

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<400> 1733

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Cys Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Asn Pro Ser Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ala Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1734

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1734

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Pro Thr Gly Met Pro Asn Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Tyr Tyr Tyr Ser Ser Tyr Leu Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1735

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1735

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Glu Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1736

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1736

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Glu Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Lys Pro Ser Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ile Tyr Tyr Tyr Val Arg Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1737

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1737

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Thr Pro Ser Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Val Tyr Tyr Tyr Arg Ser Tyr Leu Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1738

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1738

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Thr Tyr
20 25 30

Gly Met Tyr Trp Val Gly Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Met Pro Ala Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ile Arg Tyr Tyr Tyr Gly Arg Tyr Leu Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1739

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1739

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ile Tyr
20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Gly Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Tyr Tyr Tyr Arg Ser Tyr Leu Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1740

<211> 123

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1740

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Gln Thr Gly Lys Pro Arg Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Pro Gln Tyr Tyr Tyr Thr Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1741

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (54)..(54)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (57)..(57)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (62)..(62)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (99)..(100)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (107)..(107)

<223> 任一胺基酸

<400> 1741

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Xaa Thr Gly Xaa Pro Thr Tyr Ala Xaa Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Xaa Xaa Tyr Tyr Tyr Arg Ser Tyr Xaa Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1742

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1742

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Tyr Tyr
 20 25 30

Asn Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Ser Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Thr Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1743
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1743
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Gln Thr Gly Lys Pro Arg Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Trp Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1744
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>
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 <222> (57)..(57)

<223> 任一氨基酸

<220>

<221> MOD_RES

<222> (99)..(100)

<223> 任一氨基酸

<220>

<221> MOD_RES

<222> (104)..(104)

<223> 任一氨基酸

<400> 1744

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Pro Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Xaa Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90

Ala Arg Xaa Xaa Tyr Tyr Tyr Xaa Arg Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1745

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1745

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Leu Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1746

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1746

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Asp Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Cys Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1747
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1747
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ile Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Cys Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1748
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1748
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Ala Pro Ile Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Trp Gly Tyr Arg Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1749

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1749

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Arg Ser Tyr
 20 25 30

Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Thr Pro Ser Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

蛋白質區域	序列
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hBDI-9E8-E7VL.2	EIVLTQSPGTLSSLSPGERATLSCERSSGDI GDSYVSWYQQKPGQAPRLLIYADDQRPSGI PDRFSGSGSGTDFTLTISRLEPEDFAVYYC QSYDINIDIVFGGGTKVEIK
hBDI-9E8-E7VL.2a	EFVLTQSPGLSSLSPGERATLSCERSSGDIG DSYVSWYQQKPGQPPRNVIYADDQRPSGVP DRFSGSIDSSGNDATLTISRLEPEDFAVYF CQSYDINIDIVFGGGTKVEIK
hBDI-9E8-E7VL.2b	EFVLTQSPGTLSSLSPGERATLSCERSSGDI GDSYVSWYQQKPGQAPRLVIYADDQRPSGI PDRFSGSGSGTDFTLTISRLEPEDFAVYYC QSYDINIDIVFGGGTKVEIK
hBDI-9E8-E7VL.v6	DFVLTQSPDSLAVSLGERATINCERSSGDI GDSYVSWYQQKPGQPPKNVIYADDQRPSGV PDRFSGSGSGNSASLTISLQAEDEVAVYFC QSYDINIDIVFGGGTKVEIK
hBDI-9E8-E7VL.v7	DFQLTQSPSSLSASVGDRVTITCERSSGDI GDSYVSWYQQKPGKAPKNVIYADDQRPSGV PSRFSGSGSGNSASLTISLQPEDFATYYC QSYDINIDIVFGQGTKVEIK

• **hBDI-9E8-E7VH.1z** 係含有 IGHV2-70*01 及 IGHJ3*01 框架序列之 CDR 移植、人類化 BDI-9E8-E7 VH。

• **hBDI-9E8-E7VH.1** 係基於 .1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

Ala Arg Pro Tyr Tyr Tyr Tyr Arg Arg Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1750
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (99)..(99)
 <223> 任一胺基酸

<400> 1750
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Cys Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Lys Thr Gly Asn Pro Ala Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Xaa Ile Tyr Tyr Tyr Arg Arg Tyr Val Leu Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1751
 <211> 123
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1751

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Asn Tyr
 20 25 30

Ser Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Lys Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Arg Tyr Ser Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1752

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1752

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Cys Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Thr Thr Gly Lys Pro Asn Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Arg Tyr Leu Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1753

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1753

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Met Thr Gly Lys Pro Asn Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asp Tyr Tyr Tyr Arg Ser Tyr Asp Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1754

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (57)..(57)

<223> 任一胺基酸

<400> 1754

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Lys Tyr
20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Xaa Pro Arg Tyr Ala His Asp Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1755

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1755

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Thr Pro Met Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Arg Asp Tyr Tyr Tyr Arg Arg Tyr Val Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1756

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1756

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Val Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Val Asn Thr Asp Thr Gly Lys Pro Pro Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Lys Tyr Tyr Tyr Trp Thr Tyr Val Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1757
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (54)..(54)
 <223> 任一胺基酸

<400> 1757
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Tyr Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Xaa Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ile Tyr Tyr Tyr Gly Arg Tyr Ser Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1758
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1758

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Phe Tyr
 20 25 30

Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Arg Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1759

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1759

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

Ser Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Lys Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1761

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asp Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Met Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1762

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1762

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Tyr Tyr Tyr Tyr Lys Lys Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1763

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1763

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Gly Thr Gly Arg Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Gln Tyr Tyr Tyr Arg Arg Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1764

<211> 123

- **hBDI-9E8-E7VH.1a** 係基於.1 之人類化設計且含有 3 個所提出框架回復突變(A44G、V78A 及 M82I)。
- **hBDI-9E8-E7VH.1b** 係介於.1 與.1a 間之中間設計且僅具有 2 個所提出框架回復突變(A44G 及 M82I)。
- **hBDI-9E8-E7VH.1c** 係基於.1b 且具有一個額外 CDR 種系變化 N65T 以改良與人類種系序列之一致性。
- **hBDI-9E8-E7VH.v6** 係具有 4 個所提出框架回復突變(Q1E、K5R、V78A 及 M82I)之含有 IGHV2-70*04 及 IGHJ6 框架序列之人類化 BDI-9E8-E7 VH。
- **hBDI-9E8-E7VH.v7** 係具有 10 個所提出框架回復突變(A24F、V37I、V48L、S49A、F67L、R71K、N73T、T77Q、L78A 及 M82I)之含有 IGHV3-66*01 及 IGHJ1 框架序列之人類化 BDI-9E8-E7 VH。
- **hBDI-9E8-E7VL.1** 係含有 IGLV6-57*01 及 IGJL2*01 框架序列之 CDR 移植、人類化 BDI-9E8-E7 VL。
- **hBDI-9E8-E7VL.1a** 係具有 3 個所提出框架回復突變(S43P、T46N 及 Y87F)之基於.1 之人類化設計。
- **hBDI-9E8-E7VL.2** 係含有 IGKV3-20*01 及 IGJK4*01 框架序列之 CDR 移植、人類化 BDI-9E8-E7 VL。
- **hBDI-9E8-E7VL.2a** 係具有 9 個所提出框架回復突變(I2F、A43P、L46N、L47V、I58V、G66I、T69N、F71A、Y87F)及 1 個殘基缺失(T10)及 2 個殘基插入(D66a 及 S66b)之基於.2 之人類化設計。
- **hBDI-9E8-E7VL.2b** 係基於.2a 且僅具有 2 個所提出框架回復突變(I2F、L47V)且不具殘基缺失(T10)及插入(D66a、S66b)。
- **hBDI-9E8-E7VL.v6** 係具有 9 個所提出框架回復突變：(I2F、M4L、L46N、L47V、T69N、D70S、F71A、T72S 及 Y87F)之含有 IGKV4-1*01 及 IGJK4*01 框架序列之人類化 BDI-9E8-E7 VL。

<212> PRT
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<220>
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<400> 1764
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Lys Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Lys Asn Tyr Tyr Tyr Lys Ser Tyr Val Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1765
<211> 123
<212> PRT
<213> 人工序列

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<400> 1765
Glu Val Gln Leu Val Gln Ser Val Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
20 25 30

Thr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Met Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ile Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1766
<211> 123
<212> PRT
<213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1766
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Ser Tyr Tyr Tyr Arg Asn Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1767
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1767
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Lys Pro Asp Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gln Lys Tyr Tyr Tyr Arg Ser Tyr Phe Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1768
 <211> 123
 <212> PRT
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<220>
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<220>
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 <222> (105)..(105)
 <223> 任一胺基酸

<400> 1768
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Lys Pro Ala Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Pro Ser Tyr Tyr Tyr Val Xaa Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1769

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (33)..(33)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (100)..(100)

<223> 任一胺基酸

<400> 1769

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Leu Tyr
 20 25 30

Xaa Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Lys Pro Thr Tyr Ala His Asp Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Xaa Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1770

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1770

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr His Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Cys Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1771
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1771
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Glu Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Pro Asn Tyr Tyr Tyr Arg Ser Tyr Phe Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1772
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1772
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Arg Pro Gly Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Trp Tyr Tyr Tyr Trp Met Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1773

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1773

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Tyr Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Thr Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Tyr Tyr Tyr Tyr Gly Ser Tyr Ser Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1774
 <211> 123
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<220>
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 <222> (54)..(54)
 <223> 任一胺基酸

<400> 1774
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Val Asn Tyr
 20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Xaa Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Lys Thr Tyr Tyr Tyr Arg Gly Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1775
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1775

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Lys Tyr Tyr Tyr Arg Ser Tyr Thr Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1776

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1776

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Leu His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Trp Pro Arg Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Tyr Tyr Tyr Val Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1777

<211> 123

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (100)..(100)

<223> 任一胺基酸

<400> 1777

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ile Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Xaa Tyr Tyr Tyr Arg Ser Tyr Val Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1778

<211> 123
 <212> PRT
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<220>
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 <222> (107)..(107)
 <223> 任一胺基酸

<400> 1778
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Ile Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala His Tyr Tyr Tyr Arg Thr Tyr Xaa Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1779
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1779
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Ile Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala His Tyr Tyr Tyr Arg Thr Tyr Asn Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1780

<211> 123

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1780

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Arg Pro Arg Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Tyr Tyr Tyr Tyr Arg Cys Tyr Ser Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1781
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1781
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Thr Pro Ser Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Thr Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1782
 <211> 123
 <212> PRT
 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1782
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala

1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
 20 25 30
 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asn Thr Asn Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60
 Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Ala Tyr Tyr Tyr Trp Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1783
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1783
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
 20 25 30
 Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asn Thr Lys Thr Gly Met Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Ala Arg Thr Thr Tyr Tyr Tyr Met Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1784

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1784

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Gln Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Lys Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Trp Ser Tyr Lys Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1785

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (57)..(57)

<223> 任一氨基酸

<400> 1785

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Thr Tyr
 20 25 30

Met Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Xaa Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1786

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1786

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Met Asn Tyr
 20 25 30

Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Lys Thr Gly Met Pro Arg Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Met Arg Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1787

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1787

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Gln Thr Gly Glu Pro Pro Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Gly Tyr Tyr Tyr Trp Asn Tyr Leu Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1788
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1788
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Arg Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Pro Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Met Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1789
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1789
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Trp Ile Asn Thr Glu Thr Gly Ser Pro Arg Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Val Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1790

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (57)..(57)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (99)..(99)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (104)..(105)

<223> 任一胺基酸

<400> 1790

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Xaa Pro Thr Tyr Ala His Asp Phe

50

55

60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Xaa Asn Tyr Tyr Tyr Xaa Xaa Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1791

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1791

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ile Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Arg Pro Ile Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ile Ile Tyr Tyr Tyr Cys Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1792

蛋白質區域	序列
	123456789012345678901234567890
hBDI-7H10-D8VL.1	DIVMTQTPLSLSVTPGQPASISCRSSQSLE YSDGYTYLEWYLQKPGQSPQLLIYGVSNR SGVPDRFSGSGSGTDFTLKISRVEAEDVGV YYCFQATHDPLTFGQGTKLEIK
hBDI-7H10-D8VL.1a	DVVL TQTPLSLSVTPGQPASISCRSSQSLE YSDGYTYLEWYLQKPGQSPQLLIYGVSNR SGVPDRFSGSGSGTDFTLKISRVEAEDVGV YYCFQATHDPLTFGQGTKLEIK
hBDI-7H10-D8VL.1b	DVVM TQTPLSLSVTPGQPASISCRSSQSLE YSDGYTYLEWYLQKPGQSPQLLIYGVSNR SGVPDRFSGSGSGTDFTLKISRVEAEDVGV YYCFQATHDPLTFGQGTKLEIK

• **hBDI-7H10-D8VH.1z** 係含有 IGHV1-69*01 及 IGHJ3 框架序列之 CDR 移植、人類化 BDI-7H10-D8 VH。

• **hBDI-7H10-D8VH.1** 係基於 .1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

• **hBDI-7H10-D8VH.1a** 係基於 .1 之人類化設計且含有 5 個所提出框架回復突變 (M48I、V67A、I69L、E73T 及 S76N)。

• **hBDI-7H10-D8VH.1b** 係介於 .1 與 .1a 間之中間設計且僅具有 1 個所提出框架回復突變 M48I。

• **hBDI-7H10-D8VH.1c** 係基於 .1b 且具有兩個額外 CDR 種系變化 Y27G 及 T30S。

• **hBDI-7H10-D8VL.1** 係含有 IGKV2-29*02 及 IGKJ2 框架序列之 CDR 移植、人類化 BDI-7H10-D8 VL。

• **hBDI-7H10-D8VL.1a** 係具有 2 個所提出框架回復突變 I2V 及 M4L 之基於 .1 之人類化設計。

<211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1792
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1793
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1793
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Leu Tyr
 20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Gln Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Asn Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1794

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1794

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1795
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (13)..(13)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (30)..(30)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (34)..(34)
 <223> 任一胺基酸

<400> 1795
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Asn Xaa Pro Gly Ala
 1 5 10 15

Ser Leu Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Xaa Asn Tyr
 20 25 30

Gly Xaa Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1796
 <211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1796

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Ile Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1797

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1797

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Leu Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1798

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1798

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Gln Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1799
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1799
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Ser Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1800
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1800
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1801

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1801

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1802
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (57)..(57)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (62)..(62)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (100)..(100)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (104)..(104)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (107)..(107)
 <223> 任一胺基酸

<400> 1802
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Xaa Pro Thr Tyr Ala Xaa Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Arg Xaa Tyr Tyr Tyr Xaa Ser Tyr Xaa Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1803
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1803
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1804
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1804

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1805

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1805

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1806

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1806

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asn Tyr Tyr Tyr Met Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1807

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1807

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Met Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1808

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1808

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Leu Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Lys Tyr Tyr Tyr Trp Arg Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1809

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1809

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1810

<211> 123

<212> PRT

<213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1810
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30
 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Ile Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1811
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (57)..(59)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (99)..(99)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (104)..(105)

<223> 任一氨基酸

<400> 1811

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala.
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Met Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Xaa Xaa Xaa Tyr Ala His Asp Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Glu Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Xaa Asn Tyr Tyr Tyr Xaa Xaa Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1812

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1812

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Met Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1814

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1815

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1815

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Ser Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1816

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1816

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1817

<211> 123

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1817
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1818
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1818
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Tyr Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Arg Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Glu Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1819

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1819

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

蛋白質區域	序列
	123456789012345678901234567890
hBDI-1E1-D5VL.1a	AIQLTQSPSSLSASVGDRTITCKGSQNIN NYLAWYQQKPGKAPKLLIYKTNNLQTGIPS RFSGSGSGTDYTLTISLQPEDFATYYCYQ YDNGYTFGQGTKLEIK
hBDI-1E1-D5VL.2	EIVLTQSPATLSLSPGERATLSCKGSQNIN NYLAWYQQKPGQAPRLLIYKTNNLQTGIPA RFSGSGSGTDFTLTISLLEPEDFAVYYCYQ YDNGYTFGQGTKLEIK
hBDI-1E1-D5VL.2a	EIVLTQSPATLSLSPGERATLSCKGSQNIN NYLAWYQQKPGQAPRLLIYKTNNLQTGIPA RFSGSGSGTDYTLTISLLEPEDFATYYCYQ YDNGYTFGQGTKLEIK

• **hBDI-1E1-D5VH.1z** 係含有 IGHV1-69*06 及 JH6 框架序列之 CDR 移植、人類化 BDI-1E1-D5 VH。

• **hBDI-1E1-D5VH.1** 係基於.1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

• **hBDI-1E1-D5VH.1a** 係基於.1 之人類化設計且含有 4 個所提出框架回復突變(M48I、V67A、I69L 及 S76N)。

• **hBDI-1E1-D5VH.1b** 係介於.1 與.1a 間之中間設計且僅具有 1 個回復突變 M48I。此設計消除 Carter 殘基回復突變。

• **hBDI-1E1-D5VL.1** 係含有 IGKV1D-13*01 及 Jk2 框架序列之 CDR 移植、人類化 BDI-1E1-D5 VL。

• **hBDI-1E1-D5VL.1a** 係具有 2 個所提出框架回復突變(V58I 及 F71Y)之基於.1 之人類化設計。

• **hBDI-1E1-D5VL.2** 係含有 IGKV3-11*01 及 Jk2 框架序列之 CDR 移植、人類化 BDI-1E1-D5 VL。

<210> 1820
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1820
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
 20 25 30

Arg Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Lys Pro Lys Tyr Ala Asp Asp Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Phe Lys Tyr Tyr Tyr Gly Ser Tyr Phe Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1821
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1821
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1822

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1822

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1823
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1823
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1824
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1824
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr

20

25

30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Arg Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1825

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1825

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ala Ser Tyr Met Phe Tyr Phe Asp Tyr

100

105

110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1826
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1826
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Gln Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1827
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1827
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser His Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Ser Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1828

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1828

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1829
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1829
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1830
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (62)..(62)

<223> 任一氨基酸

<400> 1830

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Xaa Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1831

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1831

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe

50

55

60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Thr Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1832

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1832

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Met Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1833

<211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1833
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Tyr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Lys Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1834
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1834
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ala Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ile Tyr Tyr Leu Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1835

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1835

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Gly Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1836
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (57)..(57)
 <223> 任一胺基酸

<400> 1836
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Pro Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Xaa Pro Pro Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Thr Cys Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1837
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES
 <222> (57)..(57)
 <223> 任一氨基酸

<400> 1837

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Xaa Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Arg Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1838
 <211> 123
 <212> PRT
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<220>
 <221> MOD_RES
 <222> (59)..(59)
 <223> 任一氨基酸

<400> 1838

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Trp Ile Asp Thr Glu Thr Gly Met Pro Xaa Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1839

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1839

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

<210> 1840
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (99)..(99)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (105)..(105)
 <223> 任一胺基酸

<400> 1840
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Xaa Asn Tyr Tyr Tyr Arg Xaa Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1841
 <211> 123
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1841

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Lys Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Lys Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ala Tyr Tyr Tyr Arg Asn Tyr Lys Ser Thr Leu Ile Thr
 100 105 110

Gly Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1842

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1842

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Gly Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1843

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1843

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Tyr Tyr Tyr Tyr Arg Thr Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1844

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1844

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1845

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1845

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Asn Phe Thr Lys Tyr
20 25 30

Glu Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Lys Tyr Tyr Tyr Arg Ser Tyr Val Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1846

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1846

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Leu Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1847
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1847
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1848
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1848
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Trp Ile Asn Thr Asp Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1849

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1849

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

<210> 1850
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1850
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1851
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1851
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Gln Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Leu Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1852

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1852

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asp Tyr Tyr Tyr Pro Thr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1853
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1853
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Thr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1854
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1854
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1855

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1855

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr His Tyr Tyr Tyr Arg Thr Tyr Leu Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1856
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1856
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1857
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1857

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1858

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (54)..(54)

<223> 任一氨基酸

<400> 1858

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Ser Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Xaa Thr Gly Lys Pro Ile Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Lys Tyr Tyr Tyr Arg Thr Tyr Arg Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1859

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1859

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Val Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Asn Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1860

<211> 123

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1860
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1861
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1861
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Glu Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1862

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1862

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Asn Tyr Tyr Tyr Arg Trp Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

	蛋白質區域	序列
		123456789012345678901234567890
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• **hBDI-6A3-A9VH.1** 係含有 IGHV3-7*01 及 JH6 框架序列之 CDR 移植、人類化 BDI-6A3-A9 VH。

• **hBDI-6A3-A9VH.1a** 係基於.1 之人類化設計且含有 1 個所提出框架回復突變 N76S。

• **hBDI-6A3-A9VH.1b** 係基於.1 且具有兩個額外 CDR 種系變化 S28T 及 R60V 以改良與人類種系序列之一致性。

• **hBDI-6A3-A9VH.2z** 係含有 IGHV1-3*01 及 JH6 框架序列之 CDR 移植、人類化 BDI-6A3-A9 VH。

• **hBDI-6A3-A9VH.2** 係基於.2z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

• **hBDI-6A3-A9VH.2a** 係基於.2 之人類化設計且含有 7 個所提出框架回復突變 R44G、M48V、G49A、V67F、T73N、A78L 及 M80L。

• **hBDI-6A3-A9VH.2b** 係僅具有 3 個所提出框架回復突變 R44G、M48V 及 M80L 的介於.2 與.2a 間之中間設計。

• **hBDI-6A3-A9VL.1** 係含有 IGLV6-57*01 及 JL2 框架序列之 CDR 移植、人類化 BDI-6A3-A9 VL。

• **hBDI-6A3-A9VL.1a** 係具有 4 個所提出框架回復突變(S43P、T46N、Y49F 及 Y87F)之基於.1 之人類化設計。

<210> 1863
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1863
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1864
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1864
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Tyr Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Glu Lys Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1865

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1865

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1866
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>
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 <222> (100)..(100)
 <223> 任一氨基酸

<220>
 <221> MOD_RES
 <222> (104)..(104)
 <223> 任一氨基酸

<400> 1866
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Met Thr Tyr
 20 25 30

Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ser Tyr Ala His Asp Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Met Xaa Tyr Tyr Tyr Xaa Ile Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1867
 <211> 123
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1867

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1868

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

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<222> (27)..(27)

<223> 任一胺基酸

<400> 1868

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Asn Ala Ser Gly Xaa Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ile Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1869

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (62)..(63)

<223> 任一胺基酸

<400> 1869

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Xaa Xaa Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Glu Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1870

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1870

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1871

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1871

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1872

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1872

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Arg Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Trp Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Gln Gly Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1873

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1873

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1874

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1874

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser His Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1875

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1875

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1876

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

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<222> (54)..(54)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (62)..(62)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (84)..(85)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (87)..(87)

<223> 任一胺基酸

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<222> (89)..(89)

<223> 任一胺基酸

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<222> (99)..(99)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (104)..(104)

<223> 任一胺基酸

<400> 1876

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Xaa Thr Gly Lys Pro Thr Tyr Ala Xaa Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Xaa Xaa Leu Xaa Ala Xaa Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Xaa Lys Tyr Tyr Tyr Xaa Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1877

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1877

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Tyr Asn Tyr
 20 25 30

Cys Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Ile Pro Lys Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ile Asn Tyr Tyr Tyr Lys Arg Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1878
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<220>
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 <222> (100)..(100)
 <223> 任一胺基酸

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 <222> (104)..(104)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (107)..(107)
 <223> 任一胺基酸

<400> 1878
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Xaa Tyr Tyr Tyr Xaa Arg Tyr Xaa Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1879
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1879
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Phe Ser
 115 120

<210> 1880
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<220>

<221> MOD_RES
 <222> (88)..(88)
 <223> 任一氨基酸

<400> 1880

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ile His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Xaa Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Val Tyr Tyr Tyr Pro Arg Tyr Thr Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1881
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1881

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Met Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Gly Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1882

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (104)..(104)

<223> 任一胺基酸

<400> 1882

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Leu Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Xaa Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

<210> 1883
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1883
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Lys Tyr
 20 25 30
 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ser Tyr Ala Gln Gly Phe
 50 55 60
 Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Ala Lys Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1884
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1884
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Leu Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Arg Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ile Tyr Arg Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1885

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (99)..(99)

<223> 任一胺基酸

<220>

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<222> (104)..(104)

<223> 任一胺基酸

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<221> MOD_RES

<222> (106)..(107)

<223> 任一胺基酸

<400> 1885

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Tyr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Xaa Lys Tyr Tyr Tyr Xaa Ser Xaa Xaa Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1886

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1886

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Leu Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ile Tyr Tyr Tyr Lys Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1887
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1887
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Gly Thr Gly Ile Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Tyr Tyr Tyr Arg Asn Tyr Leu Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1888
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1888
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Thr Tyr Tyr Tyr Arg Arg Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1889

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1889

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Arg Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1890
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
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 <222> (84)..(85)
 <223> 任一胺基酸

<400> 1890
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Xaa Xaa Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Gly Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1891
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1891

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Ile Tyr
 20 25 30

Arg Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Lys Tyr Tyr Tyr Gly Phe Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1892

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (89)..(89)

<223> 任一胺基酸

<400> 1892

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Met Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Arg Pro Val Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Xaa Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Leu Arg Tyr Val Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1893

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1893

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Gly Thr Gly Met Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asn Lys Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1894
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1894
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Pro Tyr Ala Asp Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1895
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1895
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Trp Ile Asn Thr Glu Thr Gly Ile Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Asp Tyr Tyr Tyr Thr Ser Tyr Lys Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1896

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1896

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ile Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Glu Tyr Tyr Tyr Met Asn Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

<210> 1897
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1897
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Gly Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Ser Arg Tyr Asp Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1898
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1898
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Gln Thr Gly Lys Pro Ala Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Ile Tyr Tyr Tyr Arg Ile Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1899
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
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 <222> (67)..(67)
 <223> 任一胺基酸

<220>
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 <222> (82)..(82)
 <223> 任一胺基酸

<220>
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 <222> (87)..(87)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (89)..(89)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (99)..(99)
 <223> 任一胺基酸

<220>

<221> MOD_RES
 <222> (104)..(104)
 <223> 任一氨基酸

<220>
 <221> MOD_RES
 <222> (115)..(115)
 <223> 任一氨基酸

<400> 1899
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Gln Thr Gly Glu Pro Ser Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Xaa Phe Val Phe Ser Leu Asp Thr Ser Ala Ser Thr Glu Tyr
 65 70 75 80

Leu Xaa Ile Ser Ile Leu Xaa Asp Xaa Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Xaa Thr Tyr Tyr Tyr Xaa Asn Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Xaa Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1900
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1900
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Asn Gly Trp Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ile Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1901

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1901

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1902
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (84)..(84)
 <223> 任一氨基酸

<400> 1902
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Gly Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Xaa Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Pro Ile Tyr Tyr Tyr Ile Arg Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1903
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>

蛋白質區域	序列
	123456789012345678901234567890
hBFU-3E2VL.2	AIQLTQSPSSLSASVGDRVTITCRASESVS TLMHWYQQKPGKAPKLLIYGASNLESGVPS RFSGSGSGTDFTLTISLQPEDFATYYCQQ SWNDPWFEGGGTKVEIK
hBFU-3E2VL.2a	ATQLTQSPSSLSASVGDRVTISCRASESVS TLMHWYQQKPGKQPRLLIYGASNLESGVPS RFSGSGSGTDFTLTISLQPEDFATYFCQQ SWNDPWFEGGGTKVEIK
hBFU-3E2VL.2b	ATQLTQSPSSLSASVGDRVTITCRASESVS TLMHWYQQKPGKAPRLLIYGASNLESGVPS RFSGSGSGTDFTLTISLQPEDFATYFCQQ SWNDPWFEGGGTKVEIK
hBFU-3E2VL.2c	ATQLTQSPSSLSASVGDRVTITCRASESVS TLMHWYQQKPGKAPRLLIYGASNLESGVPS RFSGSGSGTDFTLTISLQPEDFATYYCQQ SWNDPWFEGGGTKVEIK

• **hBFU-3E2VH.1z** 係含有 IGHV1-69*01 及 IGHJ6*01 框架序列之 CDR 移植、人類化 BFU-3E2 VH。

• **hBFU-3E2VH.1** 係基於 .1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

• **hBFU-3E2VH.1a** 係基於 .1 之人類化設計且含有 7 個所提出框架回復突變(R38K、W47L、M48I、R66K、V67A、I69L、Y91F)。

• **hBFU-3E2VH.1b** 係介於 .1 與 .1a 間之中間設計且含有 3 個所提出框架回復突變(W47L、M48I、I69L)。

• **hBFU-3E2VH.1c** 係介於 .1 與 .1a 間之中間設計且含有 2 個所提出框架回復突變(W47L、M48I)。

• **hBFU-3E2VH.1d** 係基於 .1 之人類化設計且含有 9 個所提出框

<221> MOD_RES
 <222> (54)..(54)
 <223> 任一氨基酸

<400> 1903

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Asp Tyr
 20 25 30

Pro Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Xaa Thr Gly Gln Pro Leu Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1904
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (89)..(89)
 <223> 任一氨基酸

<400> 1904

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Xaa Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1905

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1905

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Ser Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Arg Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

<210> 1906
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1906
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

Trp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Arg Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Glu Tyr Tyr Tyr Lys Ser Tyr Asn Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1907
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1907
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ala Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Met Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Lys Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1908

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1908

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe His Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Tyr Tyr Tyr Arg Ser Tyr Phe Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1909
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 <212> PRT
 <213> 人工序列

<220>
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<220>
 <221> MOD_RES
 <222> (104)..(104)
 <223> 任一胺基酸

<400> 1909
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Ile Tyr Tyr Tyr Xaa Thr Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1910
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1910

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Pro Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Leu Tyr Tyr Tyr Arg Thr Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1911

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (122)..(122)

<223> 任一胺基酸

<400> 1911

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Cys Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Arg Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Xaa Ser
 115 120

<210> 1912

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1912

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Ser Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Cys Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1913
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1913
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Asn Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Pro Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1914
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1914
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Gly Ile Tyr Leu Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1915

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1915

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Arg Pro Ala Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ile Thr Tyr Tyr Tyr Arg Met Tyr Arg Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1916
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1916
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ile Asp Tyr
 20 25 30

Leu Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr His Tyr Tyr Tyr Arg Ser Tyr Ala Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1917
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1917
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Lys Tyr

20

25

30

Glu Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asp Tyr Thr Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1918

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1918

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

Arg Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Arg Pro Ser Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asn Ile Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr

100

105

110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1919
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1919
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1920
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1920
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Arg Asn Tyr
20 25 30

Val Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Gln Thr Gly Glu Pro Ser Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Gly Ile Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1921

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1921

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Gln Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1922
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1922
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Met Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Gly Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1923
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1923

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Leu Gly Tyr
 20 25 30

Ser Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Lys Phe Tyr Tyr Tyr Glu Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1924

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1924

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Tyr Tyr
 20 25 30

Cys Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr His Thr Gly Lys Pro Met Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Lys Lys Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1925

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1925

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Met Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1926

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1926

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Met Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Met Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ile Tyr Tyr Tyr Pro Arg Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1927

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1927

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Met Tyr
20 25 30

Lys Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Gln Thr Gly Gly Pro Ser Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Lys Tyr Tyr Tyr Trp Arg Tyr Val Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1928

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1928

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Met Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1929

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1929

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1930

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1930

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Ala Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe

50

55

60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Met Tyr Tyr Leu Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1931

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1931

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Leu Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1932

<211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (62)..(62)
 <223> 任一胺基酸

<400> 1932
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Trp Thr Gly Lys Pro Thr Tyr Ala Xaa Asp Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1933
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1933
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1934

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1934

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Arg Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1935

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (57)..(57)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (62)..(63)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (100)..(100)

<223> 任一胺基酸

<400> 1935

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Val Thr Gly Xaa Pro Thr Tyr Ala Xaa Xaa Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Xaa Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1936
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1936
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Arg Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asp Tyr Tyr Tyr Arg Arg Tyr Thr Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1937
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1937
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr

20

25

30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Ile Pro Ser Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asn Tyr Tyr Tyr Ser Thr Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1938

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1938

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Ile Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr

100

105

110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1939
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1939
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1940
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1940
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1941

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1941

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Leu Thr Gly Ala Pro Met Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1942
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1942
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Lys Asn Tyr
 20 25 30

Ser Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Met Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Phe Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1943
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1943

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1944

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1944

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1945
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 1945
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1946
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source

蛋白質區域	序列
	123456789012345678901234567890
hBFU-11A8VL.1b	ETVLTQSPATLSLSPGERATLSCRASESVS TLMHWYQQKPGQAPRLLIYGASNLESGVPA RFSGSGSGTDFTLTISSLEPEDFAVYFCQQ SWNDPWTFGGGTKVEIK
hBFU-11A8VL.1c	ETVLTQSPATLSLSPGERATLSCRASESVS TLMHWYQQKPGQAPRLLIYGASNLESGIPA RFSGSGSGTDFTLTISSLEPEDFAVYYCQQ SWNDPWTFGGGTKVEIK
hBFU-11A8VL.2	DIQMTQSPSTLSASVGDRVTITCRASESVS TLMHWYQQKPGKAPKLLIYGASNLESGVPS RFSGSGSGTEFTLTISSLQPDDEFATYYCQQ SWNDPWTFGGGTKVEIK
hBFU-11A8VL.2a	DTQLTQSPSTLSASVGDRVTIPCRASESVS TLMHWYQQKPGKQPKLLIYGASNLESGVPS RFSGSGSGTEFTLTISSLQPDDEFATYFCQQ SWNDPWTFGGGTKVEIK
hBFU-11A8VL.2b	DTQLTQSPSTLSASVGDRVTITCRASESVS TLMHWYQQKPGKAPKLLIYGASNLESGVPS RFSGSGSGTEFTLTISSLQPDDEFATYFCQQ SWNDPWTFGGGTKVEIK
hBFU-11A8VL.2c	DIQMTQSPSTLSASVGDRVTITCRASESVS TLMHWYQQKPGKAPKLLIYGASNLESGVPS RFSGSGSGTEFTLTISSLQPDDEFATYYCQQ SWNDPWTFGGGTKVEIK

• **hBFU-11A8VH.1z** 係含有 IGHV1-69*01 及 IGHJ6*01 框架序列之 CDR 移植、人類化 BFU-11A8 VH。

• **hBFU-11A8VH.1** 係基於 .1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1946

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Gln Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1947

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1947

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Thr Pro Ala Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Thr Arg Tyr Asn Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1948

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1948

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1949

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1949

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1950

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (62)..(63)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (99)..(99)

<223> 任一胺基酸

<400> 1950

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Asp Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Thr Tyr Ala Xaa Xaa Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Xaa Asn Tyr Tyr Tyr Ser Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1951

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1951

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ser Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1952
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1952
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1953
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1953

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1954

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1954

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Tyr Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ser Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ile Tyr Tyr Tyr Thr Thr Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1955

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1955

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ile Asn Tyr Tyr Tyr Pro Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1956

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1956

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1957

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1957

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1958

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1958

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1959

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1959

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1960

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1960

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Lys Tyr Ala Asp Asp Phe

- **hBFU-11A8VH.1a** 係基於.1 之人類化設計且含有 8 個所提出框架回復突變：R38K、W47L、M48I、R66K、V67A、I69L、S76N、Y91F。

- **hBFU-11A8VH.1b** 係介於.1 與.1a 間之中間設計且含有 4 個所提出框架回復突變：W47L、M48I、I69L、S76N。

- **hBFU-11A8VH.1c** 係基於.1b 之設計且含有 2 個所提出框架回復突變：W47L、M48I。

- **hBFU-11A8VL.1** 係含有 IGKV3-11*01 及 IGKJ4*01 框架序列之 CDR 移植、人類化 BFU-11A8 VL。

- **hBFU-11A8VL.1a** 係基於.1 之人類化設計且含有 5 個所提出框架回復突變：I2T、S22P、A43Q、I58V、Y87F。

- **hBFU-11A8VL.1b** 係介於.1 與 1a 間之中間設計。其含有 3 個所提出框架回復突變：I2T、I58V、Y87F。

- **hBFU-11A8VL.1c** 係基於.1b 之設計且含有 1 個所提出框架回復突變：I2T。

- **hBFU-11A8VL.2** 係含有 IGKV1-5*01 及 IGKJ4*01 框架序列之 CDR 移植、人類化 BFU-11A8 VL。

- **hBFU-11A8VL.2a** 係基於.2 之人類化設計且含有 5 個所提出框架回復突變：I2T、M4L、T22P、A43Q、Y87F。

- **hBFU-11A8VL.2b** 係介於.2 與 2a 間之中間設計。其含有 3 個所提出框架回復突變：I2T、M4L、Y87F。

- **hBFU-11A8VL.2c** 係基於.2b 之設計且含有 1 個所提出框架回復突變：I2T。

實例 6.2：VEGF 抗體之人類化

實例 6.2.1：人類化方法

抗體人類化係藉由以下方式來達成：將齧齒類動物抗體之 CDR

50

55

60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1961

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1961

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Tyr Asn Tyr Tyr Tyr Arg Ile Tyr Leu Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1962

<211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1962
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Tyr Tyr
 20 25 30

Ser Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Thr Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Thr Tyr Tyr Tyr Trp Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1963
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1963
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1964
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (54)..(54)
 <223> 任一胺基酸

<400> 1964
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Xaa Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Tyr Tyr Tyr Arg Cys Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1965
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1965
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Gln Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1966
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES
 <222> (62)..(62)
 <223> 任一胺基酸

<400> 1966

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Asp Thr Gly Lys Pro Thr Tyr Ala Xaa Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Thr Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1967
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1967

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Glu Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Asp Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1968

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1968

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Leu Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1969

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1969

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1970

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1970

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Ser Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1971

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 1971

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1972
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1972
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Asp Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1973
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1973
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Tyr Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Met Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1974

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1974

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser

移植至「類似」人類框架(受體)上並納入齧齒類動物抗體之最少量之經選擇以維持原始 CDR 構象的關鍵框架殘基(回復突變)，以最小化免疫原性，同時保留最佳抗原結合。

實例 6.2.2：用於構築 CDR 移植、人類化 VEGF 抗體之人類種系序列選擇

藉由應用上文所提及之方法，將單株抗體 BDB-4G8-D4、BEW-9A8-E2、BEW-6C2-C8、BEW-9D2-E8、BEW-9E3-B9、BEW-5C3、BEW-9E10、BEW-1B10 及 BEW-1E3 之 VH 及 VL 鏈之 CDR 序列移植至不同的人類重鏈及輕鏈受體序列上。

實例 6.2.2.1：BDB-4G8-D4

基於與本發明單株抗體 BDB-4G8-D4 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV7-4-1*02 及 IGHJ3*01 用於構築重鏈受體序列
- 2.IGHV1-18*01 及 IGHJ3*01 作為備份受體序列用於構築重鏈
- 3.IGHV5-51*01 及 IGHJ3*01 作為備份受體序列用於構築重鏈
- 4.IGHV3-66*01 及 IGHJ1*01 作為備份受體序列用於構築重鏈
- 5.IGKV1D-13*01 及 IGKJ2*01 用於構築輕鏈受體序列
- 6.IGKV3-11*01 及 IGKJ2*01 作為替代受體序列用於構築輕鏈
- 7.IGKV3-15*01 及 IGKJ5*01 作為替代受體序列用於構築輕鏈
- 8.IGKV3-15*01 及 IGKJ1*01 作為替代受體序列用於構築輕鏈
- 9.IGKV1-39*01 及 IGKJ1*01 作為替代受體序列用於構築輕鏈。

藉由將 BDB-4G8-D4 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.2.2.2：BEW-9A8-E2

基於與本發明單株抗體 BEW-9A8-E2 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

115

120

<210> 1975
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1975
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Ser Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ile Ile Tyr Tyr Tyr Leu Ser Tyr Leu Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1976
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1976
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asp Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1977

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1977

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Ser Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1978
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1978
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Tyr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1979
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1979
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1980

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1980

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Lys Tyr
20 25 30

Ala Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Val Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly His Tyr Tyr Tyr Met Met Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1981
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1981
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Tyr Lys Tyr Tyr Tyr Arg Ser Tyr Lys Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1982
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 1982

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1983

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1983

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1984

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1984

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1985

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1985

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Tyr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1986

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1986

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1988

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
 20 25 30

Arg Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Arg Trp Ile Asn Thr Glu Thr Gly Trp Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Ser Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1989

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1989

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Asn Pro Met Tyr Ala Asp Asp Phe
 50 55 60

- 1.IGHV7-81*01 及 IGHJ1*01 用於構築重鏈受體序列
- 2.IGHV1-18*01 及 IGHJ1*01 作為替代受體序列用於構築重鏈
- 3.IGHV7-4-1*01 及 IGHJ1*01 作為替代受體序列用於構築重鏈
- 4.IGKV6-21*01 及 IGKJ2*01 用於構築輕鏈受體序列
- 5.IGKV1-39*01 及 IGKJ2*01 作為替代受體序列用於構築輕鏈
- 6.IGKV3-11*01 及 IGKJ2*01 作為替代受體序列用於構築輕鏈
- 7.IGKV1-13*01 及 IGKJ2*01 作為替代受體序列用於構築輕鏈

藉由將 BEW-9A8-E2 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.2.2.3 : BEW-6C2-C8

基於與本發明單株抗體 BEW-6C2-C8 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV3-7*01 及 IGHJ3*01 用於構築重鏈受體序列
- 2.IGKV3-11*01 及 IGKJ2*01 用於構築輕鏈受體序列
- 3.IGKV1-39*01 及 IGKJ2*01 作為替代受體序列用於構築輕鏈

藉由將 BEW-6C2-C8 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.2.2.4 : BEW-9D2-E8

基於與本發明單株抗體 BEW-9D2-E8 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV7-81*01 及 IGHJ4*01 用於構築重鏈受體序列
- 2.IGHV1-18*01 及 IGHJ4*01 作為替代受體序列用於構築重鏈
- 3.IGKV3-11*01 及 IGKJ2*01 用於構築輕鏈受體序列
- 4.IGKV1-39*01 及 IGKJ2*01 作為替代受體序列用於構築輕鏈

藉由將 BEW-9D2-E8 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1990

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1990

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1991

<211> 123

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<400> 1991
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Val Arg Thr Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 1992
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<220>
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<222> (37)..(37)
<223> 任一胺基酸

<400> 1992
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr

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25

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Gly Met Tyr Trp Xaa Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1993

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1993

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe His Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr

100

105

110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
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 <223> 任一胺基酸

<220>
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 <222> (62)..(63)
 <223> 任一胺基酸

<400> 1994
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Xaa Pro Thr Tyr Ala Xaa Xaa Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1995
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<400> 1995

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1996

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<220>

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<222> (65)..(65)

<223> 任一胺基酸

<400> 1996

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr

20

25

30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Xaa Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1997

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<212> PRT

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<222> (99)..(99)

<223> 任一胺基酸

<400> 1997

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala His Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Xaa Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1998

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 1998

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Pro Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 1999

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 1999

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2000

<211> 123

<212> PRT

<213> 人工序列

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<400> 2000

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Ile Tyr Ala Gln Gly Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Asn Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2001

<211> 123

<212> PRT

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<400> 2001

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Arg Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2002

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2002

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2003

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2003

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Glu Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe

實例 6.2.2.5 : BEW-9E3-B9

基於與本發明單株抗體 BEW-9E3-B9 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV7-81*01 及 IGHJ4*01 用於構築重鏈受體序列
- 2.IGHV1-18*01 及 IGHJ4*01 作為替代受體序列用於構築重鏈
- 3.IGKV3-11*01 及 IGKJ2*01 用於構築輕鏈受體序列
- 4.IGKV1-39*01 及 IGKJ2*01 作為替代受體序列用於構築輕鏈

藉由將 BEW-9E3-B9 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.2.2.6 : BEW-5C3

基於與本發明單株抗體 BEW-5C3 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV7-4-1*01 及 IGHJ1*01 用於構築重鏈受體序列
- 2.IGHV1-69*06 及 IGHJ1*01 作為替代受體用於構築重鏈
- 3.IGKV3-11*01 及 IGKJ4*01 用於構築輕鏈受體序列
- 4.IGKV1-13*01 及 IGKJ4*01 作為替代受體用於構築輕鏈

藉由將 BEW-5C3 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.2.2.7 : BEW-9E10

基於與本發明單株抗體 BEW-9E10 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV7-4-1*01 及 IGHJ1*01 用於構築重鏈受體序列
- 2.IGHV1-69*06 及 IGHJ1*01 作為替代受體用於構築重鏈
- 3.IGKV1-27*01 及 IGKJ2*01 用於構築輕鏈受體序列

藉由將 BEW-9E10 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

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60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2004

<211> 123

<212> PRT

<213> 人工序列

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<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2004

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2005

<211> 123
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<400> 2005
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asp Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2006
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<220>
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<400> 2006
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2007

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2007

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Gly Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2008
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2008
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2009
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 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2009
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2010

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2010

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2011
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2011
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2012
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2012
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2013

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2013

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2014
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2014
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Met Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2015
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2015
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala

1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30
 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asp Thr Asp Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Thr Asn Tyr Tyr Tyr Pro Lys Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2016

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2016

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ala Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2017

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2017

Glu Val His Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2018

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

實例 6.2.2.8 : BEW-1B10

基於與本發明單株抗體 BEW-1B10 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV3-7*01 及 IGHJ6*01 用於構築重鏈受體序列
- 2.IGKV1-39*01 及 IGKJ4*01 用於構築輕鏈受體序列

藉由將 BEW-1B10 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.2.2.9 : BEW-1E3

基於與本發明單株抗體 BEW-1E3 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV7-4-1*01(0-1)及 IGHJ1*01 用於構築重鏈受體序列
- 2.IGHV1-18*01 及 IGHJ1*01 作為替代受體用於構築重鏈
- 3.IGKV3-11*01 及 IGKJ2*01 用於構築輕鏈受體序列
- 4.IGKV1-13*01 及 IGKJ2*01 作為替代受體用於構築輕鏈

藉由將 BEW-1E3 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.2.3 : 在 CDR 移植抗體中引入潛在框架回復突變

為產生具有潛在框架回復突變之人類化抗體，鑑別該等突變且藉由從頭合成可變結構域或誘變寡核苷酸引子及聚合酶鏈式反應或藉由業內所熟知之方法將其引入 CDR 移植抗體序列中。對於每一 CDR 移植物如下構築回復突變及其他突變之不同組合。該等突變之殘基編號係基於 Kabat 編號系統。

實例 6.2.3.1 : BDB-4G8-D4

當選擇 IGHV7-4-1*02 及 IGHJ3*01 作為 BDB-4G8-D4 重鏈受體序列時，可如下回復突變以下殘基其中之一或多者：Q1→、V2→I、W47→Y 及 Y91→F。

<220>
 <221> MOD_RES
 <222> (75)..(75)
 <223> 任一氨基酸

<220>
 <221> MOD_RES
 <222> (81)..(81)
 <223> 任一氨基酸

<220>
 <221> MOD_RES
 <222> (91)..(91)
 <223> 任一氨基酸

<220>
 <221> MOD_RES
 <222> (95)..(95)
 <223> 任一氨基酸

<220>
 <221> MOD_RES
 <222> (118)..(118)
 <223> 任一氨基酸

<400> 2018
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Asn Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Ser Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Xaa Val Ser Thr Ala Tyr
 65 70 75 80

Xaa Gln Ile Ser Ser Leu Lys Ala Glu Asp Xaa Ala Val Tyr Xaa Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Xaa Val Thr Val Ser Ser
 115 120

<210> 2019
 <211> 123
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2019

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2020

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (18)..(18)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (67)..(67)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (77)..(78)

<223> 任一胺基酸

<400> 2020

Glu Val Gln Leu Val Pro Ser Gly Ser His Phe Asn Asn Pro Gly Ala
 1 5 10 15

Ser Xaa Lys Val Ser Cys Ser Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Xaa Phe Val Phe Ser Leu Asp Thr Ser Val Xaa Xaa Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2021

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2021

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2022

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2022

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2023

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2023

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2024

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2024

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe

50

55

60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Glu Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2025

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2025

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2026

<211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (62)..(63)
 <223> 任一胺基酸

<400> 2026
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Xaa Xaa Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2027
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2027
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2028

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2028

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2029

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2029

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Thr Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2030

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2030

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala

1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30
 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2031

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2031

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys

當選擇 IGHV1-18*01 及 IGHJ3*01 作為 BDB-4G8-D4 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、V2→I、W47→Y、V67→F、M69→F、T71→L 及 Y91→F。

當選擇 IGHV5-51*01 及 IGHJ3*01 作為 BDB-4G8-D4 重鏈受體序列時，可如下回復突變一或多個以下殘基：V2→I、A9→T、G24→A、R38→K、W47→Y、Q66→R、V67→F、I69→F、A71→L、I75→F、S76→N、Y79→F 及 Y91→F。

當選擇 IGHV3-66*01 及 IGHJ1*01 作為 BDB-4G8-D4 重鏈受體序列時，可如下回復突變一或多個以下殘基：V2→I、E6→Q、L11→V、R38→K、W47→Y、V48→M、S49→G、I69→F、R71→L、N73→T、N76→S、L78→A、M82→L 及 Y91→F。

當選擇 IGKV1D-13*01 及 IGKJ2*01 作為 BDB-4G8-D4 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、A43→Q 及 Y87→F (具或不具 1 個殘基缺失(S10))。

當選擇 IGKV3-11*01 及 IGKJ2*01 作為 BDB-4G8-D4 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：E1→D、I2→T、I58→V 及 Y87→F。

當選擇 IGKV3-15*01 及 IGKJ5*01 或 IGKJ5*01 作為 BDB-4G8-D4 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：E1→D、I2→T、M4→L、A9→S、L13→A、L21→I、R45→K、I58→V、A60→S、G66→R、E70→D、E79→Q 及 Y87→F。

當選擇 IGKV1-39*01 及 IGKJ1*01 作為 BDB-4G8-D4 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、M4→L、T22→S 及 Y87→F。

實例 6.2.3.2：BEW-9A8-E2

當選擇 IGHV7-81*01 及 IGHJ1*01 作為 BEW-9A8-E2 重鏈受體

85

90

95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2032

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2032

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2033

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2033

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Asn Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2034

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2034

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Arg Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2035

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (23)..(23)

<223> 任一胺基酸

<400> 2035

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Xaa Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2036
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2036
 Arg Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2037
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2037
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Glu Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2038

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2038

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Ser Leu Gln

115

120

<210> 2039
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2039
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Val Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2040
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2040
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2041
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2041
 Ala Ser Ala Ala Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Glu Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2042
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2042
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Glu Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2043
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2043
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Glu Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Gly Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2044

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2044

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser.
 115 120

<210> 2045
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2045
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2046
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2046

序列時，可如下回復突變以下殘基中之一或多者：Q1→E V2→I、P38→K、W47→Y、M71→L、Y90→F 及 Y91→F(具或不具 CDR 變化) T28→S。

當選擇 IGHV1-18*01 及 IGHJ1*01 作為 BEW-9A8-E2 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、V2→I、R38→K、W47→Y、V67→F、M69→F、T71→L、Y90→F 及 Y91→F。

當選擇 IGHV7-4-1*01 及 IGHJ1*01 作為 BEW-9A8-E2 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、V2→I、R38→K、W47→Y、Y90→F、Y91→F。

當選擇 IGKV6-21*01 及 IGKJ2*01 作為 BEW-9A8-E2 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、S43→Q、K49→H 及 Y87→F。其他突變包括以下各項：F10 缺失。

當選擇 IGKV1-39*01 及 IGKJ2*01 作為 BEW-9A8-E2 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、M4→L、A43→Q、Y49→H 及 Y87→F。其他突變包括以下各項：S10 缺失。

當選擇 IGKV3-11*01 及 IGKJ2*01 作為 BEW-9A8-E2 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、Y49→H、I58→V、V85→T 及 Y87→F。

當選擇 IGKV1-13*01 及 IGKJ2*01 作為 BEW-9A8-E2 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、T22→S、Y49→H、Y87→F。

實例 6.2.3.3：BEW-6C2-C8

當選擇 IGHV3-7*01 及 IGHJ3*01 作為 BEW-6C2-C8 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：V37→I、V48→M 及 R94→A。

當選擇 IGKV3-11*01 及 IGKJ2*01 作為 BEW-6C2-C8 輕鏈受體

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asp Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2047

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2047

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2048

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2048

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2049

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2049

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2050

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (36)..(36)

<223> 任一胺基酸

<400> 2050

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Gly Met Tyr Xaa Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2051

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2051

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2052
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2052
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Pro Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2053
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2053
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asn Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2054

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2054

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2055
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<220>
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<222> (10)..(10)
<223> 任一胺基酸

<220>
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<222> (13)..(13)
<223> 任一胺基酸

<220>
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<222> (16)..(16)
<223> 任一胺基酸

<220>
<221> MOD_RES
<222> (18)..(18)
<223> 任一胺基酸

<220>
<221> MOD_RES
<222> (23)..(23)
<223> 任一胺基酸

<220>
<221> MOD_RES
<222> (46)..(46)
<223> 任一胺基酸

<220>
<221> MOD_RES
<222> (53)..(54)
<223> 任一胺基酸

<220>
<221> MOD_RES
<222> (84)..(84)
<223> 任一胺基酸

<220>
<221> MOD_RES
<222> (88)..(88)
<223> 任一胺基酸

<220>
<221> MOD_RES
<222> (118)..(119)

<223> 任一胺基酸

<400> 2055

Glu Val Gln Leu Val Gln Ser Gly Ser Xaa Leu Lys Xaa Pro Gly Xaa
1 5 10 15

Ser Xaa Lys Val Ser Cys Xaa Val Ser Gly Tyr Thr Phe Gln Asn Tyr
20 25 30

Gly Met Tyr Cys Val Arg Pro Ala Pro Gly Gln Trp Leu Xaa Trp Met
35 40 45

Gly Trp Ile Asp Xaa Xaa Thr Gly Glu Pro Thr Tyr Ala Tyr Asp Phe
50 55 60

Lys Gly Trp Phe Leu Phe Ser Leu His Thr Ser Val Ser Met Ser Ser
65 70 75 80

Leu Gln Asn Xaa Ser Leu Lys Xaa Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Thr Asn Tyr Tyr Tyr Asn Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Xaa Xaa Thr Val Ser Ser
115 120

<210> 2056

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2056

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2058

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val His Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2059

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2059

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

序列時，可如下回復突變以下殘基中之一或多者：F71→Y 及 Y87→F。

當選擇 IGKV1-39*01 及 IGKJ2*01 作為 BEW-6C2-C8 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：M4→L、V58→I、F71→Y 及 Y87→F。

實例 6.2.3.4：BEW-9D2-E8

當選擇 IGHV7-81*01 及 IGHJ4*01 作為 BEW-9D2-E8 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、V2→I、P38→K、Q39→L、W47→Y、M48→L、M71→L 及 Y91→F (具或不具 CDR 變化) T28→S。

當選擇 IGHV1-18*01 及 IGHJ4*01 作為 BEW-9D2-E8 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、V2→I、R38→K、Q39→L、W47→Y、M48→L、V67→F、M69→F、T71→L、M80→L 及 Y91→F。

當選擇 IGKV3-11*01 及 IGKJ2*01 作為 BEW-9D2-E8 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、A43→Q、I58→V 及 Y87→F。其他突變包括以下各項：T10 缺失。

當選擇 IGKV1-39*01 及 IGKJ2*01 作為 BEW-9D2-E8 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、M4→L、A43→Q 及 Y87→F。其他突變包括以下各項：T10 缺失。

實例 6.2.3.5：BEW-9E3-B9

當選擇 IGHV7-81*01 及 IGHJ4*01 作為 BEW-9E3-B9 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1E、V2→I、W47→Y、M71→L 及 Y91→F (具或不具 CDR 變化) T28→S。

當選擇 IGHV1-18*01 及 IGHJ4*01 作為 BEW-9E3-B9 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q1→E、V2→I、W47→Y、V67→F、M69→F、T71→L 及 Y91→F。

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2060

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2060

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2061

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2061

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2062

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2062

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2063

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2063

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Gly Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Cys Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2064
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2064
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30
 Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110
 Trp Gly Gln Gly Ala Met Val Thr Val Ser Ser
 115 120

<210> 2065
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2065
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Arg Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2066

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2066

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Val Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2067
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2067
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2068
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2068
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Glu Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr

20

25

30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Ser Leu Gln
 115 120

<210> 2069

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2069

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Ala Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr

100

105

110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2070
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (23)..(23)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (30)..(30)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (62)..(62)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (84)..(84)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (98)..(98)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (111)..(111)
 <223> 任一胺基酸

<400> 2070
 Glu Gly His Leu Gly Gln Ser Gly Ser Glu Leu Lys Asn Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Xaa Ala Ser Gly Tyr Thr Phe Xaa Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Xaa Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Gly Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Xaa Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Glu Xaa Thr Asn Tyr Tyr Tyr Ser Arg Tyr Met Phe Tyr Phe Xaa Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2071

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (50)..(50)

<223> 任一胺基酸

<400> 2071

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Xaa Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2072
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2072
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Phe Ser
115 120

<210> 2073
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2073
Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr

當選擇 IGKV3-11*01 及 IGKJ2*01 作為 BEW-9E3-B9 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、A43→Q、I58→V 及 Y87→F。其他突變包括以下各項：S10 缺失。

當選擇 IGKV1-39*01 及 IGKJ2*01 作為 BEW-9E3-B9 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I2→T、M4→L、A43→Q 及 Y87→F。其他突變包括以下各項：S10 缺失。

實例 6.2.3.6：BEW-5C3

當選擇 IGHV7-4-1*01 及 IGHJ1*01 作為 BEW-5C3 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：V2→I、R38→K、W47→Y、Y90→F、Y91→F。

當選擇 IGHV1-69*01 及 IGHJ1*01 作為 BEW-5C3 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：V67→F、I69→F、A71→L。其他突變包括以下各項：V2→I、R38→K、W47→Y、T68→V、M80→L、Y90→F、Y91→F。

當選擇 IGKV3-11*01 及 IGKJ4*01 作為 BEW-5C3 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：E1→D、I2→T、Y36→F、Y87→F。其他突變包括以下各項：A43→Q、I58→V、C34→S (CDR 變化)。

當選擇 IGKV1-13*01 及 IGKJ4*01 作為 BEW-5C3 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：A1→D、I2→T、T22→S、Y36→F、A43→Q、Y87→F (具有 CDR 變化) C34→S。

實例 6.2.3.7：BEW-9E10

當選擇 IGHV7-4-1*01 及 IGHJ1*01 作為 BEW-9E10 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：V2→I、R38→K、W47→Y、Y91→F。

當選擇 IGHV1-69*06 及 IGHJ1*01 作為 BEW-9E10 重鏈受體序

20

25

30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Leu Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2074

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2074

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr

100

105

110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2075
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2075
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Arg Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2076
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2076
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Leu Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2077

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2077

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2078
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2078
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2079
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2079

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2080

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (104)..(104)

<223> 任一胺基酸

<400> 2080

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe

50

55

60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Xaa Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2081

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2081

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2082

<211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2082
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Gln Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2083
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2083
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser His Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2084

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2084

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2085
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<220>
 <221> MOD_RES
 <222> (42)..(42)
 <223> 任一胺基酸

<400> 2085
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Xaa Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2086
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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<400> 2086
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His

20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2087

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2087

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Ala Lys Leu Glu Ile Lys
100 105

<210> 2088

列時，可如下回復突變以下殘基中之一或多者：V67→F、I69→F。其他突變包括以下各項：V2→I、R38→K、W47→Y、Y91→F。

當選擇 IGKV1-27*01 及 IGKJ2*01 作為 BEW-9E10 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：Q3→R、V43→S、F71→Y、Y87→F。其他突變包括以下各項：T22→E、T72→S。

實例 6.2.3.8：BEW-1B10

當選擇 IGHV3-7*01 及 IGHJ6*01 作為 BEW-1B10 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：V37→F、I69→V。其他突變包括以下各項：N76→S、S77→T。

當選擇 IGKV1-39*01 及 IGKJ4*01 作為 BEW-1B10 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：A43→S、F71→Y。其他突變包括以下各項：L47→V。

實例 6.2.3.9：BEW-1E3

當選擇 IGHV7-4-1*01 及 IGHJ1*01 作為 BEW-1E3 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：V2→I、R38→K、W47→Y、Y91→F。

當選擇 IGHV1-18*01 及 IGHJ1*01 作為 BEW-1E3 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：V67→F、M69→F、T71→L。其他突變包括以下各項：V2→I、R38→K、W47→Y、Y91→F。

當選擇 IGKV3-11*01 及 IGKJ2*01 作為 BEW-1E3 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：I58→V、Y87→F。其他突變包括以下各項：I2→T、A43→Q。

當選擇 IGKV1-13*01 及 IGKJ2*01 作為 BEW-1E3 輕鏈受體序列時，可如下回復突變以下殘基中之一或多者：Y87→F。其他突變包括以下各項：I2→T、T22→S、A43→Q。

實例 6.2.4：在 CDR 移植抗體中含有框架回復突變之針對 VEGF 之人

<211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2088
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Leu Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2089
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2089
 Glu Ile Val Leu Thr Gln Phe Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2090

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2090

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Thr Pro His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Cys Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2091

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2091

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Gly Arg Ala Ser Glu Ser Val Asp Lys Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Arg Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2092

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2092

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Lys Thr Asp
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Arg Asn Glu Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2093
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2093
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Arg Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2094
 <211> 107
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>
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 <222> (94)..(94)
 <223> 任一胺基酸

<400> 2094
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ala Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Cys Asn Xaa Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2095

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2095

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Glu Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Cys Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2096
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2096
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Asp
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2097
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2097
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Pro His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Ser Asn Glu Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2098

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (92)..(92)

<223> 任一氨基酸

<400> 2098

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asp Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Xaa Ile Asp Pro Val
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2099

<211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2099
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Pro Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asn Ala His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Asp Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2100
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2100
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Arg Thr Gln
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ser Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Arg Thr Glu Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2101

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2101

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Pro
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Asp
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Phe Trp Asp Asp Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2102

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2102

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ile Thr His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ser Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Cys Cys Ile Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2103

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (92)..(92)

<223> 任一胺基酸

<400> 2103

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Ser Gln
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Val Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ile His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2106

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2106

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Pro
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Glu Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2107
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2107
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ala His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ile Tyr Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2108
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (92)..(92)
 <223> 任一胺基酸

<400> 2108
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Thr His

20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Ile Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Xaa Arg Tyr Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2109

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2109

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser Asn Glu Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2110

<211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2110
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Gly Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Arg Trp Asn Glu Pro Ser
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2111
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2111
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Phe His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Pro Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Arg Arg His Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2112

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2112

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ile Gln
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gln Trp Asn Val Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2113

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2113

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Pro
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Arg Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Gly Asn Asp Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2114

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2114

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Trp Ala Ser Asp Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Cys Trp Asn Gly Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2115
 <211> 107
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (87)..(87)
 <223> 任一胺基酸

<400> 2115
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Phe Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Cys Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Xaa Cys Gln Gln Ser Gly Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2116
 <211> 107
 <212> PRT
 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2116
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Gly Asn Val Pro Cys
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2117

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2117

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Trp His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ile Arg Ala Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2118
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2118
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Cys Ala His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Trp Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Gly Leu Asp Pro Val
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2119
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2119
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Gln
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Gly Asn Asn Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2120

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2120

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Leu
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Trp Asn Lys Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2121

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2121

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Thr Thr His
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Trp Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Ser Lys Asn Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2122

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (31)..(31)

<223> 任一胺基酸

<400> 2122

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Xaa His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Trp Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2123
<211> 107
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2123
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser His
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Ser Arg Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2124
<211> 107
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2124

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Thr Thr Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Arg Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2125

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (94)..(94)

<223> 任一胺基酸

<400> 2125

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

65 70 75 80
 Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Lys Ser Asn Xaa Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2126
 <211> 107
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2126
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Arg Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Lys Asp Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2127
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2127
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ala His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Glu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Val Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2128

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2128

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Leu Ile Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Glu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Ser Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2129
 <211> 107
 <212> PRT
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<220>
 <221> MOD_RES
 <222> (92)..(92)
 <223> 任一胺基酸

<400> 2129
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Cys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Tyr Xaa Asn Asp Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2130
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2130
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ile Thr His

<211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2132
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Arg Asp
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Arg Trp Lys Glu Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2133
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2133
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Thr Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Cys Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2134

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2134

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Val Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Gly Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Gln His Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2135

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2135

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Gly Asn Asp Pro Cys
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2136

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2136

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Ser Tyr
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Trp Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ala Trp Asn Asp Pro Ser
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2137
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2137
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn Pro
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2138
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2138
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Leu Thr Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2139

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2139

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Pro Pro
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Glu Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2140

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2140

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asn Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Asn His Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2141

<211> 107

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2141

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Tyr Pro
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Arg Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2143

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Gln
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Lys Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2144

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2144

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Lys
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ile Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2145
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<400> 2145
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Arg Ala Ser Tyr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Lys Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2146
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Met Thr His

20

25

30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Glu Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<223> 任一胺基酸

<400> 2147

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Xaa Thr His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Gln Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<220>
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 <222> (87)..(88)
 <223> 任一胺基酸

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 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Xaa Xaa Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Val Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Tyr Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2150

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<400> 2150

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ile Thr Pro
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Arg Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ile Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

SEQ ID NO:	蛋白質區域	序列
		123456789012345678901234567890
	hBDB-4G8-D4VL.v2	DTVLTQSPATLSLSLSPGERATLSCRASESVS THMHWYQQKPGQAPRLLIYGASNLESGVPA RFSGSGSGTDFTLTITSSLEPEDFAVYFCQQ SWNDPFTFGQGTKLEIK
	hBDB-4G8-D4VL.v3	ETVLTQSPATLSVSPGERATLSCRASESVS THMHWYQQKPGQAPRLLIYGASNLESGVPA RFSGSGSGTDFTLTITSSLQSEDFAVYFCQQ SWNDPFTFGQGTRLEIK
	hBDB-4G8-D4VL.v4	DTVLTQSPSTLSASLSPGERATISCRASESVS THMHWYQQKPGQAPKLLIYGASNLESGVPS RFSGSRSGTDFTLTITSSLQPEDFAVYFCQQ SWNDPFTFGQGTKVEIK
	hBDB-4G8-D4VL.v5	DTQLTQSPSSLSASVGDRTVITSCRASESVS THMHWYQQKPGKAPKLLIYGASNLESGVPS RFSGSGSGTDFTLTITSSLQPEDFATYFCQQ SWNDPFTFGQGTKVEIK

• **hBDB-4G8-D4VH.1z** 係含有 IGHV7-4-1*02 及 IGHJ3*01 框架序列之 CDR 移植、人類化 BDB-4G8-D4 VH。

• **hBDB-4G8-D4VH.1** 係基於 .1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

• **hBDB-4G8-D4VH.1a** 係基於 .1 之人類化設計且含有 3 個所提出框架回復突變 (V2I、W47Y 及 Y91F)。

• **hBDB-4G8-D4VH.1b** 係介於 .1 與 .1a 間之中間設計且僅具有 1 個回復突變 W47Y。

• **hBDB-4G8-D4VH.2z** 係含有 IGHV1-18*01 及 IGHJ3*01 框架序

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<400> 2151
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Pro Leu
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Trp Asn Glu Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2152
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Pro His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Trp Ala Ser Ser Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Asn Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2153

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Arg Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Trp Asn Tyr Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2154

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<400> 2154

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Arg
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Arg Tyr Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2155

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<400> 2155

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ser His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Arg Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2156
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Thr Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn His Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2157
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Lys Thr Gln

20

25

30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Cys Asn Gly Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 2158

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Gln
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Gly Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2159
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Pro Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Lys Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2160
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ala His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Trp Trp Asn Asn Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

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<400> 2161
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Arg Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Glu Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2162
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<400> 2162

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Gln Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 2163

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Thr Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Val Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 2164
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Ala
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Asn Val Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2165
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Met Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 2166

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asn Asp His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asn Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2167

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<213> 人工序列

列之 CDR 移植、人類化 BDB-4G8-D4 VH。

- **hBDB-4G8-D4VH.2** 係基於 .2z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

- **hBDB-4G8-D4VH.2a** 係基於 .2 之人類化設計且含有 6 個所提出框架回復突變(V2I、W47Y、V67F、M69F、T71L 及 Y91F)。

- **hBDB-4G8-D4VH.2b** 係介於 .2 與 .2a 間之中間設計且僅具有 2 個所提出框架回復突變(W47Y 及 T71L)。

- **hBDB-4G8-D4VH.v3** 係具有 13 個所提出框架回復突變(V2I、A9T、G24A、R38K、W47Y、Q66R、V67F、I69F、A71L、I75F、S76N、Y79F 及 Y91F)之含有 IGHV5-51*01 及 IGHJ3*01 框架序列之人類化 BDB-4G8-D4 VH。

- **hBDB-4G8-D4VH.v4** 係具有 13 個所提出框架回復突變(V2I、E6Q、L11V、W47Y、V48M、S49G、I69F、R71L、N73T、N76S、L78A、M82L 及 Y91F)之含有 IGHV3-66*01 及 IGHJ1*01 框架序列之人類化 BDB-4G8-D4 VH。

- **hBDB-4G8-D4VH.v5** 係具有 10 個所提出框架回復突變(R38K、W47Y、V48M、S49G、I69F、R71L、N73T、N76S、L78A 及 Y91F)之含有 IGHV3-66*01 及 IGHJ1*01 框架序列之人類化 BDB-4G8-D4。

- **hBDB-4G8-D4VL.1** 係含有 IGKV1D-13*01 及 IGKJ2*01 框架序列之 CDR 移植、人類化 BDB-4G8-D4 VL。

- **hBDB-4G8-D4VL.1a** 係具有 3 個所提出框架回復突變(I2T、A43Q 及 Y87F)及 1 個殘基缺失(S10)之基於 .1 之人類化設計。

- **hBDB-4G8-D4VL.1b** 係僅具有 1 個所提出框架回復突變 I2T 之介於 .1 與 .1a 間之中間設計。

- **hBDB-4G8-D4VL.1c** 係具有 1 個殘基插入(S10)之基於 .1b 之人類化設計。

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<400> 2167

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2168

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<212> PRT

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<400> 2168

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2171

<211> 107

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2171

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ile Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2172
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<400> 2172
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ile Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2173
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<400> 2173
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Cys Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp His Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2174

<211> 107

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<400> 2174

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Asp Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2175

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2175

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Glu Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2176

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2176

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asn Thr Leu
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Glu Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2177
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<400> 2177
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2178
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 <212> PRT
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<400> 2178
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Lys His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asn Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2179

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2179

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asp Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp His Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2180

<211> 107
 <212> PRT
 <213> 人工序列

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<400> 2180
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Thr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2181
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2181
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2182

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2182

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Asn
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Glu Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2183

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2183

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asp Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Gly Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2184

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2184

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn Asn
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2185
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2185
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2186
 <211> 107
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2186
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Glu Pro Trp
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2187

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2187

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ile Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2188

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2188

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Asn Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2189

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2189

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Gly Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

65 70 75 80
 Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Thr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2190

<211> 107

<212> PRT

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<222> (32)..(32)

<223> 任一胺基酸

<400> 2190

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Tyr Thr Xaa
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ile Leu Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2191

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2191

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2192

<211> 107

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2192

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr Asn
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2193
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<400> 2193
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ala Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2194
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<400> 2194
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2195

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2195

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Met Asn His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2196

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<400> 2196
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr Ser
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Glu Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2197
 <211> 107
 <212> PRT
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<400> 2197
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2198

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2198

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn Asn
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Ser Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2199

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<400> 2199

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Ser Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2200

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2200

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2201
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Pro Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 2203

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Glu Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2204

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Glu Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2205

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 2208

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2209
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2210
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Val Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<210> 2211

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<400> 2211

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Thr Ser Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Gln Asn Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2212

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<400> 2212

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asp His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Thr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Thr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His

20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2216

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<400> 2216

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr Ala
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asp Ala Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2217

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Thr Pro Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Ser
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Lys Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Val Pro Trp
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2220

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn Ser
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Thr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2221

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
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Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Asn Asp Pro Ser
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 1 5 10 15

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 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
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 20 25 30

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 35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Ser Asp Pro Leu
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Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

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 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Arg Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Gly Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2226

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Ser Asp Pro Leu
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Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asn Thr His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Met Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Ser Leu Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

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Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
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Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Glu Pro Tyr
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Gly Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Glu Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Phe Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Thr Asn Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Thr Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
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<400> 2241

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 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Cys Thr Arg
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2243
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Phe Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2244
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<400> 2244
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Asp Ser
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Asn Val Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2245

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<400> 2245

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ala Asn His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2246

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2247

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2247

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

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hBEW-9A8-E2VL.3b	ETVLTQSPATLSLSPGERATLSCRASESVS TVIHWYQQKPGQAPRLLIYGASNLESGIPA RFSGSGSGTDFTLTISLQPEDFAVYFCQQ HWNDPPTFGQGTKLEIK
hBEW-9A8-E2VL.3c	ETVLTQSPATLSLSPGERATLSCRASESVS TVIHWYQQKPGQAPRLLIYGASNLESGIPA RFSGSGSGTDFTLTISLQPEDFAVYYCQQ HWNDPPTFGQGTKLEIK
hBEW-9A8-E2VL.4	AIQLTQSPSSLSASVGDRVITITCRASESVS TVIHWYQQKPGKAPKLLIYGASNLESGVPS RFSGSGSGTDFTLTISLQPEDFATYYCQQ HWNDPPTFGQGTKLEIK
hBEW-9A8-E2VL.4a	ATQLTQSPSSLSASVGDRVITISCRASESVS TVIHWYQQKPGKAPKLLIHGASNLESGVPS RFSGSGSGTDFTLTISLQPEDFATYFCQQ HWNDPPTFGQGTKLEIK

65 70 75 80

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 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Val Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asn Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Ile Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2250

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Met Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Glu His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asp Val Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 2253

Glu Asn Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ile Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Glu Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asp Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ile Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His

20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ile Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2261

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ile Thr His
20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2262

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2262

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gln Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2263

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2263

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

蛋白質區域	序列
	123456789012345678901234567890
hBEW-9A8-E2VL.4b	ATQLTQSPSSLSASVGDRVITTCRASESVS TVIHWYQQKPGKAPKLLIYGASNLESGVPS RFSGSGSGTDFTLTISSLQPEDFATYFCQQ HWNDPPTFGQGTKLEIK
hBEW-9A8-E2VL.4c	ATQLTQSPSSLSASVGDRVITTCRASESVS TVIHWYQQKPGKAPKLLIYGASNLESGVPS RFSGSGSGTDFTLTISSLQPEDFATYYCQQ HWNDPPTFGQGTKLEIK

- **hBEW-9A8-E2VH.1z** 係含有 IGHV7-81*01 及 IGHJ1*01 框架序列之 CDR 移植、人類化 BEW-9A8-E2 VH。
- **hBEW-9A8-E2VH.1** 係基於 .1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。
- **hBEW-9A8-E2VH.1a** 係基於 .1 之人類化設計且含有 6 個所提出框架回復突變(V2I、P38K、W47Y、M71L、Y90F 及 Y91F)。
- **hBEW-9A8-E2VH.1b** 係介於 .1 與 .1a 間之中間設計且僅具有 3 個所提出框架回復突變(W47Y、M71L 及 Y90F)。
- **hBEW-9A8-E2VH.1c** 係基於 .1b 且具有一個額外 CDR 種系變化 T28S 以改良與人類種系序列之一致性。
- **hBEW-9A8-E2VH.2z** 係含有 IGHV1-18*01 及 IGHJ1*01 框架序列之 CDR 移植、人類化 BEW-9A8-E2 VH。
- **hBEW-9A8-E2VH.2** 係基於 .2z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。
- **hBEW-9A8-E2VH.2a** 係基於 .2 之人類化設計且含有 8 個所提出框架回復突變(V2I、R38K、W47Y、V67F、M69F、T71L、Y90F 及 Y91F)。

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2264
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2264
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2265
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2265
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ile Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asp Asn Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2266

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2266

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val His Lys His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Gly Trp Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2267

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2267

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2268

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2268

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Leu Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Ser Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2271

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2271

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Phe Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2272
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2272
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr Pro
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2273
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 <213> 人工序列

<220>
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<400> 2273
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2274

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2274

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asp Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2275

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2275

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Met Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Thr Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2276

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

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<221> MOD_RES

<222> (14)..(14)

<223> 任一胺基酸

<400> 2276

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Xaa Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Tyr Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Cys Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Ile Glu His
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2277

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2277

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ala Asn His
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Thr Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2278

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2278

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Met Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asn Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2279

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2279

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asp Asp Pro Leu
 85 90 95

- **hBEW-9A8-E2VH.2b** 係介於.2 與.2a 間之中間設計且含有 3 個回復突變(W47Y、M71L 及 Y90F)。
- **hBEW-9A8-E2VH.2c** (hBEW-9A8VH.4a)係介於.2 與.2a 間之中間設計且含有 6 個所提出框架回復突變(V2I、R38K、W47Y、V67F、M69F 及 T71L)。
- **hBEW-9A8-E2VH.2d** (hBEW-9A8VH.4b)係介於.2 與.2a 間之中間設計且含有 4 個所提出框架回復突變(V2I、V67F、M69F 及 T71L)。
- **hBEW-9A8VH.3z** 係含有 IGHV7-4-1*01 及 IGHJ1*01 框架序列之 CDR 移植、人類化 BEW-9A8 VH。
- **hBEW-9A8VH.3** 係基於.3z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。
- **hBEW-9A8VH.3a** 係基於.3 之人類化設計且含有 3 個所提出框架回復突變(V2I、R38K、W47Y)。
- **hBEW-9A8VH.3b** 係介於.3 與.3a 間之中間設計且含有 1 個所提出框架回復突變：V2I。
- **hBEW-9A8VH.3c** 係基於.3 之人類化設計且含有 5 個所提出框架回復突變(V2I、R38K、W47Y、Y90F、Y91F)。
- **hBEW-9A8-E2VL.1** 係含有 IGKV6-21*01 及 IGKJ2*01 框架序列之 CDR 移植、人類化 BEW-9A8-E2 VL。
- **hBEW-9A8-E2VL.1a** 係具有 4 個所提出框架回復突變(I2T、S43Q、K49H 及 Y87F)之基於.1 之人類化設計。
- **hBEW-9A8-E2VL.1b** 係僅具有 2 個所提出框架回復突變(I2T 及 K49H)之介於.1 與.1a 間之中間設計。
- **hBEW-9A8-E2VL.1c** 係基於.1b 且具有 1 個殘基缺失 F10。
- **hBEW-9A8-E2VL.2** 係含有 IGKV1-39*01 及 IGKJ2*01 框架序列之 CDR 移植、人類化 BEW-9A8-E2 VL。

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2280
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2280
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Val Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2281
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2281
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2282

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2282

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2283

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2283

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Met Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2284

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2284

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asp Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2287

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2287

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Glu Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2288
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2288
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2289
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<400> 2289
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2290

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Val Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2291

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<400> 2291

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Leu Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2292

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<400> 2292

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Thr His
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Ala Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Thr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2293
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<400> 2293
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2294
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<220>
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 <223> 任一胺基酸

<400> 2294

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn Pro
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Xaa Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2295

<211> 107

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<400> 2295

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asp Asp Pro Phe
 85 90 95

- **hBEW-9A8-E2VL.2a** 係具有 5 個所提出框架回復突變(I2T、M4L、A43Q、Y49H 及 Y87F)之基於.2 之人類化設計。
- **hBEW-9A8-E2VL.2b** 係僅具有 2 個所提出框架回復突變(I2T 及 Y49H)之介於.1 與.1a 間之中間設計。
- **hBEW-9A8-E2VL.2c** 係基於.2b 且具有 1 個殘基缺失 S10。
- **hBEW-9A8VL.3** 係含有 IGKV3-11*01 及 IGKJ2*01 框架序列之 CDR 移植、人類化 BEW-9A8 VL。
- **hBEW-9A8VL.3a** 係基於.3 之人類化設計且含有 5 個所提出框架回復突變：(I2T、Y49H、I58V、V85T、Y87F)。
- **hBEW-9A8VL.3b** 係介於.3 與 3a 間之中間設計。其含有 2 個所提出框架回復突變：(I2T、Y87F)。
- **hBEW-9A8VL.3c** 係基於.3b 之設計且含有 1 個所提出框架回復突變：I2T。
- **hBEW-9A8VL.4** 係含有 IGKV1-13*01 及 IGKJ2*01 框架序列之 CDR 移植、人類化 BEW-9A8 VL。
- **hBEW-9A8VL.4a** 係基於.4 之人類化設計且含有 4 個所提出框架回復突變：I2T、T22S、Y49H、Y87F。
- **hBEW-9A8VL.4b** 係介於.4 與 4a 間之中間設計。其含有 2 個所提出框架回復突變：I2T、Y87F。
- **hBEW-9A8VL.4c** 係基於.4b 之設計且消除 Carter 殘基回復突變。其含有 1 個所提出框架回復突變：I2T。

實例 6.2.4.3：BEW-6C2-C8

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2296
 <211> 107
 <212> PRT
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<400> 2296
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2297
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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<400> 2297
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asn Ser Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2298

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2298

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Arg Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2299

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2299

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2300

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2300

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Thr Ala
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ser Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2303

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2303

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ile Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Gly Asp Pro Trp
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2304
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 <212> PRT
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2304
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Ile Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2305
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 <212> PRT
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<400> 2305
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Met Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2306

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2306

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2307

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2307

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2308

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2308

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Pro Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Ser Cys
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2311

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2311

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Arg His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asn Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2312

<211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
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<400> 2312
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Ala
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2313
 <211> 107
 <212> PRT
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<220>
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<400> 2313
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2314

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2314

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Arg His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Thr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2315

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2315

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Ser Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2316

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2316

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2317
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<400> 2317
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ser Asn
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2318
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 <212> PRT
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<400> 2318
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2319

<211> 107

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2319

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp His Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2320

<211> 107

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<400> 2320
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Ile Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2321
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<400> 2321
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2324

<211> 107

<212> PRT

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<223> /注释=「人工序列之描述：合成多肽」

<400> 2324

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asp Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2325
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<400> 2325
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Glu Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2326
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<400> 2326
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met Pro Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2327

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<212> PRT

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<400> 2327

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2328

<211> 107

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2328

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr Ala
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Phe Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2329

<211> 107

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2329

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Ser Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2330
<211> 107
<212> PRT
<213> 人工序列

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<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2330
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asn Ser Asp
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2331
<211> 107
<212> PRT
<213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2331
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Val Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2332

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2332

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Asn
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Asn Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2333

<211> 107
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2333
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Thr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2334
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2334
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Thr Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2335
<211> 107
<212> PRT
<213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2335
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Asp Val Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2336
<211> 107
<212> PRT
<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2336

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2337

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2337

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Cys Arg Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2338
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 <212> PRT
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<400> 2338
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Lys His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Thr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2339
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 <212> PRT
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<400> 2339
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Arg Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2340

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2340

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2341

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2341

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Glu Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2342

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2342

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Met His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Thr His
 20 25 30

Leu His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Phe Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2345

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2345

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2346
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2346
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2347
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2347
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Leu Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2348

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2348

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Leu Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2349

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2349

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ser His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asn Tyr Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2350

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2350

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2351
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2351
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ile Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2352
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2352
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Lys Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Val Glu Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2353

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2353

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Glu Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Arg Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2354

<211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2354
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2355
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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<400> 2355
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Ser Ser
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2356

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2356

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2357

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2357

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Thr Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp His Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2358

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2358

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Ser His
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Gly Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2359
 <211> 107
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2359
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2360
 <211> 107
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2360
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val His Asp His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2361

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2361

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ala Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2362

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2362

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2363

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2363

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2366

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2366

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Met Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Met Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2367
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2367
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Met Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2368
 <211> 107
 <212> PRT
 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2368
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2369

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2369

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp His Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2370

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2370

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Thr Asn Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2371

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2371

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2372
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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<220>
 <221> MOD_RES
 <222> (27)..(27)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (53)..(53)
 <223> 任一胺基酸

<220>
 <221> MOD_RES
 <222> (91)..(91)
 <223> 任一胺基酸

<400> 2372
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Xaa Ser Val Asn Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Xaa Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Xaa Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2373
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2373
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Arg Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2374
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2374
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly

50

55

60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2375

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2375

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2376

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

蛋白質區域	序列
	123456789012345678901234567890
hBEW-9D2-E8VL.2a	DTQLTQSPSSLSASVGDRVTITCRASEWVN SYMHWYQQKPGKQPKLLIYKASNLASGVPS RFSGSGSGTDFTLTISLQPEDFATYFCQQ SWNDPLTFGQGTKLEIK
hBEW-9D2-E8VL.2b	DTQMTQSPSSLSASVGDRVTITCRASEWVN SYMHWYQQKPGKAPKLLIYKASNLASGVPS RFSGSGSGTDFTLTISLQPEDFATYYCQQ SWNDPLTFGQGTKLEIK

- **hBEW-9D2-E8VH.1z** 係含有 IGHV7-81*01 及 IGHJ4*01 框架序列之 CDR 移植、人類化 BEW-9D2-E8 VH。
- **hBEW-9D2-E8VH.1** 係基於.1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。
- **hBEW-9D2-E8VH.1a** 係基於.1 之人類化設計且含有 7 個所提出框架回復突變(V2I、P38K、Q39L、W47Y、M48L、M71L 及 Y91F)。
- **hBEW-9D2-E8VH.1b** 係介於.1 與.1a 間之中間設計且僅具有 4 個所提出框架回復突變(P38K、W47Y、M48L、M71L)。
- **BEW-9D2-E8VH.1c** 係基於.1b 且具有一個額外 CDR 種系變化 T28S 以改良與人類種系序列之一致性。
- **hBEW-9D2-E8VH.2z** 係含有 IGHV1-18*01 及 IGHJ4*01 框架序列之 CDR 移植、人類化 BEW-9D2-E8 VH。
- **hBEW-9D2-E8VH.2** 係基於.2z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。
- **hBEW-9D2-E8VH.2a** 係基於.2 之人類化設計且含有 10 個所提出框架回復突變(V2I、R38K、Q39L、W47Y、M48L、V67F、M69F、T71L、M80L 及 Y91F)。

<400> 2376

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2377

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2377

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Val Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2378
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2378
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Arg His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2379
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2379
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asp Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2380

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2380

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Ser
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Gln Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Val Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2381

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2381

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Arg Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Thr Val Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2382

<211> 107

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2382

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2383

<211> 107

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<400> 2383

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Val Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2384

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2384

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly

1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30
 Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 Tyr Gly Ala Ser Thr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2385

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2385

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

100

105

<210> 2386
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<400> 2386
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2387
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<400> 2387
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2388

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2388

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2389

<211> 107

<212> PRT

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<400> 2389

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Glu His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2390

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2390

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2393

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2393

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2394
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<400> 2394
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Ser His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2395
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<400> 2395
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly

50

55

60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2396

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2396

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2397

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2397

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2398

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2398

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2399
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<400> 2399
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2400
 <211> 107
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 <213> 人工序列

<220>
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<400> 2400
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Arg His
 20 25 30

Met Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Asn Leu Glu Ile Lys
 100 105

<210> 2401

<211> 107

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2401

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2402

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2402

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2403

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2403

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asp Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2404

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2404

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2405

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2405

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly

1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30
 Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2406
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2406
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30
 Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

100

105

<210> 2407
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 <212> PRT
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<220>
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<400> 2407
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2408
 <211> 107
 <212> PRT
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<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2408
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2409

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2409

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2410

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2410

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2411

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2411

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asp Arg His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2412
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2412
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Thr Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Val Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2413
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2413
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2414

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2414

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 - - - - -5 - - - - -10 - - - - -15 - - -

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2415
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<400> 2415
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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 <223> 任一胺基酸

<400> 2416
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Tyr Leu Xaa Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Ala Arg Leu Val Met
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Phe Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2417

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<400> 2417

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2418

<211> 107

<212> PRT

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<400> 2418

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2419

<211> 107

<212> PRT

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<400> 2419

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Ala His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2420

<211> 107

<212> PRT

<213> 人工序列

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<400> 2420

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ser Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2421

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<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2421

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly

1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30
 Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95
 Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2422

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<400> 2422

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

100

105

<210> 2423
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 <223> 任一胺基酸

<400> 2423
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Xaa His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2424
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<400> 2424
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Ala
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2425

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2425

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

50

55

60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2428

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2428

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr Asn
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Val Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2429

<211> 107

<212> PRT

<213> 人工序列

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<400> 2429

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Met Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2430

<211> 107

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<400> 2430

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Phe Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2431
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<400> 2431
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Gly Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2432
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<400> 2432
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2433

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<400> 2433

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Met Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Asp Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2434

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<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2434

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2435

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2435

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2436
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<212> PRT
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<220>
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<222> (30)..(31)
<223> 任一胺基酸

<220>
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<222> (96)..(96)
<223> 任一胺基酸

<400> 2436
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Xaa Xaa His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Thr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Thr Asp Pro Xaa
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2437

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 <212> PRT
 <213> 人工序列

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<400> 2437
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Leu His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2438
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2438
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2439

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2439

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2440

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<212> PRT

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蛋白質區域	序列
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hBEW-9E3-B9VL.2b	DTQMTQSPSSLSASVGDRTITCRASEGVN SYMHWYQQKPGKAPKLLIYKASNLASGVPS RFSGSGSGTDFTLTISLQPEDFATYYCQQ SWNDPLTFGQGTKLEIK

• **hBEW-9E3-B9VH.1z** 係含有 IGHV7-81*01 及 IGHJ4*01 框架序列之 CDR 移植、人類化 BEW-9E3-B9 VH。

• **hBEW-9E3-B9VH.1** 係基於.1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

• **hBEW-9E3-B9VH.1a** 係基於.1 之人類化設計且含有 4 個所提出框架回復突變(V2I、W47Y、M71L 及 Y91F)。

• **hBEW-9E3-B9VH.1b** 係介於.1 與.1a 間之中間設計且僅具有兩個回復突變(W47Y 及 M71L)。

• **hBEW-9E3-B9VH.1c** 係基於.1b 且具有一個額外 CDR 種系變化 T28S 以改良與人類種系序列之一致性。

• **hBEW-9E3-B9VH.2z** 係含有 IGHV1-18*01 及 IGHJ4*01 框架序列之 CDR 移植、人類化 BEW-9E3-B9 VH。

• **hBEW-9E3-B9VH.2** 係基於.2z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

• **hBEW-9E3-B9VH.2a** 係基於.2 之人類化設計且含有 6 個所提出框架回復突變(V2I、W47Y、V67F、M69F、T71L 及 Y91F)。

• **hBEW-9E3-B9VH.2b** 係介於.2 與.2a 間之中間設計且僅具有兩

<400> 2440

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2441

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2441

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Met Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2442
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<400> 2442
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2443
 <211> 107
 <212> PRT
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<220>
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<400> 2443
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Ile Glu Pro Tyr
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2444

<211> 107

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2444

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2445

<211> 107

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<400> 2445

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asn Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2446

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2446

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2449

<211> 107

<212> PRT

<213> 人工序列

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<223> /注释=「人工序列之描述：合成多肽」

<400> 2449

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2450
 <211> 107
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<220>
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 <222> (87)..(87)
 <223> 任一胺基酸

<400> 2450
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met Gln Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu His
 65 70 75 80

Glu Asp Phe Ala Val Tyr Xaa Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2451
 <211> 107
 <212> PRT
 <213> 人工序列

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<400> 2451
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Arg His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2452

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2452

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Tyr Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2453

<211> 107
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<220>
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<400> 2453
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Asp Ser Ser
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2454
 <211> 107
 <212> PRT
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<400> 2454
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2455

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2455

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Ala Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2456

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2456

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Tyr Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2457

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2457

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2458
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2458
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Ala Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2459
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<400> 2459
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2460

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2460

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Pro Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2461

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2461

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Met
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2462

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2462

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Met
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2465

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2465

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Ile Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Ala Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2466
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 <212> PRT
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<400> 2466
 Glu Ile Val Leu Pro Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Pro Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2467
 <211> 107
 <212> PRT
 <213> 人工序列

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<400> 2467
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2468

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2468

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2469

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2469

Arg Asn Cys Val Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2470

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2470

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Cys Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2471
<211> 107
<212> PRT
<213> 人工序列

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<400> 2471
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Pro Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2472
<211> 107
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2472
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gly Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2473

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2473

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2474

<211> 107
 <212> PRT
 <213> 人工序列

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<400> 2474
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Met
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2475
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2475
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2476

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2476

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Arg Thr Lys Leu Glu Ile Lys
100 105

<210> 2477

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2477

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Met
 85 90 95

Ala Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2478

<211> 107

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2478

Arg Asn Cys Val Asp Lys Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2479

<211> 107

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<400> 2479

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<211> 107

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<400> 2480

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Arg Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2481

<211> 107

<212> PRT

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<400> 2481

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2482

<211> 107

<212> PRT

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<400> 2482

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2483

<211> 107

<212> PRT

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<400> 2483

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Phe Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Ala Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2486

<211> 107

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2486

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2487
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Phe Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

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<400> 2488
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2489

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<400> 2489

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2490

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<400> 2490

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Ile Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2491

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<400> 2491

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2492

<211> 107

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<400> 2492

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Ile Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2493

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<400> 2493

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Ile Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2494

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<400> 2494

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gly Ser Val Gly Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2495

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Glu Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2496
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<400> 2496
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Ser Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Ile
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 2497

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Pro Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2498

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<400> 2498

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Gly Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2499

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<400> 2499

Glu Ile Val Ser Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Gly Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2500
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<400> 2500
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Asn Leu Glu Ile Lys
 100 105

<210> 2501
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<400> 2501
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 1 5 10 15

Glu Arg Ala Thr Phe Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2502

<211> 107

<212> PRT

<213> 人工序列

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<221> source

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<400> 2502

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Ala Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2503

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<400> 2503

Glu Ile Val Leu Thr Gln Ser Pro Ser Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2504

<211> 107

<212> PRT

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<220>

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<222> (107)..(107)

<223> 任一胺基酸

<400> 2504

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

SEQ ID NO:	蛋白質區域	序列
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	hBEW-5C3VL.2b	DTQLTQSPSSLSASVGDRVTITCRARESLT TSLSWFQQKPGKAPKLLIYGASKLESGVPS RFSGSGSGTDFTLTISLQPEDFATYFCQQ SWYDPPTFGGGTKVEIK
	hBEW-5C3VL.2c	DTQLTQSPSSLSASVGDRVTITCRARESLT TSLSWYQQKPGKAPKLLIYGASKLESGVPS RFSGSGSGTDFTLTISLQPEDFATYYCQQ SWYDPPTFGGGTKVEIK

• **hBEW-5C3VH.1z** 係含有 IGHV7-4-1*01 及 IGHJ1*01 框架序列之 CDR 移植、人類化 BEW-5C3 VH。

• **hBEW-5C3VH.1** 係基於 .1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

• **hBEW-5C3VH.1a** 係基於 .1 之人類化設計且含有 3 個所提出框架回復突變(V2I、R38K、W47Y)。

• **hBEW-5C3VH.1b** 係基於 .1 之人類化設計且含有 5 個所提出框架回復突變(V2I、R38K、W47Y、Y90F、Y91F)。

• **hBEW-5C3VH.2z** 係含有 IGHV1-69*06 及 IGHJ1*01 框架序列之 CDR 移植、人類化 BEW-5C3 VH。

• **hBEW-5C3VH.2** 係基於 .2z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Xaa
 100 105

<210> 2505

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<400> 2505

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Cys Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
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<400> 2506

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2507

<211> 107

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2507

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2508
 <211> 107
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<400> 2508
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2509
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<400> 2509
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Asn His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2510

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<400> 2510

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Arg Ser Asn
 100 105

<210> 2511

<211> 107
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 <213> 人工序列

<220>
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<400> 2511
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ala Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Arg Ser Asn
 100 105

<210> 2512
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<400> 2512
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Glu Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2513
<211> 107
<212> PRT
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<400> 2513
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2514
<211> 107
<212> PRT
<213> 人工序列

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<400> 2514

Arg Asn Leu Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2515

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2515

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Val Ile Lys
 100 105

<210> 2516
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2516
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Ala Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2517
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 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2517
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Arg Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2518

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2518

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2519

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2519

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ala Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2520

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2520

Ala Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ala Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

- **hBEW-5C3VH.2a** 係基於.2 之人類化設計且含有 7 個所提出框架回復突變(V2I、R38K、W47Y、V67F、I69F、A71L、Y91F)。

- **hBEW-5C3VH.2b** 係介於.2 與.2a 間之中間設計且含有 3 個所提出框架回復突變(V67F、I69F、A71L)。

- **hBEW-5C3VH.2c** 係基於.2 之人類化設計且含有 10 個所提出框架回復突變(V2I、R38K、W47Y、V67F、T68V、I69F、A71L、M80L、Y90F、Y91F)。

- **hBEW-5C3VL.1** 係含有 IGKV3-11*01 及 IGKJ4*01 框架序列之 CDR 移植、人類化 BEW-5C3 VL。

- **hBEW-5C3VL.1a** 係基於.1 之人類化設計且含有 6 個所提出框架回復突變(E1D、I2T、Y36F、A43Q、I58V、Y87F)。

- **hBEW-5C3VL.1b** 係介於.1 與 1a 間之中間設計。其含有 4 個所提出框架回復突變(E1D、I2T、Y36F、Y87F)。

- **hBEW-5C3VL.1c** 係基於.1b 之設計且含有 2 個所提出框架回復突變(E1D、I2T)。

- **hBEW-5C3VL.2** 係含有 IGKV1-13*01 及 IGKJ4*01 框架序列之 CDR 移植、人類化 BEW-5C3 VL。

- **hBEW-5C3VL.2a** 係基於.2 之人類化設計且含有 6 個所提出框架回復突變(A1D、I2T、T22S、Y36F、A43Q、Y87F)。

- **hBEW-5C3VL.2b** 係介於.2 與 2a 間之中間設計。其含有 4 個所提出框架回復突變(A1D、I2T、Y36F、Y87F)。

- **hBEW-5C3VL.2c** 係基於.2b 之設計且含有 2 個所提出框架回復突變(A1D、I2T)。

實例 6.2.4.7 : BEW-9E10

表 2.4.7. 人類化 BEW-9E10 可變區之序列

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Pro Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2523

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2523

Ala Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ala Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2524
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2524
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2525
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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<400> 2525
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2526

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2526

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2527

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2527

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2528

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2528

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ala Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2529
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2529
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2530
 <211> 107
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (89)..(89)
 <223> 任一胺基酸

<400> 2530

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Xaa Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2531

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2531

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Phe Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Arg Ser Asn
 100 105

<210> 2532
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
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<400> 2532
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2533
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2533
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Ser Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Arg Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2534

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2534

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Asn
 100 105

<210> 2535

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2535

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Thr Ser Glu Ser Val Gly Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2536

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2536

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2539

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2539

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Gln
 100 105

<210> 2540
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2540
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2541
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2541
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2542

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2542

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2543

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2543

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2544

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> VARIANT

<222> (12)..(12)

<223> /置換=「Arg」

<220>

<221> VARIANT

<222> (23)..(23)

<223> /置換=「Ser」或「Asn」

<220>

<221> VARIANT

<222> (30)..(30)

<223> /置換=「Gln」或「Asp」或「Glu」或「Asn」或「Ala」或「Gly」或
「His」或「Lys」或「Met」或「Leu」或「Arg」或「Ile」或「Tyr」或
「Val」

<220>

<221> VARIANT

<222> (31)..(31)

<223> /置換=「Ser」或「Lys」或「Tyr」或「Thr」或「Met」或「Gly」或
「Ala」或「Ile」或「Leu」或「Glu」或「Pro」或「Gln」或「Phe」

<220>

<221> VARIANT

<222> (33)..(33)

<223> /置換=「Ser」或「Asp」或「Lys」或「Cys」或「Val」或「Glu」或
「Leu」或「Trp」或「Pro」或「Tyr」或「Met」或「Asn」或「Thr」

<220>

<221> VARIANT

<222> (54)..(54)

<223> /置換=「Tyr」或「Leu」或「Val」或「Trp」或「Ala」或「Gln」或
「His」或「Gly」或「Lys」或「Asn」或「Met」或「Thr」或「Pro」

<220>

<221> VARIANT

<222> (57)..(57)

<223> /置換=「Asn」或「Asp」或「Thr」或「Pro」或「Trp」或「Tyr」或
「Val」或「Ser」或「Met」或「Ala」或「Ile」或「Gly」或「Arg」或
「Leu」

<220>

<221> VARIANT

<222> (59)..(59)

<223> /置換=「Ile」或「Met」或「Lys」或「Ala」或「Asn」或「Pro」或
「Leu」或「Val」或「Trp」或「Asp」或「Tyr」或「Gly」或「Glu」

<220>

<221> VARIANT

<222> (62)..(62)

<223> /置換=「Tyr」或「His」

<220>

<221> VARIANT

<222> (65)..(65)

<223> /置換=「Asn」

<220>

<221> VARIANT

<222> (79)..(79)

<223> /置換=「Thr」

<220>

<221> VARIANT

<222> (88)..(88)

<223> /置換=「Asp」或「Thr」

<220>

<221> VARIANT

<222> (99)..(99)

<223> /置換=「Tyr」或「Gly」或「Ile」或「Ser」或「Lys」或「Asn」或
「Pro」或「Leu」或「Trp」或「Met」或「Phe」或「Arg」或「Gln」

<220>

<221> VARIANT

<222> (100)..(100)

<223> /置換=「His」或「Ile」或「Thr」或「Asp」或「Phe」或「Leu」或
「Glu」或「Val」或「Tyr」或「Ala」或「Gly」或「Trp」或「Gln」或
「Arg」

<220>

<221> VARIANT

<222> (104)..(104)
 <223> /置換=「Ser」或「Asn」或「Glu」或「Met」或「Leu」或「Thr」或
 「Trp」或「Gln」或「Gly」或「Ile」或「Ala」或「Cys」或「Val」

<220>
 <221> MOD_RES
 <222> (105)..(105)
 <223> 任一胺基酸

<220>
 <221> VARIANT
 <222> (107)..(107)
 <223> /置換=「Leu」或「Asn」或「Thr」或「Val」或「Ala」或「Arg」或
 「Phe」或「Asp」或「Ser」

<220>
 <221> VARIANT
 <222> (121)..(121)
 <223> /置換=「Ser」

<220>
 <221> VARIANT
 <222> (122)..(122)
 <223> /置換=「Phe」或「Leu」

<220>
 <221> VARIANT
 <222> (123)..(123)
 <223> /置換=「Gln」

<220>
 <221> MISC_FEATURE
 <222> (1)..(123)
 <223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 2544
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Xaa Tyr Ile Phe Tyr Phe Asp Tyr

100

105

110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2545
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> VARIANT
 <222> (20)..(20)
 <223> /置換=「Ala」

<220>
 <221> VARIANT
 <222> (30)..(30)
 <223> /置換=「Asn」或「Asp」或「Thr」或「Arg」或「His」或「Glu」或
 「Ile」或「Leu」或「Gln」或「Cys」或「Met」或「Tyr」或「Lys」或
 「Val」

<220>
 <221> VARIANT
 <222> (31)..(31)
 <223> /置換=「Ser」或「Arg」或「Ala」或「Glu」或「Asp」或「Met」或
 「Pro」或「Tyr」或「Ile」或「Trp」或「Phe」

<220>
 <221> VARIANT
 <222> (32)..(32)
 <223> /置換=「Ala」或「Asp」或「Cys」或「Pro」或「Arg」或「Tyr」或
 「Leu」或「Gln」或「Lys」

<220>
 <221> VARIANT
 <222> (34)..(34)
 <223> /置換=「Ala」或「Pro」

<220>
 <221> VARIANT
 <222> (50)..(50)
 <223> /置換=「Trp」或「Val」或「Ile」或「Glu」或「Ser」或「Asp」

<220>
 <221> VARIANT
 <222> (53)..(53)
 <223> /置換=「His」或「Tyr」或「Met」或「Thr」或「Phe」或「Val」或
 「Arg」或「Gln」或「Ala」或「Ser」或「Glu」或「Gly」或「Cys」或
 「Asp」或「Pro」

<220>
 <221> VARIANT
 <222> (56)..(56)
 <223> /置換=「Tyr」

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2546
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2546
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2547
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2547

Gly Tyr Thr Phe Thr Asp Tyr Gly Met Tyr
 1 5 10

<210> 2548
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2548
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2549
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2549
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2550
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2550
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2551
<211> 11
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 2551
Arg Ala Ser Glu Ser Val Ser Thr His Met His
1 5 10

<210> 2552
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 2552
Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 2553
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 2553
Gln Gln Ser Trp Asn Asp Pro Phe Thr
1 5

<210> 2554
<211> 123
<212> PRT
<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2554

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2555

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2555

Gly Tyr Thr Phe Thr Asp Tyr Gly Met Tyr
 1 5 10

<210> 2556

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2556

Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2557

<211> 14

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2557

Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2558

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2558

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser His Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2559
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2559
 Arg Ala Ser Gln Ser Val Gly Thr His Met His
 1 5 10

<210> 2560
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2560
 Gly Ala Ser His Leu Glu Ser
 1 5

<210> 2561
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2561
 Gln Gln Thr Trp Tyr Asp Pro Leu Thr
 1 5

<210> 2562
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2562
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2563
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2563
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 2564
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2564
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe Thr
 1 5 10 15

Gly

<210> 2565
 <211> 14
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2565

Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
1 5 10

<210> 2566

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2566

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2567

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2567

Arg Ala Ser Gln Ser Val Gly Thr His Met His

1 5 10

<210> 2568
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2568
 Gly Ala Ser Lys Leu Glu Ser
 1 5

<210> 2569
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2569
 Gln Gln Ser Trp Tyr Asp Pro Leu Thr
 1 5

<210> 2570
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2570
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asn Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

<211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2574
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2575
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2575
 Arg Ala Ser Gln Ser Val Ser Lys His Met His
 1 5 10

<210> 2576
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2576

Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 2577

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2577

Gln Gln Thr Trp Tyr Asp Pro Ile Thr
1 5

<210> 2578

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2578

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2579
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2579
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 2580
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2580
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2581
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2581
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2582
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2582
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2583

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2583

Arg Ala Ser Gln Ser Val Ser Thr His Met His
 1 5 10

<210> 2584

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2584

Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 2585

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2585

Gln Gln Ser Trp Tyr Asp Pro Leu Thr
1 5

<210> 2586

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2586

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2587

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2587

Gly Tyr Thr Phe Thr Asp Tyr Gly Met Tyr
1 5 10

<210> 2588
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2588
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2589
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2589
 Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2590
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2590
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2591
<211> 11
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 2591
Arg Ala Ser Gln Ser Val Ser Thr His Met His
1 5 10

<210> 2592
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 2592
Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 2593
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 2593
Gln Gln Ser Trp Tyr Asp Pro Leu Thr
1 5

<210> 2594
<211> 123
<212> PRT
<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2594

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Pro Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2595

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2595

Gly Tyr Thr Phe Pro Asn Tyr Gly Met Tyr
1 5 10

<210> 2596

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2596

Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2597
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2597
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2598
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2598
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ala Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2599

<211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2599
 Arg Ala Ser Gln Ser Val Ala Thr His Met His
 1 5 10

<210> 2600
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2600
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 2601
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2601
 Gln Gln Ser Trp Tyr Asp Pro Leu Thr
 1 5

<210> 2602
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2602
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2603
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2603
 Gly Tyr Thr Phe Ser Asn Tyr Gly Met Tyr
 1 5 10

<210> 2604
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2604
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2605
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2605
 Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2606
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2606
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2607
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2607
 Arg Ala Ser Gln Ser Val Ser Thr His Met His
 1 5 10

<210> 2608
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2608
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 2609
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2609
 Gln Gln Ser Trp Tyr Asp Pro Leu Thr
 1 5

<210> 2610
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2610
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2611
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2611
 Gly Tyr Thr Phe Ser Asp Tyr Gly Met Tyr
 1 5 10

<210> 2612
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2612
 Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2613
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2613
 Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2614
 <211> 107
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2614

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2615

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2615

Arg Ala Ser Gln Ser Val Ser Thr His Met His
1 5 10

<210> 2616

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2616

Gly Ala Ser Ile Leu Glu Ser

1 5

<210> 2617

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2617

Gln Gln Thr Trp Tyr Asp Pro Leu Thr

1 5

<210> 2618

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2618

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr

20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe

50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr

100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser

115 120

<210> 2619

<211> 10

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 2619
Gly Tyr Thr Phe Thr Asp Tyr Gly Met Tyr
1 5 10

<210> 2620
<211> 17
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 2620
Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 2621
<211> 14
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 2621
Thr Asn Tyr Tyr Tyr Arg Gly Tyr Met Phe Tyr Phe Asp Tyr
1 5 10

<210> 2622
<211> 107
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2622
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Asn His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2623

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2623

Arg Ala Ser Gln Ser Val Asn Asn His Met His
 1 5 10

<210> 2624

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2624

Gly Ala Ser Ile Leu Glu Ser
 1 5

<210> 2625

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2625

Gln Gln Ser Trp Tyr Asp Pro Leu Thr
1 5

<210> 2626

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2626

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
50 55 60Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95Ala Arg Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
100 105 110Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2627

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2627

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
1 5 10

<210> 2628
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2628
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2629
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2629
 Thr Asn Tyr Tyr Tyr Lys Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2630
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2630
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

<400> 2634

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Glu Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2635

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2635

Gly Tyr Thr Phe Glu Asn Tyr Gly Met Tyr
 1 5 10

<210> 2636

<211> 17

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2636

Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2637
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2637
 Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2638
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2638
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Gly Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Lys Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2639
 <211> 11
 <212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2639

Arg Ala Ser Gln Ser Val Gly Thr His Met His
1 5 10

<210> 2640

<211> 7

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 2640

Gly Ala Ser Lys Leu Glu Ser
1 5

<210> 2641

<211> 9

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 2641

Gln Gln Ser Trp Tyr Asp Pro Leu Thr
1 5

<210> 2642

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2642

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Ala Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2643
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2643
 Gly Tyr Thr Phe Ser Asp Tyr Gly Met Tyr
 1 5 10

<210> 2644
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2644
 Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2645
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
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<223> /注釋=「人工序列之描述：合成肽」

<400> 2645

Ala Asn Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
1 5 10

<210> 2646

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2646

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Met
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2647

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2647

Arg Ala Ser Gln Ser Val Ser Thr His Met His
1 5 10

<210> 2648

<211> 7
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 <213> 人工序列

<220>
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<400> 2648
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 2649
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2649
 Gln Gln Ser Trp Tyr Asp Pro Met Thr
 1 5

<210> 2650
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2650
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2651
 <211> 10
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 <213> 人工序列

<220>
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<400> 2651
 Gly Tyr Thr Phe Thr Asp Tyr Gly Met Tyr
 1 5 10

<210> 2652
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2652
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2653
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2653
 Thr Asn Tyr Tyr Tyr Pro Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2654
 <211> 107
 <212> PRT
 <213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2654

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2655

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2655

Arg Ala Ser Gln Ser Val Ser Thr His Met His
 1 5 10

<210> 2656

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2656

Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 2657
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
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<400> 2657
 Gln Gln Thr Trp Tyr Asp Pro Leu Thr
 1 5

<210> 2658
 <211> 123
 <212> PRT
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<220>
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<400> 2658
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2659
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<220>
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<400> 2659
 Gly Tyr Thr Phe Thr Asp Tyr Gly Met Tyr
 1 5 10

<210> 2660
 <211> 17
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<400> 2660
 Trp Ile Asp Thr Glu Thr Gly Gln Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2661
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<400> 2661
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2662
 <211> 107
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<220>
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<400> 2662
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Gly Lys His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Ala Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2663

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2663

Arg Ala Ser Glu Ser Val Gly Lys His Met His
 1 5 10

<210> 2664

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2664

Ala Ala Ser Asn Leu Glu Ser
 1 5

<210> 2665

<211> 9

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 2665

Gln Gln Ser Trp Tyr Asp Pro Leu Thr

1 5

<210> 2666
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<400> 2666
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2667
 <211> 10
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<220>
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<400> 2667
 Gly Tyr Thr Phe Thr Asp Tyr Gly Met Tyr
 1 5 10

<210> 2668
 <211> 17

<212> PRT
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<220>
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<400> 2668
Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe Lys
1 5 10 15

Gly

<210> 2669
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<220>
<221> source
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<400> 2669
Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
1 5 10

<210> 2670
<211> 107
<212> PRT
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<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2670
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Phe Cys Arg Ala Ser Gln Ser Val Ser Asn His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2671
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 <212> PRT
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<220>
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<400> 2671
 Arg Ala Ser Gln Ser Val Ser Asn His Met His
 1 5 10

<210> 2672
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 2672
 Gly Ala Ser Ile Leu Glu Ser
 1 5

<210> 2673
 <211> 9
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<400> 2673
 Gln Gln Ser Trp Tyr Asp Pro Ile Thr
 1 5

<210> 2674
 <211> 123
 <212> PRT
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<220>
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<400> 2674

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asp Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Thr Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2675

<211> 10

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 2675

Gly Tyr Thr Phe Asp Asp Tyr Gly Met Tyr
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<400> 2676

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Gly

<210> 2677
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<400> 2677
 Thr Asn Tyr Tyr Tyr Ser Ser Tyr Met Phe Tyr Phe Asp Tyr
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<210> 2678
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<400> 2678
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2679
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<400> 2679

Arg Ala Ser Gln Ser Val Ser Thr His Met His
1 5 10

<210> 2680

<211> 7

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 2680

Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 2681

<211> 9

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<400> 2681

Gln Gln Ser Trp Tyr Asp Pro Leu Thr
1 5

<210> 2682

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<400> 2682

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
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20 25 30Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe
 50 55 60

Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2683
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<220>
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<400> 2683
 Gly Tyr Thr Phe Thr Asp Tyr Gly Met Tyr
 1 5 10

<210> 2684
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<400> 2684
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Gln Gly Phe Thr
 1 5 10 15

Gly

<210> 2685
 <211> 14
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<400> 2685

Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2686

<211> 107

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<400> 2686

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Thr Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2687

<211> 11

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 2687

Arg Ala Ser Gln Ser Val Ser Thr His Met His
 1 5 10

<210> 2688

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2688

Gly Ala Ser Asn Leu Glu Ser

1 5

<210> 2689

<211> 9

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Gln Gln Thr Trp Tyr Asp Pro Leu Thr

1 5

<210> 2690

<211> 123

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2690

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr His Tyr

20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe

50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr

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	hBEW-1E3VL.2b	AIQLTQSPSSLSASVGDRVTITCRASEGVY SYMHWYQQKPGKAPKLLIYKASNLAGVPS RFSGSGSGTDFTLTISLQPEDFATYFCHQ NWNDPLTFGQGTKLEIK

• **hBEW-1E3VH.1z** 係含有 IGHV7-4-1*01 及 IGHJ1*01 框架序列之 CDR 移植、人類化 BEW-1E3 VH。

100

105

110

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<400> 2691
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<400> 2692
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2693
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<400> 2693
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2694
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2694

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Phe Tyr Asp Pro Leu
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2695

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2695

Arg Ala Ser Gln Ser Val Ser Thr His Met His
1 5 10

<210> 2696

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2696

Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 2697

<211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2697
 Gln Gln Ser Phe Tyr Asp Pro Leu Thr
 1 5

<210> 2698
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2698
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2699
 <211> 10
 <212> PRT
 <213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2699
 Gly Tyr Thr Phe Ser Asp Tyr Gly Met Tyr
 1 5 10

<210> 2700
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2700
 Trp Ile Asp Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 2701
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 2701
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Met Phe Tyr Phe Asp Tyr
 1 5 10

<210> 2702
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2702
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile

35

40

45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 2703

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2703

Arg Ala Ser Gln Ser Val Ser Thr His Met His
 1 5 10

<210> 2704

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2704

Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 2705

<211> 9

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 2705

Gln Gln Ser Trp Tyr Asp Pro Leu Thr
 1 5

<210> 2706
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2706
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Val Asp Glu Ile Phe Tyr Ser Thr Ser
 50 55 60
 Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2707
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2707
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Trp Thr Ser
 20 25 30

Gly Met Gly Val Val Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Ala Asp Val Lys Ser Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Glu Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2708

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2708

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Tyr Asp Asp Met Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2709
<211> 122
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2709
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Arg Val Val Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Tyr Leu Asp Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2710
<211> 122
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2710
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr

20 25 30

Gly Met Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Ala Asp Asp Thr Tyr Tyr Asn Pro Ser
50 55 60

Leu Asn Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2711

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2711

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ala Thr Tyr
20 25 30

Gly Met Ser Val Ala Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Tyr Asp Asp Glu Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp

100

105

110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2712
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (30)..(30)
 <223> 任一胺基酸

<400> 2712
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Xaa Thr Tyr
 20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Val Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2713
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source

- **hBEW-1E3VH.1** 係基於.1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。
- **hBEW-1E3VH.1a** 係基於.1 之人類化設計且含有 4 個所提出框架回復突變(V2I、R38K、W47Y、Y91F)。
- **hBEW-1E3VH.2z** 係含有 IGHV1-18*01 及 IGHJ1*01 框架序列之 CDR 移植、人類化 BEW-1E3 VH。
- **hBEW-1E3VH.2** 係基於.2z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。
- **hBEW-1E3VH.2a** 係基於.2 之人類化設計且含有 7 個所提出框架回復突變(V2I、R38K、W47Y、V67F、M69F、T71L、Y91F)。
- **hBEW-1E3VH.2b** 係介於.2 與.2a 間之中間設計且含有 3 個所提出框架回復突變(V67F、M69F、T71L)。
- **hBEW-1E3VL.1** 係含有 IGKV3-11*01 及 IGKJ2*01 框架序列之 CDR 移植、人類化 BEW-1E3 VL。
- **hBEW-1E3VL.1a** 係基於.1 之人類化設計且含有 4 個所提出框架回復突變(I2T、A43Q、I58V、Y87F)。
- **hBEW-1E3VL.1b** 係介於.1 與 1a 間之中間設計。其含有 2 個所提出框架回復突變(I58V、Y87F)。
- **hBEW-1E3VL.2** 係含有 IGKV1-13*01 及 IGKJ2*01 框架序列之 CDR 移植、人類化 BEW-1E3 VL。
- **hBEW-1E3VL.2a** 係基於.2 之人類化設計且含有 4 個所提出框架回復突變(I2T、T22S、A43Q、Y87F)。
- **hBEW-1E3VL.2b** 係介於.2 與 2a 間之中間設計。其含有 1 個所提出框架回復突變 Y87F。

實例 6.3：VEGFR_{II} 抗體之人類化

實例 6.3.1：人類化方法

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2713

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Ala Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2714

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2714

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Cys Thr Ser
20 25 30

Gly Val Arg Val Arg Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2715

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (59)..(59)

<223> 任一胺基酸

<400> 2715

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asn Xaa Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2716
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2716
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ala Thr Ser
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Glu Asp Asp Lys Gly Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2717
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2717
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp His Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2718

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2718

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Cys Thr Ser
 20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Asn Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2719
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2719
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Phe Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Val Asp Asp Lys Phe Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2720
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2720
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Cys Thr Ser
 20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Arg Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2721

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2721

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Cys Thr Ser
 20 25 30

Gly Met Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Cys Trp Asp Asp Asp Arg Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2722
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2722
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Gly Asp Asp Met Ser Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2723
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2723
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Leu Ile Asp Trp Glu Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60
 Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2724

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2724

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Leu Thr Tyr
 20 25 30

Gly Val Gly Val Cys Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Gly Trp Leu Asn Ile Trp Trp Ala Asp Gly Lys Cys Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

90

95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2725

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2725

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Arg Val Ser Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Glu Glu Cys Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2726

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2726

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Ser Val Ser Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Val Asp Asp Met Gly Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<222> (30)..(30)

<223> 任一胺基酸

<400> 2727

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Xaa Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

抗體人類化係藉由以下方式來達成：將齧齒類動物抗體之 CDR 移植至「類似」人類框架(受體)上並納入齧齒類動物抗體之最少量之經選擇以維持原始 CDR 構象的關鍵框架殘基(回復突變)，以最小化免疫原性，同時保留最佳抗原結合。

實例 6.3.2：用於構築 CDR 移植、人類化 VEGFR2 抗體之人類種系序列選擇

藉由應用上文所提及之方法，將單株抗體 BCU-6B1-G6 之 VH 及 VL 鏈之 CDR 序列移植至不同的人類重鏈及輕鏈受體序列上。

實例 6.3.2.1：BCU-6B1-G6

基於與本發明單株抗體 BCU-6B1-G6 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV7-4-1*01 及 IGHJ1*01 用於構築重鏈受體序列
- 2.IGHV1-18*01 及 IGHJ1*01 作為替代受體用於構築重鏈
- 3.IGKV1-27*01 及 IGKJ4*01 用於構築輕鏈受體序列

藉由將 BCU-6B1-G6 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.3.3：在 CDR 移植抗體中引入潛在框架回復突變

為產生具有潛在框架回復突變之人類化抗體，鑑別該等突變且藉由從頭合成可變結構域或誘變寡核苷酸引子及聚合酶鏈式反應或藉由業內所熟知之方法將其引入 CDR 移植抗體序列中。對於每一 CDR 移植物如下構築回復突變及其他突變之不同組合。該等突變之殘基編號係基於 Kabat 編號系統。

實例 6.3.3.1：BCU-6B1-G6

當選擇 IGHV7-4-1*01 及 IGHJ1*01 作為 BCU-6B1-G6 重鏈受體序列時，可如下回復突變以下殘基中之一或多者：W47→F。其他突變包括以下各項：R38→K、Y91→F。

Trp Leu Ala Leu Ile Asp Trp Ala Asp Tyr Arg Ser Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<211> 122

<212> PRT

<213> 人工序列

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<400> 2728

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ala Thr Tyr
 20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Glu Asp Ala Val Asn Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2729
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 <212> PRT
 <213> 人工序列

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<400> 2729

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Cys Thr Tyr
 20 25 30

Gly Met Gly Val Cys Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Gly Trp Asp Asp Glu Asn Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2730
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 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2730

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Thr Thr Tyr
 20 25 30

Gly Val Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu

35

40

45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2731

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2731

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Ser Val Cys Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Gly Cys Cys Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

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<400> 2732
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Cys Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2733
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 <222> (59)..(59)
 <223> 任一氨基酸

<400> 2733

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Met Gly Val Ser Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp His Xaa His Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2734

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2734

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Trp Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Glu Asp Asn Lys Asp Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2735

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2735

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Val Asp Asp Met Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2736

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2736

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Glu Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Asp Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2737

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2737

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Cys Asp Asn Arg Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2739

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Arg Thr Tyr
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Tyr Asp Gly Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2740

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2740

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Asp Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Glu Asp Asp Lys Ser Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2741

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2741

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Trp Thr Tyr
20 25 30

Gly Val Ser Val Arg Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Val Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2742

<211> 122

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2742
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Phe Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2743
<211> 122
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 2743
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Pro Thr Tyr
20 25 30

Gly Val Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Val Asp Asn Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2744

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注释=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (30)..(30)

<223> 任一氨基酸

<400> 2744

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Xaa Thr Ser
20 25 30

Gly Val Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Tyr Gln Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp

100

105

110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2745
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2745
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Tyr Asp Leu Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2746
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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<400> 2746
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Cys Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2747

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2747

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Glu Lys Ala Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2748

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2748

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Gly Val Ser Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2749

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2749

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2750

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2750

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Pro Thr Ser
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Ala Asp Ser Lys Phe Tyr Ser Thr Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2751

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注释=「人工序列之描述：合成多肽」

<220>

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<222> (82)..(82)

<223> 任一氨基酸

<400> 2751

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Val Ser Val Asp Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Gly Asp Gln Thr Asn Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Xaa Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2752

<211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2752

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Val Gly Val Glu Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Tyr Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2753
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<400> 2753

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Pro Thr Ser
 20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Glu Asp His Met Asp Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2754

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (56)..(56)

<223> 任一胺基酸

<400> 2754

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Xaa Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2755
 <211> 122
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 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2755
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Thr Thr Ser
 20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Tyr Asp Glu Arg Phe Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2756
 <211> 122
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<220>
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<220>

<221> MOD_RES
 <222> (22)..(22)
 <223> 任一氨基酸

<220>
 <221> MOD_RES
 <222> (59)..(59)
 <223> 任一氨基酸

<400> 2756
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Xaa Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Ala Asp Asn Xaa Ser Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2757
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2757
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Ala Asp Asp Asn Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2758

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2758

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Glu Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2759
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2759
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Trp Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Glu Lys Ala Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2760
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2760
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Trp Thr Ser
 20 25 30

Gly Met Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2761

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2761

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp His Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2762
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2762
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asn Asp Asn Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2763
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2763
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2764

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2764

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Arg Val Cys Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Ser Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2765
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2765
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Val Ser Val Thr Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asn Asp Asp Asn His Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2766
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2766
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30
 Gly Val Ser Val Val Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Glu Lys Cys Tyr Ser Thr Ser
 50 55 60
 Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2767

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2767

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Thr Gly Phe Ser Leu Tyr Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Asn Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

90

95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2768

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2768

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Phe Thr Tyr
 20 25 30

Gly Val Gly Val Asp Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Pro Asp Asp Asn Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2769

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (59)..(59)
 <223> 任一氨基酸

<400> 2769

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Xaa Cys Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2770
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2770

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

	蛋白質區域	序列
		123456789012345678901234567890
	hBCU-6B1-G6VL.1b	DIQMTQSPSSLSASVGDRVTITCRASDDL Y STLAWYQQKPGKSPKLLIFDANRLAAGVPS R FSGSGSGTDYTLTISSLQPEDVATYFCQQ Y NKFPWTFGGGTKVEIK

- **hBCU-6B1-G6VH.1z** 係含有 IGHV7-4-1*01 及 IGHJ1*01 框架序列之 CDR 移植、人類化 BCU-6B1-G6 VH。

- **hBCU-6B1-G6VH.1** 係基於.1z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

- **hBCU-6B1-G6VH.1a** 係基於.1 之人類化設計且含有 3 個所提出框架回復突變：(R38K、W47F、Y91F)。

- **hBCU-6B1-G6VH.1b** 係介於.1 與.1a 間之中間設計且含有 1 個所提出框架回復突變：W47F。

- **hBCU-6B1-G6VH.2z** 係含有 IGHV1-18*01 及 IGHJ1*01 框架序列之 CDR 移植、人類化 BCU-6B1-G6 VH。

- **hBCU-6B1-G6VH.2** 係基於.2z 且具有 Q1E 變化以防止焦麩胺酸鹽形成。

- **hBCU-6B1-G6VH.2a** 係基於.2 之人類化設計且含有 6 個所提出框架回復突變(R38K、W47F、V67F、M69F、T71L、Y91F)。

- **hBCU-6B1-G6VH.2b** 係介於.2 與.2a 間之中間設計且含有 4 個所提出框架回復突變：W47F、V67F、M69F、T71L。

- **hBCU-6B1-G6VL.1** 係含有 IGKV1-27*01 及 IGKJ4*01 框架序列之 CDR 移植、人類化 BCU-6B1-G6 VL。

- **hBCU-6B1-G6VL.1a** 係基於.1 之人類化設計且含有 6 個所提出框架回復突變(T22E、V43S、Y49F、F71Y、T72S、Y87F)。

- **hBCU-6B1-G6VL.1b** 係介於.1 與 1a 間之中間設計。其含有 4

Trp Leu Ala Leu Ile Asp Trp Asp Asp Glu Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2771

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2771

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Ile Asp Asp Glu Asp Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2772
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 <212> PRT
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<400> 2772
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Ser Val Arg Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asn Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2773
 <211> 122
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2773
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Cys Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu

35

40

45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Asn Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2774

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2774

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Leu Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp His Asp Asp Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

<210> 2775
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 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2775
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Ser Val Ala Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Arg Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Glu Asp Tyr Leu Cys Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Tyr Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2778
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2779
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Val Asp Asp Asn Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2780

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Tyr Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Asn Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2781
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Gly Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2782

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Arg Val Val Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Leu Ile Asp Trp Asn Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2783

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Val Ser Val Val Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp His Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2784

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Met Thr Ser
20 25 30

Gly Met Ser Val Cys Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Tyr Asp His Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2785

<211> 122

<212> PRT

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個所提出框架回復突變(V43S、Y49F、F71Y、Y87F)。

實例 6.4：PDGFRB 抗體之人類化

實例 6.4.1：人類化方法

抗體人類化係藉由以下方式來達成：將齧齒類動物抗體之 CDR 移植至「類似」人類框架(受體)上並納入齧齒類動物抗體之最少量之經選擇以維持原始 CDR 構象的關鍵框架殘基(回復突變)，以最小化免疫原性，同時保留最佳抗原結合。

實例 6.4.2：用於構築 CDR 移植、人類化 PDGFRB 抗體之人類種系序列選擇

藉由應用上文所提及之方法，將單株抗體 BDE-3C9-G4 之 VH 及 VL 鏈之 CDR 序列移植至不同的人類重鏈及輕鏈受體序列上。

實例 6.4.2.1：BDE-3C9-G4

基於與本發明單株抗體 BDE-3C9-G4 之 VH 及 VL 序列之比對，選擇以下已知之人類序列：

- 1.IGHV3-7*01 及 IGHJ3*01 用於構築重鏈受體序列
- 2.IGKV1-33*01 及 IGKJ4*01 用於構築輕鏈受體序列

藉由將 BDE-3C9-G4 之相應 VH 及 VL CDR 移植至該等受體序列中來製備 CDR 移植、人類化且經修飾之 VH 及 VL 序列。

實例 6.4.3：在 CDR 移植抗體中引入潛在框架回復突變

為產生具有潛在框架回復突變之人類化抗體，鑑別該等突變且藉由從頭合成可變結構域或誘變寡核苷酸引子及聚合酶鏈式反應或藉由業內所熟知之方法將其引入 CDR 移植抗體序列中。對於每一 CDR 移植物如下構築回復突變及其他突變之不同組合。該等突變之殘基編號係基於 Kabat 編號系統。

實例 6.4.3.1：BDE-3C9-G4

當選擇 IGHV3-7*01 及 IGHJ3*01 作為 BDE-3C9-G4 重鏈受體序

<400> 2785

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Arg Thr Tyr
 20 25 30

Gly Val Ser Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Ala Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2786

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<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2786

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Val Arg Val Ala Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Val Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val

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 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

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 <223> 任一胺基酸

<400> 2788
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Phe Glu Tyr Leu Gly Ala Met Tyr Xaa Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2789
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<220>
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 <222> (100)..(100)
 <223> 任一胺基酸

<400> 2789
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Xaa Asp Ser Phe Arg Lys Pro Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2790

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<222> (101)..(101)

<223> 任一胺基酸

<400> 2790

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Xaa Ser Ile Gly Ser Thr Tyr Trp Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2791

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2791

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Leu Val Ser Ile Val Thr Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2792

<211> 122

<212> PRT

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<223> 任一胺基酸

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<223> 任一胺基酸

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<223> 任一胺基酸

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<223> 任一胺基酸

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 <223> 任一氨基酸

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 <223> 任一氨基酸

<220>
 <221> MOD_RES
 <222> (122)..(122)
 <223> 任一氨基酸

<400> 2792
 Xaa Val Thr Leu Xaa Glu Ser Gly Pro Ala Leu Xaa Lys Pro Thr Xaa
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Xaa Leu Ser Thr Xaa
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Arg Lys Ala Leu Xaa
 35 40 45

Trp Leu Ala Asn Xaa Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Xaa Asn Arg Leu Xaa Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Xaa Tyr Tyr
 85 90 95

Cys Ala Arg Xaa Xaa Xaa Xaa Xaa Met Xaa Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Xaa Ser Xaa
 115 120

<210> 2793
 <211> 122
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<400> 2793

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Leu Glu Pro Ile Pro Met Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2794

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2794

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

115

120

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<400> 2796

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Cys Asn Ser Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2797

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Leu Ala Ser Leu Cys Ala Thr Tyr Tyr Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2798

<211> 122

<212> PRT

<213> 人工序列

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<400> 2798

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gly Trp Arg Leu Arg Met Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2799
 <211> 122
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 <213> 人工序列

<220>
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<400> 2799
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Val Ser Ile Gly Gly Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2800
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Val Glu Ser Ile Gly Thr Thr Tyr Tyr Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2801

<211> 122

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2801

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Tyr Ala Pro Ile Gly Thr Thr Tyr Trp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2802
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<400> 2802
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Arg Thr Thr Tyr Leu Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2803
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<400> 2803

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Gly Thr Ala Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2804

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2804

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ala Ser Val Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2805

<211> 122

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2805

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Glu Glu Ser Thr Cys Pro Thr Tyr Tyr Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2806

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2806

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Thr Glu Ser Ile Asp Arg Ala Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2807

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2807

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2809

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Lys Val Thr Ile Glu Thr Ala Tyr Tyr Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2810

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (95)..(95)

<223> 任一胺基酸

<400> 2810

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Xaa Tyr
 85 90 95

Cys Ala Arg Phe Ala Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2811
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2811
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Met Lys Ser Ile Ala Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

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• **hBDE-3C9-G4VH.1** 係含有 IGHV3-7*01 及 IGHJ3*01 框架序列之 CDR 移植、人類化 BDE-3C9-G4 VH。

• **hBDE-3C9-G4VH.1a** 係基於 .1 之人類化設計且含有 3 個所提出框架回復突變(S77T、L78Q、Y91F)。

• **hBDE-3C9-G4VL.1** 係含有 IGKV1-33*01 及 IGKJ4*01 框架序列之 CDR 移植、人類化 BDE-3C9-G4 VL。

• **hBDE-3C9-G4VL.1a** 係基於 .1 之人類化設計且含有 7 個所提出框架回復突變(Q38L、K45R、I48M、Y49R、V58T、T69R、F71Y)。

• **hBDE-3C9-G4VL.1b** 係介於 .1 與 1a 間之中間設計。其含有 4 個所提出框架回復突變(K45R、Y49R、T69R、F71Y)。

人類化大鼠抗人類 VEGF-A 及人類化大鼠抗人類 PDGF-BB 單株抗體之 VH 及 VL 胺基酸序列之概述

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2812
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2812
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Arg Arg Ala Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2813
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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<220>
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 <222> (102)..(102)
 <223> 任一胺基酸

<400> 2813

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gly Xaa Ile Gly Ser Ala Tyr Thr Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2814

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2814

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Thr Gly Ser Gly Val Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2815

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2815

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gly Ser Ile Glu Ser Ala Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2816

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2816

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Val Tyr Ser Lys Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2817

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2817

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Phe Glu Ala Leu Gly Leu Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2818

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (95)..(95)

<223> 任一胺基酸

<400> 2818

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Xaa Tyr
85 90 95

Cys Ala Arg Arg Gly Thr Ile Arg Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2819
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2819
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Tyr Trp Ile Gly Pro Thr Tyr Cys Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2820
 <211> 122
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2820
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Met Arg Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2821

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2821

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Arg Ser Ile Val Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2822
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2822
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Thr Gln Ser Ser Ala Met Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2823
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<400> 2823
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Asn Glu Ser Met Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2824

<211> 122

<212> PRT

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<400> 2824

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Phe Val Arg Ala Ile Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2825
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<400> 2825
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Phe Glu Ser Leu Gly Glu Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2826
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2826
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ala Ile Gly Asn Gln Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2827
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 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2827
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

90

95

Cys Ala Arg Lys Asp Ser Met Val Thr Thr Tyr Leu Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2828

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2828

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Val Glu Trp Gln Gly Ser Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<210> 2829

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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Met Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2830

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Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Cys Ala Ser Val Ser Thr Thr Tyr Cys Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2831

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Leu Ser Ile Gly Asn Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2832

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Phe Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Cys Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asn Gly Asn Thr Tyr Ser Phe Asp Tyr Trp
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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Arg Asp Ser Thr Gly Thr Pro Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2834

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Val Glu Ser Ile Val Thr Thr Tyr Tyr Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2835

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Leu Glu Lys Phe Gly Arg Thr Tyr Pro Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2836

<211> 122

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<213> 人工序列

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<400> 2836

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Phe Lys Ser Asn Arg Pro Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2837

<211> 122

<212> PRT

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<222> (65)..(65)

<223> 任一胺基酸

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<222> (108)..(108)

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<222> (111)..(112)

<223> 任一胺基酸

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<222> (116)..(116)

<223> 任一胺基酸

<220>

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<222> (118)..(118)

<223> 任一胺基酸

<400> 2837

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Xaa Ala Thr Gly Met Leu Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2839

<211> 122

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<220>

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<222> (108)..(108)

<223> 任一胺基酸

<400> 2839

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Glu Thr Thr Tyr Xaa Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser

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	hBDB-4G8.10	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMY
	hBDB-4G8.10	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBDB-4G8.10	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYRSYIFYFDY
	hBDB-4G8.10 VL			AIQLTQSPSSLSASVGDRVTTTCRAS ESVSTHMHWYQQKPGKAPKLLIYGAS NLESGVPSRFRSGSGGTDFTLTISSL QPEDFATYYCQQSWNDPFTFGQGTKL EIK
	hBDB-4G8.10	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTHMH
	hBDB-4G8.10	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBDB-4G8.10	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWNDPFT
	hBDB-4G8.11 VH			EIQLVQSGAEVKKPGASVKVCKASG YFTFTNYGMYWVRQAPGQGLEVMGWIN TETGKPTYADDFKGRFTFTLDTSTST AYMELRSLRSDDTAVYFCARTNYYYR SYIFYFDYWGQGMVTVSS

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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Xaa Met Ala Pro Met Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Val Arg Pro Leu Val Thr Ile Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2842

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<400> 2842

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Asp Ser Val Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2843

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Val Glu Glu Ile Gly Asn Thr Tyr Asn Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2844

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Arg Gly Leu Phe Arg Ile Arg Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<222> (69)..(69)

<223> 任一胺基酸

<400> 2845

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Xaa Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2846

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<400> 2846

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Val Ile Gly Thr Ala Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2847
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Leu Asp Val Ile Gly Met Leu Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2848
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Lys
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Met Ser Ile Gly Ser Ser Tyr Xaa Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2849

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<400> 2849

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Asp Trp Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2850

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<400> 2850

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Asn Ser Ser Ile Gly Ser Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2851

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Pro Gly Thr Trp Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2852

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Trp Ile Gly Ile Thr Tyr Cys Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<222> (102)..(102)

<223> 任一胺基酸

<400> 2853

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Xaa Leu Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2854
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Lys Glu Leu Thr Cys Ser Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

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 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
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 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
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 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
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Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

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Cys Ala Arg Ile Ala Ser Ile Gly Ser Met Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Arg Ala Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Asn Val Trp Leu Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

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<400> 2864
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Xaa Arg Gly Ser Thr Tyr Ile Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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 <223> 任一胺基酸

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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Xaa Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<223> 任一胺基酸

<400> 2866

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val

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	hBDB-4G8.12	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
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 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Xaa Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Xaa
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<222> (99)..(99)

<223> 任一胺基酸

<400> 2869

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Xaa Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<223> 任一胺基酸

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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Xaa
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Xaa Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Xaa Val Thr Val Ser Ser
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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Lys Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Val Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Glu Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ala Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 2875

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Arg Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Lys Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 2876
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Asn Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ala Ser Ile Pro Thr Met Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Met Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp His Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 2880

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 20 25 30
 Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60
 Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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 Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 2881

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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Lys Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

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Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Arg Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2883

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2883

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Met Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 2884

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Thr Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2885

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<400> 2885

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Glu Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2886

<211> 122

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<220>
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<220>
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 <223> 任一胺基酸

<220>
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 <222> (72)..(72)
 <223> 任一胺基酸

<400> 2886
 Glu Val Thr Leu Lys Lys Ser Gly Pro Ala Leu Val Lys Pro Xaa Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Xaa Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Xaa Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2887
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<220>

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<222> (16)..(16)

<223> 任一氨基酸

<400> 2887

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Xaa
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2888

<211> 122

<212> PRT

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<220>

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<222> (122)..(122)

<223> 任一氨基酸

<400> 2888

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Xaa
 115 120

<210> 2889

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<220>

<221> MOD_RES

<222> (16)..(16)

<223> 任一胺基酸

<400> 2889

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Xaa
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

90

95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2890

<211> 122

<212> PRT

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<400> 2890

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Met Lys Ser Ile Gly Ser Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2891

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2891

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2892

<211> 122

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<222> (16)..(16)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (116)..(116)

<223> 任一胺基酸

<400> 2892

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Xaa
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Xaa Met Val Thr Val Ser Ser
 115 120

<210> 2893

<211> 122

<212> PRT

<213> 人工序列

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<220>

<221> MOD_RES

<222> (16)..(16)

<223> 任一胺基酸

<400> 2893

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Xaa
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg His Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asn Asn Asp Asn Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Asn Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

90

95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2894

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2894

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Gly Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Asn Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2895

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDB-4G8.15 VH			EVQLVESGGGLVQPGGSLRLSCAASG YFTFTNYGMYWVKQAPGKGLEVMGWIN TETGKPTYADDFKGRFTFSLDTSKST AYLQMNSLRAEDTAVYFCARTNYYR SYIFYFDYWGQGLVTVSS
	hBDB-4G8.15	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMY
	hBDB-4G8.15	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBDB-4G8.15	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRSYIFYFDY
	hBDB-4G8.15 VL			DTQLTQSPSSLSASVGDRTVITSCRAS ESVSTHMHWYQQKPKAPKLLIYGAS NLESGVPSRFSGSGSGTDFTLTISSL QPEDFATYFCQSWNDPFTFGQGTKV EIK
	hBDB-4G8.15	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTHMH
	hBDB-4G8.15	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBDB-4G8.15	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWNDPFT
	hBDB-4G8.2 VH			EVQLVQSGSELKPKGASVKVSKASG YFTFTNYGMYWVRQAPGQGLEWMGWIN TETGKPTYADDFKGRFVSLDTSVST AYLQISSLKAEDTAVYYCARTNYYR SYIFYFDYWGQGTMTVTVSS

<400> 2895

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr His
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2896

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2896

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Arg Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2897

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

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<222> (5)..(5)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (16)..(16)

<223> 任一胺基酸

<400> 2897

Glu Val Thr Leu Xaa Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Xaa
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2898
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<400> 2898
 Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Asn Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2899
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<220>
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<400> 2899
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Gly Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2900

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2900

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2901
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 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2901
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Val Ser Ser Trp Thr Ile Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2902
 <211> 122
 <212> PRT
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<220>
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<400> 2902
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Tyr Ser Ser Gly Thr Val Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2903

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2903

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

90

95

Cys Ala Arg Ile Glu Ser Leu Gly Ile Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2904

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2904

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2905

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2905

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Pro Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2906

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2906

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Ser Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2907

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 2907

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Val Ser Ile Gly Trp Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2908

<211> 122

<212> PRT

<213> 人工序列

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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2908

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Tyr Ser Asp Trp Thr Ile Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2909

<211> 122

<212> PRT

<213> 人工序列

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<400> 2909

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDB-4G8.2	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBDB-4G8.2	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBDB-4G8.2	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRSYIFYFDY
	hBDB-4G8.2 VL			ATQLTQSPSLASVGDVRTITCRASE SVSTHMHWYQQKPGKQPKLLIYGASN LESGVPSRFRSGSGGTDFTLTISSLQ PEDFATYFCQSWNDPFTFGQGTKLE IK
	hBDB-4G8.2	CDR-L1	SEQ ID NO.:之 殘基 23-33	RASESVSTHMH
	hBDB-4G8.2	CDR-L2	SEQ ID NO.:之 殘基 49-55	GASNLES
	hBDB-4G8.2	CDR-L3	SEQ ID NO.:之 殘基 88-96	QQSWNDPFT
	hBDB-4G8.3 VH			EVQLVQSGSELKKPGASVKVSKASG YTFTNYGMYWVRQAPGQGLEWMGWIN TETGKPTYADDFKGRFVFSLDTSVST AYLQISSLKAEDTAVYYCARTNYYR SYIFYFDYWGQGTMTVSS
	hBDB-4G8.3	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBDB-4G8.3	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBDB-4G8.3	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRSYIFYFDY

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Ile Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<211> 122

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2910

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Glu Trp Thr Thr Tyr Asn Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2911

<211> 122

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<400> 2911

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Pro Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2912

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2912

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Ile Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2913

<211> 122

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<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2913

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Ala Thr Ile Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2914
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 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2914
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2915
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<400> 2915
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu

35

40

45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2916

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2916

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Val Ser Thr Trp Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

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<220>
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<400> 2917
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Thr Ser Tyr Asn Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2918
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 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2918
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Trp Trp Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2919

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2919

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Trp Ser Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2920
 <211> 122
 <212> PRT
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<220>
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<400> 2920
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Tyr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2921
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2921
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Met Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Thr Leu Gly Ile Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2922

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2922

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Met Trp Ser Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2923
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2923
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Thr Ile Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2924
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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<400> 2924

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
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	hBDB-4G8.3	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTHMH
	hBDB-4G8.3	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBDB-4G8.3	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWNDPFT
	hBDB-4G8.4 VH			EIQLVQSGSELKKPGASVKVSKASG YTFITNYGMYWVRQAPGQGLEVMGWIN TETGKPTYADDFKGRFVFSLDTSVST AYLQISSSLKAEDTAVYFCARTNYYR SYIFYFDYWGQGMVTVSS
	hBDB-4G8.4	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBDB-4G8.4	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBDB-4G8.4	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRSYIFYFDY
	hBDB-4G8.4 VL			AIQLTQSPSSLSASVGDRTITCRAS ESVSTHMHWYQQKPGKAPKLLIYGAS NLESGVPSRFSGSGSGTDFTLTISL QPEDFATYYCQQSWNDPFTFGQGTKL EIK

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Val Ser Asp Val Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2925

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2925

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Lys
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Phe Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2926

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2926

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Lys Ser Ile Gly Trp Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2927

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2927

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asn Phe Trp Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2928

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2928

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr His
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2930

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Phe Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2931

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2931

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2932

<211> 122

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2932

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Trp Ser Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2933

<211> 122

<212> PRT
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<400> 2933
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Phe Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2934
<211> 122
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<400> 2934
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Val Gly Pro Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2935

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<400> 2935

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Trp Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 2936
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asp Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2937
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 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Pro Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 2938

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Val Thr Ser Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2939
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<400> 2939
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Val Gly Thr Ser Tyr Asn Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2940
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<400> 2940
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr

20

25

30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Glu Ala Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2941

<211> 122

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<400> 2941

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asn Gly Ala Ser Tyr Ser Phe Asp Tyr Trp

100

105

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Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2942
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<400> 2942
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Val Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2943
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<220>
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<222> (100)..(100)

<223> 任一氨基酸

<220>

<221> MOD_RES

<222> (103)..(103)

<223> 任一氨基酸

<400> 2943

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Asn Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Xaa Glu Ser Xaa Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2944

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2944

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Ala Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2945

<211> 122

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2945

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Gly Arg Ser Tyr Gly Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2946
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<400> 2946
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Thr Leu Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2947
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<400> 2947
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2948

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2948

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Pro Thr Ala Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2949
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<400> 2949
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2950
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 <212> PRT
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<400> 2950
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr

20

25

30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Leu Glu Ser Ile Ala Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2951

<211> 122

<212> PRT

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<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2951

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Pro Ser Tyr Ser Phe Asp Tyr Trp

100

105

110

Gly His Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2952
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<400> 2952
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Tyr Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2953
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<400> 2953
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

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	hBDB-4G8.6 VH			EIQLVQSGSELKKPGASVKVSKASG YFTFTNYGMYWVRQAPGQGLEVMGWIN TETGKPTYADDFKGRFVFSLDTSVST AVLQISSLKAEDTAVYFCARTNYYR SYIFYFDYWGGQTMVTVSS
	hBDB-4G8.6	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMY
	hBDB-4G8.6	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBDB-4G8.6	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRYSYIFYFDY
	hBDB-4G8.6 VL			DTVLTQSPATLSLSPGERATLSCRAS ESVSTHMHWYQQKPGQAPRLLIYGAS NLESGVPARFSGSGSGTDFTLTITSSL EPEDFAVYFCQQSWNDPFTFGQGTKL EIK
	hBDB-4G8.6	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTHMH
	hBDB-4G8.6	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBDB-4G8.6	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWNDPFT
	hBDB-4G8.7 VH			EVQLVQSGAEVKKPGASVKVSKASG YFTFTNYGMYWVRQAPGQGLEVMGWIN TETGKPTYADDFKGRVTMTTDTSTST AYMELRSLRSDDTAVYYCARTNYYR SYIFYFDYWGGQTMVTVSS

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2954

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2954

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Val Thr Asn Tyr Gln Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2955
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<400> 2955
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Ile Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2956
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<400> 2956

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Pro Ala Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2957

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2957

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Phe Gly Ser Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2958

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<223> /注释=「人工序列之描述：合成多肽」

<400> 2958

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Glu Thr Thr Tyr Thr Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2959

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<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2959

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2960

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2960

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Leu Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Phe Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<222> (103)..(103)

<223> 任一胺基酸

<400> 2961

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ala Ser Xaa Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Glu Lys Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2963
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2964

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Trp Ser Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 2965
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Trp Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<220>
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 <223> 任一胺基酸

<400> 2966

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ala Thr Ser
 20 25 30

Gly Val Ser Val Leu Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Gly Xaa Tyr Tyr Ser Thr Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Phe Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2967

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDB-4G8.7	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBDB-4G8.7	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBDB-4G8.7	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRSYIFYFDY
	hBDB-4G8.7 VL			AIQLTQSPSSLSASVGDRVTITCRAS ESVSTHMHWYQKPGKAPKLLIYGAS NLESGVPSRFSGSGSGTDFTLTISSL QPEDFATYYCQOSWNDPFTFGQGTKL EIK
	hBDB-4G8.7	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTHMH
	hBDB-4G8.7	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBDB-4G8.7	CDR-L3	SEQ ID NO.:之 殘基 89-97	QOSWNDPFT
	hBDB-4G8.8 VH			EVQLVQSGAEVKKPGASVKVCKASG YFTFTNYGMYWVRQAPGQGLEWMGWIN TETGKPTYADDFKGRVTMTTDTSTST AYMELRSLRSDDTAVYYCARTNYYR SYIFYFDYWGQGMVTVSS
	hBDB-4G8.8	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBDB-4G8.8	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBDB-4G8.8	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRSYIFYFDY

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Leu Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2968

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2968

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Asp Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Tyr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2969

<211> 122

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2969

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Thr Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Ser Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2970

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2970

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Val Ala Ser Ser Trp Val Glu Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2971

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2971

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Phe Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2972

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2972

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2973

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2973

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Lys Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Ile Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2974

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2974

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Ile Ala Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2975
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<220>
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 <222> (54)..(54)
 <223> 任一胺基酸

<400> 2975
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Xaa Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Val Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2976
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<400> 2976
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Gly Trp Thr Ile Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2977

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2977

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Pro Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2978
 <211> 122
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2978
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Val Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2979
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2979

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Gln Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2980

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2980

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Phe Gly Pro Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2981

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2981

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2982

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

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	hBDB-4G8.8	CDR-L1	SEQ ID NO.:之 殘基 23-33	RASESVSTHMH
	hBDB-4G8.8	CDR-L2	SEQ ID NO.:之 殘基 49-55	GASNLES
	hBDB-4G8.8	CDR-L3	SEQ ID NO.:之 殘基 88-96	QQSWNDPFT
	hBDB-4G8.9 VH			EVQLVQSGAEVKKPGASVKVSCKASG YFTFTNYGMYWVRQAPGQGLEWMGWIN TETGKPTYADDFKGRVTMTTDTSTST AYMELRSLRSDDTAVYYCARTNYYR SYIFYFDYWGQGMVTVSS
	hBDB-4G8.9	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMY
	hBDB-4G8.9	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBDB-4G8.9	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRSYIFYFDY
	hBDB-4G8.9 VL			DTVLTQSPATLSLSPGERATLSCRAS ESVSTHMHWYQQKPGQAPRLLIYGAS NLESGVPARFSGSGSGTDFTLTISL EPEDFAVYFCQQSWNDPFTFGQGTKL EIK

<220>

<221> MOD_RES

<222> (100)..(101)

<223> 任一氨基酸

<400> 2982

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Xaa Xaa Ser Ile Val Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2983

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注释=「人工序列之描述：合成多肽」

<400> 2983

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2984

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2984

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Leu Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Val Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2985
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<400> 2985
 Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gly Ser Ser Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2986
 <211> 122
 <212> PRT
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<400> 2986
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Thr Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Asp Ser Phe Gly Ala Ile Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2987

<211> 122

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2987

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Glu Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Glu Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Ala Tyr Asn Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2988
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<400> 2988
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Phe Thr Val Ser Ser
 115 120

<210> 2989
 <211> 122
 <212> PRT
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<400> 2989
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser

20

25

30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2990

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2990

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ala Lys Gly Thr Thr Tyr Ser Phe Asp Tyr Trp

100

105

110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2991
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2991
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Arg Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2992
 <211> 122
 <212> PRT
 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2992
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Pro Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2993

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 2993

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Glu Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2994
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2994
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Arg Ala Arg Ile Glu Ser Leu Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2995
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 2995

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg His Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 2996

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2996

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2997

<211> 122

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2997

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Leu Ile Glu Ser Ser Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2998

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2998

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Lys Gly Val Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 2999

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 2999

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Pro Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3000

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<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (8)..(8)

<223> 任一胺基酸

<400> 3000

Glu Val Thr Leu Arg Glu Ser Xaa Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Glu Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3001
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> .3001
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Ile Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3002
 <211> 122
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<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3002
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Arg Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3003

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3003

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Ala Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3004
 <211> 122
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<400> 3004
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Asn Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3005
 <211> 122
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<400> 3005
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Pro Met Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3006

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3006

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Ala Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3007
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3007
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Met Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3008
 <211> 122
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 <213> 人工序列

<220>
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<400> 3008
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ser Thr Gly Ala Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3009

<211> 122

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3009

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

90

95

Cys Ala Arg Ile Glu Ser Met Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3010

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3010

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Met Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3011

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

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	hBEW-1B10.2	CDR-H1	SEQ ID NO.:之 殘基 26-35	GFSFSKYDMA
	hBEW-1B10.2	CDR-H2	SEQ ID NO.:之 殘基 50-66	SITTSVGTYYRDSVKG
	hBEW-1B10.2	CDR-H3	SEQ ID NO.:之 殘基 99-105	GYGAMDA
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	hBEW-1B10.2	CDR-L1	SEQ ID NO.:之 殘基 24-34	KASQDIDDYLS
	hBEW-1B10.2	CDR-L2	SEQ ID NO.:之 殘基 50-56	AATRLAD
	hBEW-1B10.2	CDR-L3	SEQ ID NO.:之 殘基 89-97	LQSSSTPWT
	hBEW-1E3.1 VH			EIQLVQSGSELKPKGASVKVSCKASG YPFTNSGMYWVKQAPGQGLEVMGWIN TEAGKPTYADDFKGRFVFLDTSVST AYLQISSLKAEDTAVYFCARWGYISD NSYGFWDYWGQGTITVTVSS

<400> 3011

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Leu Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<210> 3012

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<400> 3012

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Arg Ala Arg Ile Glu Ser Leu Gly Met Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<223> 任一胺基酸

<400> 3013
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Leu Xaa Ser Thr Gly Thr Asn Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3014
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Asp Thr Ile Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3015
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Gly Val Asp Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu

35

40

45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Ile His Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<210> 3016

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<400> 3016

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Val Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser

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<400> 3017
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Tyr Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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 <223> 任一胺基酸

<400> 3018

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Asn Glu Ser Phe Gly Arg Met Tyr Xaa Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<223> 任一胺基酸

<400> 3019

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Xaa Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3020

Glu Val Thr Leu Arg Glu Ser Gly Pro Ser Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Phe Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 3021

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Thr Leu Gly Thr Ala Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3022

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Phe Gly Ser Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<210> 3023

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<400> 3023

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Gly Pro Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3024
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Met Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3025
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 <223> 任一胺基酸

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SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-1E3.1	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYPFTNSGMY
	hBEW-1E3.1	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTEAGKPTYADDFKG
	hBEW-1E3.1	CDR-H3	SEQ ID NO.:之 殘基 99-112	WGYISDNSYGWFDY
	hBEW-1E3.1 VL			ETVLTQSPATLSLSPGERATLSCRAS EGVYSYMHWYQQKPGQQRLLIYKAS NLAGSVPARFSGSGSGTDFTLTISL EPEDFAVYFCHQNWNDPLTFGQGTKL EIK
	hBEW-1E3.1	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASEGVYSYMH
	hBEW-1E3.1	CDR-L2	SEQ ID NO.:之 殘基 50-56	KASNLAS
	hBEW-1E3.1	CDR-L3	SEQ ID NO.:之 殘基 89-97	HQNWNDPLT
	hBEW-1E3.2 VH			EIQLVQSGAEVKKPGASVKVSCKASG YPFTNSGMYWVKQAPGQGLEVMGWIN TEAGKPTYADDFKGRFTFTLDTSTST AYLEIRSLRSDDTAVYFCARWGYISD NSYGWFDYWGGTLVTVSS
	hBEW-1E3.2	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYPFTNSGMY
	hBEW-1E3.2	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTEAGKPTYADDFKG
	hBEW-1E3.2	CDR-H3	SEQ ID NO.:之 殘基 99-112	WGYISDNSYGWFDY

<223> 任一胺基酸

<400> 3025

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Thr Xaa Thr Thr Tyr Ser Xaa Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3026

<211> 122

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<400> 3026

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3028

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asn Ala Ile Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3029

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<212> PRT

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<400> 3029

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Glu Thr Thr Tyr Met Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3030

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<400> 3030

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Thr Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3031

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<400> 3031
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Tyr Ser Ile Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3032
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Pro Trp Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3033

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<400> 3033

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Arg Pro Asp Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3034
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gln Ser Ser Ala Ser Asn Tyr Glu Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<220>
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 <223> 任一胺基酸

<400> 3035
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gln Ser Gly Trp Thr Asn Xaa Glu Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3036

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gln Ser Ile Trp Thr Arg Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3037
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gln Ser Phe Ala Thr Asn Tyr Glu Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3038
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<400> 3038

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Val Pro Trp Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3039

<211> 122

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<400> 3039

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

SEQ ID NO.	純系	蛋白質區域	殘基	V 區
	hBEW-1E3.2 VL			ETVLTQSPATLSLSPGERATLSCRAS EGVYSYMHWYQQKPGQOPRLLIYKAS NLAGVTPARFSGSGSGTDFTLTISL EPEDFAVYFCHQNWNDPLTFGQGTKL EIK
	hBEW-1E3.2	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASEGVYSYMH
	hBEW-1E3.2	CDR-L2	SEQ ID NO.:之 殘基 50-56	KASNLAS
	hBEW-1E3.2	CDR-L3	SEQ ID NO.:之 殘基 89-97	HQNWNDPLT
	hBEW-1E3.3 VH			EVQLVQSGAEVKKPGASVKVSKASG YPFTNSGMYWVRQAPGQGLEWMGWIN TEAGKPTYADDFKGRFTFLDTSTST AYLEIRSLRSDDTAVYYCARWGYISD NSYGWFDYWGQGITLVTVSS
	hBEW-1E3.3	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYPFTNSGMY
	hBEW-1E3.3	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTTEAGKPTYADDFKG
	hBEW-1E3.3	CDR-H3	SEQ ID NO.:之 殘基 99-112	WGYISDNSYGWFDY
	hBEW-1E3.3 VL			ETVLTQSPATLSLSPGERATLSCRAS EGVYSYMHWYQQKPGQOPRLLIYKAS NLAGVTPARFSGSGSGTDFTLTISL EPEDFAVYFCHQNWNDPLTFGQGTKL EIK

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Thr Pro Phe Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3040

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<400> 3040

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Asp Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3041

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<213> 人工序列

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<400> 3041

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gln Ser Ser Ser Thr Asn Tyr Glu Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3042

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3042

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gln Ser Ser Trp Arg Arg Tyr Glu Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3043

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3043

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Lys Thr Ser Ala Thr Asn Tyr Asp Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3044

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3044

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Ala Phe Ser Tyr Asn Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3045

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3045

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser

50

55

60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Phe Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Val Ser Ser Leu Thr Glu Tyr Asn Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3046

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3046

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Arg Val Asp Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3047

<211> 122
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3047
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Trp Thr Ser Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3048
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<400> 3048
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Val Ala Trp Arg Tyr Asp Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3049

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3049

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Leu Pro Thr Ser Tyr Asn Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3050
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 <212> PRT
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<220>
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<400> 3050
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Pro Phe Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3051
 <211> 122
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3051
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asp Tyr Thr Lys Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3052

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注释=「人工序列之描述：合成多肽」

<400> 3052

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Pro Thr Arg Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3053
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3053
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Met Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3054
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
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<400> 3054
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-1E3.3	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASEGVYSYMH
	hBEW-1E3.3	CDR-L2	SEQ ID NO.:之 殘基 50-56	KASNLAS
	hBEW-1E3.3	CDR-L3	SEQ ID NO.:之 殘基 89-97	HQNWNDPLT
	hBEW-1E3.4 VH			EIQLVQSGSELKKPGASVKVSCKASG YPFTNSGMYWVKQAPGQGLEVMGWIN TEAGKPTYADDFKGRFVFSLDTSVST AYLQISSLKAEDTAVYFCARWGYISD NSYGWFDYWGQGLVTVSS
	hBEW-1E3.4	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYPFTNSGMY
	hBEW-1E3.4	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTTEAGKPTYADDFKG
	hBEW-1E3.4	CDR-H3	SEQ ID NO.:之 殘基 99-112	WGYISDNSYGWFDY
	hBEW-1E3.4 VL			ATQLTQSPSSLSASVGDRVTISCRAS EGVYSYMHWYQKPGKQPKLLIYKAS NLASGVPSRFSGSGSGTDFTLTISSL QPEDFATYFCHQNWNDPLTFGQGTKL EIK
	hBEW-1E3.4	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASEGVYSYMH
	hBEW-1E3.4	CDR-L2	SEQ ID NO.:之 殘基 50-56	KASNLAS
	hBEW-1E3.4	CDR-L3	SEQ ID NO.:之 殘基 89-97	HQNWNDPLT

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Lys Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3055

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3055

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3056

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3056

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3057

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3057

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Phe Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ser Ile Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3058

<211> 122

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3058

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Glu Thr Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

90

95

Cys Ala Arg Ile Glu Ser Asp Phe Thr Ser Tyr Met Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3059

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3059

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asn Trp Trp Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3060

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3060

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Phe Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3061

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

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<222> (103)..(103)

<223> 任一胺基酸

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<223> 任一胺基酸

<400> 3061

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Xaa Gly Xaa Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3062

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<400> 3062

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Arg Leu Asp Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3063
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<400> 3063
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Asp Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3064
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<400> 3064
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ala Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Pro Trp Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3065

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3065

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Thr Gly Tyr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3066
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<400> 3066
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Lys Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3067
 <211> 122
 <212> PRT
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<400> 3067
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ser Ser Phe Phe Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3068

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3068

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Glu Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-1E3.5 VH			EIQLVQSGAEVKKPGASVKVSCKASG YPFTNSGMVWVKQAPGQGLEVMGWIN TEAGKPTYADDFKGRFTFLDTSTST AYLEIRSLRSDDTAVYFCARWGYISD NSYGWFDYWGQGLVTVSS
	hBEW-1E3.5	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYPFTNSGMV
	hBEW-1E3.5	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTEAGKPTYADDFKG
	hBEW-1E3.5	CDR-H3	SEQ ID NO.:之 殘基 99-112	WGYISDNSYGWFDY
	hBEW-1E3.5 VL			ATQLTQSPSSLSASVGDRTVITSCRAS EGVYSYMHWYQOKPGKQPKLLIYKAS NLAGVPSRFRSGSGSGTDFTLTISL QPEDFATYFCHQNWNDPLTFGQGTKL EIK
	hBEW-1E3.5	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASEGVYSYMH
	hBEW-1E3.5	CDR-L2	SEQ ID NO.:之 殘基 50-56	KASNLAS
	hBEW-1E3.5	CDR-L3	SEQ ID NO.:之 殘基 89-97	HQNWNDPLT
	hBEW-5C3.1 VH			EIQLVQSGSELKKPGASVKVSCKASG YFTFTNYGVVWVKQAPGQGLEVMGWIN TETGKPTYADDFKGRFVFLDTSVST AYLQISSLKAEDTAVYYCARARQLDW FVYWGQGLVTVSS

85

90

95

Cys Ala Arg Ile Glu Ser Leu Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3069

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3069

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Pro Gly Ser Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3070

<211> 122

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3070

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Glu Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asn Pro Leu Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3071

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3071

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Lys
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Ile Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3072

<211> 122

<212> PRT

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<400> 3072

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ala Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3073

<211> 122

<212> PRT

<213> 人工序列

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<400> 3073

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Pro Phe Ala Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3074

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3074

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Phe Thr Tyr Ala Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3075

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

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<222> (104)..(104)

<223> 任一胺基酸

<400> 3075

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Thr Ile Xaa Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser

115

120

<210> 3076
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<400> 3076
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Thr Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3077
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<400> 3077
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Glu Trp Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3078

<211> 122

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3078

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gln Ser Ser Trp Thr Thr Tyr Glu Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3079
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<400> 3079
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Thr Leu Gly Ser Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3080
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<400> 3080
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Lys Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Phe Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3081

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3081

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Gly Gly Ile Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3082
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<400> 3082
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Pro Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3083
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<400> 3083

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Tyr Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Val Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3084

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<400> 3084

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Tyr Ser Tyr Asn Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3085

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3085

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Arg Ser Tyr Cys Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3086

<211> 122

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3086

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Pro Met Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3087

<211> 122

<212> PRT

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<400> 3087

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3089

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Arg Pro Thr Ser Tyr Cys Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3090

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3090

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Val Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3091

<211> 122

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3091

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gln Ser Asp Gly Pro Met Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3092

<211> 122

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3092

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Thr Gly Ala Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3093
<211> 122
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3093

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Tyr Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Leu Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3094

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3094

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Thr Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Thr Pro Trp Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3095
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3095
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3096
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3096
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Glu Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Asn Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3097

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 3097

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Trp Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

SEQ ID NO.	純系	蛋白質區域	殘基	V 區
	hBEW-5C3.2 VL			DTVLTQSPATLSLSPGERATLSCRAR ESLTTSLSWFQQKPGQPRLLIYGAS KLESGVPARFSGSGSGTDFTLTISL EPEDFAVYFCQQSWYDPPTFGGGTKV EIK
	hBEW-5C3.2	CDR-L1	SEQ ID NO.:之 殘基 24-34	RARESLTTSL
	hBEW-5C3.2	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASKLES
	hBEW-5C3.2	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPPT
	hBEW-5C3.3 VH			EVQLVQSGAEVKKPGSSVKVSKASG YFTFTNYGVYWRQAPGGLEWMGWIN TETGKPTYADDFKGRFTFTLDKSTST AYMELSSLRSEDTAVYYCARARQLDW FVYWGQGLLVTVSS
	hBEW-5C3.3	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGVY
	hBEW-5C3.3	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBEW-5C3.3	CDR-H3	SEQ ID NO.:之 殘基 99-107	ARQLDWFVY
	hBEW-5C3.3 VL			DTVLTQSPATLSLSPGERATLSCRAR ESLTTSLSWFQQKPGQPRLLIYGAS KLESGVPARFSGSGSGTDFTLTISL EPEDFAVYFCQQSWYDPPTFGGGTKV EIK

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3098
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3098
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Ala Trp Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3099
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3099
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr

20

25

30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Tyr Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3100

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 3100

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Thr Ser Trp Trp Lys Tyr Ser Phe Asp Tyr Trp

100

105

110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3101
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3101
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Leu Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3102
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3102
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Val Ser Ser Tyr Phe Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3103

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3103

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Glu Glu Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Ile Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3104

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3104

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Tyr Thr Ser
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3105

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3105

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Pro Thr Arg Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3106

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3106

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Arg Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Val Ser Asp Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3107

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3107

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asp Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3108

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (2)..(2)

<223> 任一胺基酸

<400> 3108

Arg Xaa His Trp Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Thr Phe Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3109

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3109

Arg Gly Asn Thr Glu Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Thr Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3110

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (104)..(104)

<223> 任一胺基酸

<400> 3110

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Xaa Thr Asn Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3111
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3111
 Glu Val Thr Leu Arg Glu Gly Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser His Trp Trp Ser Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3112
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-5C3.3	CDR-L1	SEQ ID NO.:之 殘基 24-34	RARESLTTSLS
	hBEW-5C3.3	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASKLES
	hBEW-5C3.3	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPPT
	hBEW-5C3.4 VH			EIQLVQSGSELKKPGASVKVSCKASG YFTFTNYGVYVWKQAPGQGLEVMGWIN TETGKPTYADDFKGRFVPSLDTSVST AYLQISSLKAEDTAVYYCARARQLDW FVYWGQGTLLVTVSS
	hBEW-5C3.4	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGVY
	hBEW-5C3.4	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBEW-5C3.4	CDR-H3	SEQ ID NO.:之 殘基 99-107	ARQLDWFVY
	hBEW-5C3.4 VL			DTQLTQSPSSLSASVGDRVTISCRAR ESLTTSLSWVWFQKPKGQPKLLIYGAS KLESGVPSRFSGSGSGTDFLTITSSL QPEDFATYFCQQSWYDPPTFGGGTKV EIK
	hBEW-5C3.4	CDR-L1	SEQ ID NO.:之 殘基 24-34	RARESLTTSLS
	hBEW-5C3.4	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASKLES
	hBEW-5C3.4	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPPT

<221> MOD_RES
 <222> (121)..(121)
 <223> 任一氨基酸

<400> 3112

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Phe Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Glu Xaa Cys
 115 120

<210> 3113
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3113

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser His Trp Trp Ser Tyr Ala Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3114

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<222> (2)..(2)

<223> 任一胺基酸

<220>

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<222> (4)..(4)

<223> 任一胺基酸

<400> 3114

Arg Xaa His Xaa Gly Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3115
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Ala Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser His Trp Trp Ser Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3116
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15
 Thr Leu Thr Leu Thr Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Ile Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3117
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Glu Pro Thr Gln
 1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60
 Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85

90

95

Cys Ala Arg Ile Glu Ser Asn Pro Trp Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3118
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asn Trp Arg Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3119

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Phe Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3120

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser His Trp Trp Ser Tyr Ala Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ile
115 120

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<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3121

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Val Ser Asp Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3122

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Trp Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3123

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3123

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Leu Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3124

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3124

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3125

<211> 122

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3125

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Asn Pro Trp Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3126

<211> 122

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3126

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-5C3.5 VH			EIQLVQSGAEVKKPGSSVKVCKASG YFTFTNYGVYVVKQAPGQGLEVMGWIN TETGKPTYADDFKGRFTFTLDKSTST AYMEISSLRSEDTAVYFCARARQLDW FVYWGQGITLVTVSS
	hBEW-5C3.5	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGVY
	hBEW-5C3.5	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPTYADDFKG
	hBEW-5C3.5	CDR-H3	SEQ ID NO.:之 殘基 99-107	ARQLDWFVY
	hBEW-5C3.5 VL			DTQLTQSPSSLSASVGDRTVITSCRAR ESLTTSLSWVQKPKGKPKLLIYGAS KLESGVPSRFSGSGSGTDFTLTISSL QPEDFATYFCQQSWYDPPTFGGGTKV EIK
	hBEW-5C3.5	CDR-L1	SEQ ID NO.:之 殘基 24-34	RARESLTTSLS
	hBEW-5C3.5	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASKLES
	hBEW-5C3.5	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPPT
	hBEW-5C3.6 VH			EVQLVQSGAEVKKPGSSVKVCKASG YFTFTNYGVYVVRQAPGQGLEVMGWIN TETGKPTYADDFKGRFTFTLDKSTST AYMEISSLRSEDTAVYYCARARQLDW FVYWGQGITLVTVSS

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Thr Phe Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3127

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<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3127

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Ile Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Pro Lys Tyr Ala Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3128
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<400> 3128
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Arg Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3129
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 <213> 人工序列

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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3129
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Lys Pro Pro Gly Lys Ala Leu Glu

35

40

45

Trp Leu Ala Asn Ile Trp Trp Asp Gly Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3130

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<222> (111)..(111)

<223> 任一胺基酸

<400> 3130

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Ala Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Val Trp Thr Lys Tyr Tyr Phe Asp Xaa Gly
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3131

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<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (120)..(120)

<223> 任一胺基酸

<400> 3131

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Glu Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Pro Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Val Trp Thr Arg Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Lys Xaa Val Val
 115 120

<210> 3132

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3132

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3133

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 3134

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Val Trp Thr Arg Tyr Asp Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3135
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Thr Met Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3136
Arg Gly Asn Thr Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Lys
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3137

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Gln Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<400> 3138
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Lys Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<220>
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 <222> (111)..(111)
 <223> 任一胺基酸

<400> 3139
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Pro Lys Tyr Ser Phe Asp Xaa Gly
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3140

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3141
 Glu Val Lys Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gln Thr Ile Gly Thr Asn Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3142

Glu Gly Gln Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3143

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Ser Thr Met Val Thr Val Ser Ser
115 120

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<400> 3144
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Ile Val Thr Val Ser Ser
115 120

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3145

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3146

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Ala Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Thr Ile Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3147

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gln Ser Gly Trp Thr Asn Tyr Glu Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Val Val
115 120

<210> 3148

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<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3148

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gln Ser Met Trp Thr Arg Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3149

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<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (2)..(2)

<223> 任一胺基酸

<220>

<221> MOD_RES

<222> (4)..(4)

<223> 任一胺基酸

<400> 3149

Arg Xaa His Xaa Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3150

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3150

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Ala Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gln Ser Gly Trp Thr Asn Tyr Glu Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3151

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3151

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Ser Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3152

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3152

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Thr Ile Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3153

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3153

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3154

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3154

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3155

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3155

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gln Ser Gly Trp Thr Asn Tyr Glu Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3156

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3156

Arg Gly Asn Thr Glu Lys Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3157

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3157

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gln Ser Gly Trp Thr Asn Tyr Glu Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3158

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> MOD_RES

<222> (119)..(119)

<223> 任一胺基酸

<400> 3158

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Glu Xaa Val Val Arg
 115 120

<210> 3159

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3159

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ile Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3160

<211> 122

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3160

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Ser Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3161
 <211> 122
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3161
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3162
 <211> 110
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<220>
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 <222> (8)..(8)
 <223> 任一胺基酸

<220>
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 <222> (17)..(17)
 <223> 任一胺基酸

<220>
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 <222> (19)..(19)
 <223> 任一胺基酸

<400> 3162
 Glu Ile Val Leu Thr Gln Ser Xaa Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Xaa Arg Xaa Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3163
 <211> 110
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (5)..(5)
 <223> 任一胺基酸

<400> 3163
 Glu Ile Val Leu Xaa Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3164

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3164

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Lys Asp Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3165

<211> 110

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3165
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Tyr
 20 25 30
 Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ala Ala Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Ile
 85 90 95
 Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3166
<211> 110
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3166
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Glu His
 20 25 30
 Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Leu Ile Tyr Gly Ala Asp His Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Phe Asn
85 90 95

Asn Thr Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3167

<211> 110

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3167

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly His
20 25 30

Cys Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Ala Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Lys Asn
85 90 95

Ile Asp Gly Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3168

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Phe Cys Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Val Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Arg Arg
 85 90 95

Leu Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3169

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Val Leu
 20 25 30

Pro Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Ala Asp Trp Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Thr
 85 90 95

Ile Asp Thr Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3170

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<400> 3170

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Tyr
 20 25 30

Glu Cys Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Arg Gln Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3171

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<400> 3171

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Val Gly
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Val His
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3172

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<400> 3172

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly His
 20 25 30

Ser Asp Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Gly Gln Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3173

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<400> 3173

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly His
 20 25 30

Pro Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Cys His
 85 90 95

Ile Tyr Asn Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3174

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Cys Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Tyr
85 90 95

Ile His Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3175

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<400> 3175

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Ser Cys Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Asp
85 90 95

Ile Val Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3176

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<400> 3176

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Tyr
 20 25 30

Ser Asp Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Lys Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Lys Tyr Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3177

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<400> 3177

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp His
 20 25 30

Phe Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Ala Asp His Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Thr Asn
 85 90 95

Ile Glu Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<220>
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 <223> 任一胺基酸

<400> 3178
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Xaa
 20 25 30

Ala Asp Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Val Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Glu Tyr
 85 90 95

Ile Asp Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Gly
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp His Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Asn
 85 90 95

Ile Gly Thr Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3180

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Glu Cys
 20 25 30

Asp Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Asn
 85 90 95

Asn Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3181

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<400> 3181

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Cys
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Lys Glu Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3182
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<400> 3182

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly His
 20 25 30

Ser Arg Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Val Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Asn Asn
85 90 95

Ile Ala Thr Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3183
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<220>
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<222> (55)..(55)
<223> 任一氨基酸

<400> 3183
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Asn His
20 25 30

Cys His Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Ala Asp Xaa Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
85 90 95

Leu Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3184

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp His Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Phe Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3185
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<400> 3185

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Arg Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Ala Asp Glu Pro Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-6C2.4 VH			EVQLVESGGGLVQPGGSLRLSCAASG FTFSYYGMHWVRQAPGKGLEWVALIY YDSSKMYADSVKGRFTISRDNKNS LYLQMNSLRAEDTAVYYCARGGTAPV YWGQGTMTVSS
	hBEW-6C2.4	CDR-H1	SEQ ID NO.:之 殘基 26-35	GFTFSYYGMH
	hBEW-6C2.4	CDR-H2	SEQ ID NO.:之 殘基 50-66	LIYYDSSKMYADSVKG
	hBEW-6C2.4	CDR-H3	SEQ ID NO.:之 殘基 99-105	GGTAPVY
	hBEW-6C2.4 VL			DIQLTQSPSSLSASVGDRTITCKGS QNIANYLAWYQQKPGKAPKLLIYNTD SLQTGIPSRFSGSGSDYTLTISSL QPEDFATYFCYQSNNGYTFGQGTKLE IK
	hBEW-6C2.4	CDR-L1	SEQ ID NO.:之 殘基 24-34	KGSQNIANYLA
	hBEW-6C2.4	CDR-L2	SEQ ID NO.:之 殘基 50-56	NTDSLQT
	hBEW-6C2.4	CDR-L3	SEQ ID NO.:之 殘基 89-96	YQSNNGYT
	hBEW-6C2.5 VH			EVQLVESGGGLVQPGGSLRLSCAASG FTFSYYGMHWIRQAPGKGLEWMALTY YDSSKMYADSVKGRFTISRDNKNS LYLQMNSLRAEDTAVYYCAAGGTAPV YWGQGTMTVSS

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Arg Asn Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3186

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<400> 3186

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Cys
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ser
 85 90 95

Thr Val Leu Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3187

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<400> 3187

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Arg Tyr
 20 25 30

Cys Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3188

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3188

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Ser Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Asn
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3189
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<400> 3189
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Phe Tyr
 20 25 30

Gly Cys Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Asn
 85 90 95

Ile Val Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3190
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Ala Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Lys Tyr Ala Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3191

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ser Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Val Asp Asp Glu Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Tyr
85 90 95

Lys Asp Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<222> (55)..(55)

<223> 任一氨基酸

<400> 3192

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Xaa Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ser Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<220>

<221> MOD_RES

<222> (33)..(33)

<223> 任一氨基酸

<400> 3193

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Cys Tyr
 20 25 30

Xaa Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Val Asn
 85 90 95

Leu Glu His Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3194

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Arg His
 20 25 30

Cys Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Pro Asp Asp Leu Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3195

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Val Asp Asp His Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Thr Ser
 85 90 95

Leu Asp Asn Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Ala Asp His Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Val Asn
 85 90 95

Ile Tyr Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Arg Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Asn
 85 90 95

Lys Val Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Lys
 20 25 30

Pro Thr Ser Pro Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Ala Asp Glu Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Val Asn
 85 90 95

Arg Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Pro
 20 25 30

Cys Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Asn
 85 90 95

Leu Val Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile His Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ser
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Pro Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-6C2.5	CDR-H1	SEQ ID NO.:之 殘基 26-35	GFTFSYYGMH
	hBEW-6C2.5	CDR-H2	SEQ ID NO.:之 殘基 50-66	LIYYDSSKMYADSVKG
	hBEW-6C2.5	CDR-H3	SEQ ID NO.:之 殘基 99-105	GGTAPVY
	hBEW-6C2.5 VL			EIVLTQSPATLSLSPGERATLSCCKGS QNIANYLAWYQQKPGQAPRLLIYNTD SLQGTGIPARFSGSGSGTDFLTITSSL EPEDFAVYYCYQSNNGYTFGQGTKLE IK
	hBEW-6C2.5	CDR-L1	SEQ ID NO.:之 殘基 24-34	KGSQNIANYLA
	hBEW-6C2.5	CDR-L2	SEQ ID NO.:之 殘基 50-56	NTDSLQGT
	hBEW-6C2.5	CDR-L3	SEQ ID NO.:之 殘基 89-96	YQSNNGYT
	hBEW-6C2.6 VH			EVQLVESGGGLVQPGGSLRLSCAASG FTFSYYGMHWIRQAPGKGLEWMALTY YDSSKMYADSVKGRFTISRDNKNS LYLQMNSLRAEDTAVYYCAAGGTAPV YWGQTMVTVSS
	hBEW-6C2.6	CDR-H1	SEQ ID NO.:之 殘基 26-35	GFTFSYYGMH
	hBEW-6C2.6	CDR-H2	SEQ ID NO.:之 殘基 50-66	LIYYDSSKMYADSVKG
	hBEW-6C2.6	CDR-H3	SEQ ID NO.:之 殘基 99-105	GGTAPVY

Val Ile Tyr Ala Ala Asp Pro Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Ser
 85 90 95

Ile Tyr Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3202

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Lys His
 20 25 30

Cys Cys Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Leu Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Ser
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3203

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Val Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Pro Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Leu Tyr
 85 90 95

Arg Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<223> 任一氨基酸

<400> 3204

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Ser Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Xaa Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln His Tyr Asp Ile His
85 90 95

Ile Asn Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3205

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Ala His Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Gly Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Lys Asn
85 90 95

Ser Glu Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3206

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<400> 3206

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Asp Asp Asp Pro Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Asn
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3207

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly His
 20 25 30

Ser Cys Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Ala Asp Glu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Leu Asn
 85 90 95

Thr Leu Phe Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 <223> 任一胺基酸

<400> 3208
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly His
 20 25 30

Xaa Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Ala Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Ser
 85 90 95

Ile Ala Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3209
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<400> 3209
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Leu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Ala Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Arg His
 85 90 95

Leu Asp Ala Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3210

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Cys
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Gly Ala Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3211
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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ala Ser Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Ala Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Thr
 85 90 95

Ile Gly Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Cys Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Ala Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Lys
 85 90 95

Ile Gly Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3213

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Trp Asp Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Glu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ser Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Lys Asp Phe Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3214

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly His
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Thr Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Asp Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Leu Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<223> 任一胺基酸

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<223> 任一胺基酸

<400> 3215

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Xaa
 20 25 30

Ser His Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Val Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Lys
 85 90 95

Lys Gly Xaa Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3216

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly His
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Val Asn
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3217

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<400> 3217

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Phe Gln
20 25 30

Ser Asp Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Lys Asn
85 90 95

Ile Tyr Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<222> (50)..(50)

<223> 任一胺基酸

<400> 3218

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Ser Ala Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Xaa Tyr Val Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Lys
85 90 95

Leu Asp Phe Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3219

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<223> 任一胺基酸

<400> 3219

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Val Tyr
20 25 30

Ser Ser Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Val Xaa Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile His
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3220

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Arg Asp
20 25 30

Phe Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Asn
85 90 95

Leu Asp Asn Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3221

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Ser Asp
20 25 30

Ser His Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3222

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Ala Leu
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Leu Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3223

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly

1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Met Arg Tyr
 20 25 30
 Ser Asp Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Met
 35 40 45
 Val Ile Tyr Ala Val Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Leu
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Val Gly
 85 90 95
 Met Val Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3224
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly His
 20 25 30
 Phe Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ser
 85 90 95
 Ile Asp Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

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<400> 3225

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Asp His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Pro Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Leu Asn
 85 90 95

Ile Asp Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3226

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Arg His
 20 25 30

Ser Cys Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Asp Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3227

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Trp His
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Thr Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Cys Asp
85 90 95

Lys Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3228

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<400> 3228

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Asp
 20 25 30

Phe Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Leu
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile His
 85 90 95

Ile Glu Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3229

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly His
 20 25 30

Ser Ala Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Pro Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Lys Asn
 85 90 95

Lys Glu Leu Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3230

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Asn
 85 90 95

Ser Tyr Leu Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Pro
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Pro Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Asn
 85 90 95

Lys Glu Leu Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Lys Asn
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Leu Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Val Asn
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 <223> 任一胺基酸

<400> 3234
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Ser Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Xaa Thr
 85 90 95

Ile Gly Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Phe
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Glu Asp Asp Pro Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ala Asn
 85 90 95

Ile Glu Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Tyr Ile Ser His
20 25 30

Glu Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Ala Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile His
85 90 95

Ile His Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly His
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Glu Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Gly Asn
85 90 95

Ile Gly Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Asp Ala
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Thr Asp Asp Arg Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Ile
85 90 95

Leu Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly

1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Tyr
 20 25 30
 Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Leu Ile Tyr Ala Asp Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Val Ile
 85 90 95
 Ile Tyr Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 <223> 任一氨基酸

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 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Phe Tyr
 20 25 30
 Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ala Asp Asp Xaa Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

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Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Leu Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Xaa Leu
35 40 45

Val Ile Tyr Pro Asp Asp Xaa Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Xaa Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Xaa Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Lys Thr
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Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Cys Glu
 20 25 30

Ser Cys Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Lys Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30
 Ser Asn Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Leu Ile Tyr Glu Asp Asp Lys Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Xaa Leu
 85 90 95
 Val Pro Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3244

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly His
 20 25 30
 Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ile Lys
 85 90 95
 Val Asp Ser Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

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 <223> 任一胺基酸

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gln Ser
 20 25 30

Leu His Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Xaa Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Arg His
 85 90 95

Ile Gly Leu Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3246
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Tyr
 20 25 30

Cys Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Leu Cys
 85 90 95

Ile Tyr Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser His Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Ala Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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	hBEW-9A8.1	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMY
	hBEW-9A8.1	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.1	CDR-H3	SEQ ID NO.:之 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.1 VL			EIVLTQSPDFQSVTPKEKVTITCRAS ESVSTVIHWYQQKPDQSPKLLIKGAS NLESGVPSRFRSGSGSGTDFTLTINSL EAEDAATYYCQHWNDPPTFGQGTKL EIK
	hBEW-9A8.1	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.1	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBEW-9A8.1	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQHWNDPPT
	hBEW-9A8.10 VH			EVQLVQSGAEVKKPGASVKVSKASG YFTFTNYGMYWVRQAPGQGLEWMGWIN TETGKPIYADDFKGRVTMTTDTSTST AYMELRSLRSDDTAVYYCARVDYDGS FWFAYWGQGTLVTVSS

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Pro Asp Asp Lys Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Arg Pro Thr Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Ala His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Ala Asp Tyr Arg Ala Ser Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ser His
85 90 95

Asn Asn Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3250

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<400> 3250

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Arg Gly
20 25 30

Leu Arg Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Leu Asn
85 90 95

Phe Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3251

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Thr Tyr
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Xaa Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Val Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 <223> 任一胺基酸

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Xaa Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe

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Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Gly Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Tyr Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Val Asp Asp Trp Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Asp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Thr Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3261

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Tyr
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3262

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3263

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Ala Gly
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-9A8.10	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBEW-9A8.10	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.10	CDR-H3	SEQ ID NO.:之 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.10 VL			ETVLTQSPDFQSVTPKEKVTITCRAS ESVSTVIHWYQQKPDQQPKLLIHGAS NLESGVPSRFSGSGSGTDFLLTINSL EAEDAATYFCQQHWNDPPTFGQGTKL EIK
	hBEW-9A8.10	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.10	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBEW-9A8.10	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQHWNDPPT
	hBEW-9A8.11 VH			EVQLVQSGAEVKKPGASVKVSCKASG YTFTNYGMYWVRQAPGQGLEWMGWIN TETGKPIYADDFKGRVTMTTDTSTST AYMELRSLRSDDTAVYICARVDYDGS FWFAYWGQGLTVTVSS
	hBEW-9A8.11	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBEW-9A8.11	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.11	CDR-H3	SEQ ID NO.:之 殘基 99-109	VDYDGSFWFAY

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<223> 任一胺基酸

<400> 3264

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Val
85 90 95

Ile Asp Ile Xaa Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3265

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Val Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Tyr
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Val Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Trp Asp
20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
85 90 95

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Tyr Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3269

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Leu Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Thr Ile
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Asp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Tyr
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Phe Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Thr
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Leu
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Asp
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Phe Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ile Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Tyr
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Glu Gly
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3276
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ser Cys
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3277

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Ser
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Tyr
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Trp Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Glu
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

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	hBEW-9A8.11 VL			DIQMTQSPSSLSASVGDRTTTCRAS ESVSTVIHWYQQKPKAPKLLIYGAS NLESGVPSRFSGSGSGTDFLTITSSL QPEDFATYYCQQHWNDPPTFGQGTKL EIK
	hBEW-9A8.11	CDR-L1	SEQ ID NO.: 殘基 24-34	RASESVSTVIH
	hBEW-9A8.11	CDR-L2	SEQ ID NO.: 殘基 50-56	GASNLES
	hBEW-9A8.11	CDR-L3	SEQ ID NO.: 殘基 89-97	QQHWNDPPT
	hBEW-9A8.12 VH			EVQLVQSGAEVKKPGASVKVSKKASG YTFITNYGMVWRQAPGQGLEWMGWIN TETGKPIYADDFKGRVITTTDTSTST AYMELRSLRSDDTAVYYCARVDYDGS FWFAYWGQGTLLVTVSS
	hBEW-9A8.12	CDR-H1	SEQ ID NO.: 殘基 26-35	GYTFITNYGMV
	hBEW-9A8.12	CDR-H2	SEQ ID NO.: 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.12	CDR-H3	SEQ ID NO.: 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.12 VL			DTQLTQSPSSLSASVGDRTTTCRAS ESVSTVIHWYQQKPKQPKLLIHGAS NLESGVPSRFSGSGSGTDFLTITSSL QPEDFATYFCQQHWNDPPTFGQGTKL EIK

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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20 25 30

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35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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 20 25 30
 Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

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 20 25 30

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 35 40 45

Val Ile Tyr Thr Asp Asp Ala Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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 20 25 30

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 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Asn Asp Asp Asp Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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 20 25 30

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 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

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Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 20 25 30

Met Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

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 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
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Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Glu Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

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Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ala Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Phe Gly
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Ala Asp
 20 25 30

Ser Leu Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Thr Asp Asp Trp Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Thr Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Thr
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Val His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Xaa Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Xaa
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Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Trp Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Thr
85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Phe Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Glu Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Glu
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Leu

20

25

30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Glu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Glu
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Phe Asp Asp Tyr Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Glu
85 90 95

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Glu Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Tyr
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ser Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Thr Asp Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Val Asp Asp Trp Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Ile
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Asp Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Phe Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Leu Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-9A8.14 VH			EIQLVQSGAEVKKPGASVKVSKASG YFTFTNYGMYWVKQAPGQGLEVMGWIN TETGKPIYADDFKGRFTFTLDTSTST AYMELRSLRSDDTAVFFCARVDYDGS FWFAYWGQGLVTVSS
	hBEW-9A8.14	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMY
	hBEW-9A8.14	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.14	CDR-H3	SEQ ID NO.:之 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.14 VL			ETVLTQSPDFQSVTPKEKVTITCRAS ESVSTVIHWYQQKPDQQPKLLIHGAS NLESGVPSRFRSGSGSGTDFTLTINSL EAEDAATYFCQQHWNDPPTFGQGTKL EIK
	hBEW-9A8.14	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.14	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBEW-9A8.14	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQHWNDPPT
	hBEW-9A8.15 VH			EIQLVQSGAEVKKPGASVKVSKASG YFTFTNYGMYWVKQAPGQGLEVMGWIN TETGKPIYADDFKGRFTFTLDTSTST AYMELRSLRSDDTAVFFCARVDYDGS FWFAYWGQGLVTVSS

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gln
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

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85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Trp Arg Pro Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Tyr
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly His
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Thr Ile
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Thr Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asn
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Val Ile Tyr Ser Asp Asp Ser Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3320

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Pro Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3321

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Trp Asp Asp Tyr Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Ile
 85 90 95

Leu Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3322

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Ser Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<210> 3323

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Thr Asp Asp Trp Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ser Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Leu
 85 90 95

Thr Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Ala His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Val Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Ser Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Trp Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Glu
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3330

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Thr Ile

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90

95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Tyr Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Val Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3334

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Glu Ser Ser Gly Asp Ile Leu Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Glu
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3336

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly His
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3337

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ser Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3338

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Val Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

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 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Cys Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Gly Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3342

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Phe Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Arg Met
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Met Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Ser Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Tyr Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Val Asp Thr Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Asp
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ala
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Glu Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3350

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Glu Gly
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Glu Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Gly
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Glu

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Ser
 20 25 30

Cys Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Val Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gly
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
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Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ser Asp Asp Asn Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Thr Ile
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Thr
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

SEQ ID NO:	純系	蛋白質區域	殘基	V區
	hBEW-9A8.17	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.17	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBEW-9A8.17	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQHWNDPPT
	hBEW-9A8.2 VH			EVQLVQSGHEVKQPGASVKVSCKASG YFTFTNYGMYPQAPGQGLEWMGWIN TETGKPIYADDFKGRFVFSMDTSAST AYLQISSLKAEDMAMYCARVDYDGS FWFAYWGQGLTVTVSS
	hBEW-9A8.2	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGM
	hBEW-9A8.2	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.2	CDR-H3	SEQ ID NO.:之 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.2 VL			ETVLTQSPDFQSVTPKEKVTITCRAS ESVSTVIHWYQQKPDQQPKLLIHGAS NLESGVPSRFSGSGSGTDFTLTINSL EAEDAATYFCQQHWNDPPTFGQGTKL EIK
	hBEW-9A8.2	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.2	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
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Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Asp Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Val Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ala His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Leu Ile Tyr Val Asp Asp Leu Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Thr
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3362

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Ser
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ser Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Thr Asp Asp Leu Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Leu Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Val Ile
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Tyr Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Thr
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Phe
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3367

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Pro Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Arg Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Arg Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3370

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3372

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile

85

90

95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3373

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Phe Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Val Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3374

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp His Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3375

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Ser Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3376

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SEQ ID NO:	純系	蛋白質區域	殘基	V 區
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	hBEW-9A8.20	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMY
	hBEW-9A8.20	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.20	CDR-H3	SEQ ID NO.:之 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.20 VL			ETVLTQSPATLSLSPGERATLSCRAS ESVSTVIHWYQQKPGQAPRLLIHGAS NLESGVPARFSGSGSGTDFTLTISSL EPEDFAVYFCQQHWNDPPTFGQGTKL EIK
	hBEW-9A8.20	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.20	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBEW-9A8.20	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQHWNDPPT
	hBEW-9A8.21 VH			EIQLVQSGAEVKKPGASVKVSKASG YFTFTNYGMYWVRQAPGQGLEWMGWIN TETGKPIYADDFKGRFTFTLDTSTST AYMELRSLRSDDTAVYYCARVDYDGS FWFAYWGQGTLLVTVSS

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Glu
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Asp
20 25 30

Cys Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3378

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3378

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Arg His
20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Trp Asp Asp Tyr Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Asp Glu
 20 25 30

Cys Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Asp Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3380

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Thr Asp Asp Arg Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ser Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3381
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asp Ile Asp
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3382
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<400> 3382
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3383

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Cys His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3384

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Asn Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3385

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3386

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Glu Arg Ala Ser Arg Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3387

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<400> 3387

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3388

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Val
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3390
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3391

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Ser Gly
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asp Asp Glu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Arg
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Asn

85

90

95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3394
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp His
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Leu Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<223> /注釋=「人工序列之描述：合成多肽」

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<222> (81)..(81)

<223> 任一胺基酸

<400> 3396

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Glu His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Val Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Xaa Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Arg
 85 90 95

Glu Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Phe
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Thr Tyr
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Val Ile Tyr Ser Asp Asp Glu Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Val Asp
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3399

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3400

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<400> 3400

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Glu His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Tyr Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Pro Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ser His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3402

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<400> 3402

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Phe
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3403

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Arg Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3404

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<400> 3404

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Asp Tyr
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Tyr Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3405
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Val
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3406
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<400> 3406
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Met Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Ile
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3407

<211> 110

<212> PRT

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<400> 3407

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3408

<211> 110

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SEQ ID NO:	純系	蛋白質區域	殘基	V 區
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	hBEW-9A8.3	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.3	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBEW-9A8.3	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQHWNDPPT
	hBEW-9A8.4 VH			EVQLVQSGHEVKQPGASVKVSKASG YFTFTNYGMYPQAPGQGLEWMGWIN TETGKPIYADDFKGRFVFSMDTSAST AYLQISSLKAEDMAMYCARVDYDGS FWFAYWGQGTLLVTVSS
	hBEW-9A8.4	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMYP
	hBEW-9A8.4	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.4	CDR-H3	SEQ ID NO.:之 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.4 VL			DTQLTQSPSSLSASVGDRVTITCRAS ESVSTVIHWYQQKPGKAPKLLIYGAS NLESGVPSRFRSGSGSGTDFTLTISL QPEDFATYFCQQHWNDPPTFGQGTKL EIK

<400> 3408

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Lys Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3409

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3409

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn

85

90.

95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3410

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3410

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3411

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<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3411

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Arg His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Asp Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3412

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<223> /注释=「人工序列之描述：合成多肽」

<400> 3412

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly Gly
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Thr Asp Asp Trp Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3413

<211> 110

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<400> 3413
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ser Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3414
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<400> 3414
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Met Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3415

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<400> 3415

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Asp Tyr
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr
85 90 95

Leu Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3416

<211> 110

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3416

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Ser Ser Ile Trp His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Tyr Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3417

<211> 110

<212> PRT

<213> 人工序列

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<400> 3417

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Asp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Tyr
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3418
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<220>
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<400> 3418
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Gln Tyr
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3419
 <211> 110
 <212> PRT
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<400> 3419
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Asp Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3420

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<220>

<221> MOD_RES

<222> (31)..(31)

<223> 任一胺基酸

<400> 3420

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Xaa Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ser Ile
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3421
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<400> 3421
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3422
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<400> 3422
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Met Tyr
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3423

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<400> 3423

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Ala Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3424

<211> 110

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SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-9A8.4	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.4	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBEW-9A8.4	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQHWNDPPT
	hBEW-9A8.5 VH			EIQLVQSGHEVKQPGASVKVSCKASG YTFTNYGMYWVKQAPQGQLEYMGWIN TETGKPIYADDFKGRFVFSLDTSAST AYLQISSLKAEDMAMFFCARVDYDGS FWFAYWGQGTTLVTVSS
	hBEW-9A8.5	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBEW-9A8.5	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.5	CDR-H3	SEQ ID NO.:之 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.5 VL			EIVLTQSPDFQSVTPKEKVTITCRAS ESVSTVIHWYQQKPDQSPKLLIKGAS NLESGVPSRFSGSGGTDFLTINSL EAEDAATYYCQQHWNDPPTFGQGTKL EIK
	hBEW-9A8.5	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.5	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBEW-9A8.5	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQHWNDPPT

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ser
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp

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Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Asp Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ser
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Gly His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Ser
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp His
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Gln Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Val
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Cys
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3435

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Gly Gly
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3436

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Ala Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3437
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Xaa Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Val Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile His Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-9A8.6 VH			EIQLVQSGHEVKQPGASVKVCKASG YFTFTNYGMYWVKQAPGQGLEVMGWIN TETGKPIYADDFKGRFVFLDTSAST AYLQISSLKAEDMAMFFCARVDYDGS FWFAYWGQGLVTVSS
	hBEW-9A8.6	CDR-H1	SEQ ID NO.: 殘基 26-35	GYFTFTNYGMY
	hBEW-9A8.6	CDR-H2	SEQ ID NO.: 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.6	CDR-H3	SEQ ID NO.: 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.6 VL			ETVLTQSPDFQSVTPKEKVTITCRAS ESVSTVIHWYQQKPDQPKLLIHGAS NLESGVPSRFSGSGSGTDFTLTINSL EAEDAATYFCQQHWNDPPTFGQGTKL EIK
	hBEW-9A8.6	CDR-L1	SEQ ID NO.: 殘基 24-34	RASESVSTVIH
	hBEW-9A8.6	CDR-L2	SEQ ID NO.: 殘基 50-56	GASNLES
	hBEW-9A8.6	CDR-L3	SEQ ID NO.: 殘基 89-97	QQHWNDPPT
	hBEW-9A8.7 VH			EIQLVQSGHEVKQPGASVKVCKASG YFTFTNYGMYWVKQAPGQGLEVMGWIN TETGKPIYADDFKGRFVFLDTSAST AYLQISSLKAEDMAMFFCARVDYDGS FWFAYWGQGLVTVSS

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Val Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Thr Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn

85

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Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Tyr Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3443

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Xaa Xaa Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Xaa Ser Cys Glu Arg Ser Ser Gly Asp Xaa Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Xaa Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Gly Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Xaa Asp Ile Asn
85 90 95

Met Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3445

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Val Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3446
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Val Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3447
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Xaa Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Gly Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3448

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Glu
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3449

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3450

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gly
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Tyr Tyr
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gly
 20 25 30
 Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Leu Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95
 Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15
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 20 25 30
 Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Leu Asn
 85 90 95
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Thr Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gly
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Glu Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3460

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Arg Ser Ser Gly Ser Ile Tyr Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Asp
 85 90 95

Ser Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3461

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Tyr Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Tyr His
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3465

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Tyr Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3466

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Xaa
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Phe
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp His
 20 25 30
 Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Glu
 85 90 95
 Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Ser
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

100

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<400> 3470

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Ser
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

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	hBEW-9A8.8 VL			DTQLTQSPSSLSASVGDRTTITCRAS ESVSTVIHWYQQKPGKPKLLIHGAS NLESGVPSRFSGSGSGTDFTLTISL QPEDFATYFCQQHWNDPPTFGQGTKL EIK
	hBEW-9A8.8	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTVIH
	hBEW-9A8.8	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBEW-9A8.8	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQHWNDPPT
	hBEW-9A8.9 VH			EVQLVQSGAEVKKPGASVKVSKKASG YFTFTNYGMYWVRQAPGQGLEWMGWIN TETGKPIYADDFKGRVTMTTDTSTST AYMELRSLRSDDTAVYYCARVDYDGS FWFAYWGQGTLLVTVSS
	hBEW-9A8.9	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMY
	hBEW-9A8.9	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGKPIYADDFKG
	hBEW-9A8.9	CDR-H3	SEQ ID NO.:之 殘基 99-109	VDYDGSFWFAY
	hBEW-9A8.9 VL			EIVLTQSPDFQSVTPKEKVTITCRAS ESVSTVIHWYQQKPDQSPKLLIKGAS NLESGVPSRFSGSGSGTDFTLTINSL EAEDAATYYCQQHWNDPPTFGQGTKL EIK

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3473

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3474

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Tyr Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3475

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Tyr Ser Gly Asp Ile Trp Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3477

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Thr Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Glu
85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3480

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<400> 3480

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
85 90 95

Val Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3481

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<400> 3481

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Tyr
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3482

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<400> 3482

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Cys
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3483
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3484
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3485

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<400> 3485

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Trp Asp Asp Tyr Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3486

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<400> 3486

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Ser
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3487

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<400> 3487

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Ser
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asn
85 90 95

Ile Asp Thr Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3488

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<400> 3488

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Cys Asp Ile Trp Gln
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ile Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3489

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<400> 3489

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly

1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30
 Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95
 Thr Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3490

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp His
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

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<400> 3491
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Ser
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Val
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3492
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<400> 3492
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3493

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<400> 3493

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp His
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3494

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<400> 3494

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gly
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Glu Thr
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3495

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<400> 3495

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3498

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<400> 3498

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Thr Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3499
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<400> 3499
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Asp Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3500
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<400> 3500
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3501

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<400> 3501

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3502

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<400> 3502

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Leu Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3503

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<400> 3503

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Ser
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Cys
 85 90 95

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBEW-9E10.2 VH			EIQLVQSGAEVKKPGSSVKVSKASG YFTFTNYGMYWVKQAPGQGLEVMGWID TETGRPTYADDFKGRFTFTADKSTST AYMEISSLRSEDTAVYFCARWSGDTT GIRGPWFAYWGQGLVTVSS
	hBEW-9E10.2	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBEW-9E10.2	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGRPTYADDFKG
	hBEW-9E10.2	CDR-H3	SEQ ID NO.:之 殘基 99-113	WSGDTTGIRGPWFAY
	hBEW-9E10.2 VL			DIRMTQSPSSLSASVGDRVTIECLAS EDIYSDLAWYQQKPKGKPKLLIYNAN GLQNGVPSRFRSGSGSDYSLTISSL QPEDVATYFCQQYNYFPGTGFGQTKL EIK
	hBEW-9E10.2	CDR-L1	SEQ ID NO.:之 殘基 24-34	LASEDIYSDLA
	hBEW-9E10.2	CDR-L2	SEQ ID NO.:之 殘基 50-56	NANGLQN
	hBEW-9E10.2	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQYNYFPGT
	hBEW-9E10.3 VH			EVQLVQSGAEVKKPGSSVKVSKASG YFTFTNYGMYWVRQAPGQGLEVMGWID TETGRPTYADDFKGRFTFTADKSTST AYMEISSLRSEDTAVYYCARWSGDTT GIRGPWFAYWGQGLVTVSS

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Asp
 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3506

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3507

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<400> 3507

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gln
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Lys Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Glu Asp
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Ser
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asn
85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Ser
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Tyr
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30
 Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ala Asp Asp Met Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asn
 85 90 95
 Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
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Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Leu Ile
 85 90 95

Thr Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Arg Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3516

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gln
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Val
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3518
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp His Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp His
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Val Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

SEQ ID NO:	純系	蛋白質區域	殘基	V區
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	hBEW-9E10.3	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGRPTYADDFKG
	hBEW-9E10.3	CDR-H3	SEQ ID NO.:之 殘基 99-113	WSGDTTGIRGPWFAY
	hBEW-9E10.3 VL			DIRMTQSPSSLSASVGDRVTIECLAS EDIYSDLAWYQQKPGKSPKLLIYNAN GLQNGVPSRFRSGSGSGTDYSLTISSL QPEDVATYFCQQYNYFPGTFGQGTKL EIK
	hBEW-9E10.3	CDR-L1	SEQ ID NO.:之 殘基 24-34	LASEDIYSDLA
	hBEW-9E10.3	CDR-L2	SEQ ID NO.:之 殘基 50-56	NANGLQN
	hBEW-9E10.3	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQYNYFPGT
	hBEW-9E10.4 VH			EIQLVQSGSELKKPGASVKVSCASG YTFTNYGMYWVKQAPGQGLEVMGWID TETGRPTYADDFKGRFVFLDTSVST AYLQISSLKAEDTAVYFCARWSGDTT GIRGPWFAYWGQTLVTVSS
	hBEW-9E10.4	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBEW-9E10.4	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGRPTYADDFKG
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 20 25 30

Ala Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Glu Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp His Arg Ala Ser Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Asp
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile
85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
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Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile
 85 90 95

Arg Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Tyr Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Trp Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Thr
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95

Asp Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<400> 3530

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Glu
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3531

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly

1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Glu
 20 25 30
 Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ser Asp Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95
 Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ser Asp
 20 25 30
 Lys Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ala Asp Asp Tyr Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Cys
 85 90 95
 Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

100

105

110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Asp Ile Ser Asp
 20 25 30

Lys Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Trp Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gln
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3535

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Glu
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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	hBEW-9E10.4	CDR-L1	SEQ ID NO.:之 殘基 24-34	LASEDIYSDLA
	hBEW-9E10.4	CDR-L2	SEQ ID NO.:之 殘基 50-56	NANGLQN
	hBEW-9E10.4	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQYNYFPGT
	hBEW-9E10.5 VH			EIQLVQSGAEVKKPGSSVKVCKASG YFTFTNYGMVVKQAPGQGLEVMGWID TETGRPTYADDFKGRFTTADKSTST AYMELSSLRSEDTAVYFCARWVSGDTT GIRGPWFAYWGQGLVTVSS
	hBEW-9E10.5	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMV
	hBEW-9E10.5	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGRPTYADDFKG
	hBEW-9E10.5	CDR-H3	SEQ ID NO.:之 殘基 99-113	WVSGDTTGIRGPWFAY
	hBEW-9E10.5 VL			DIRMTQSPSSLSASVGDRVTITCLAS EDIYSDLAWYQQKPGKSPKLLIYNAN GLQNGVPSRFSGSGSDTYTLTISSL QPEDVATYFCQQYNYFPGTFGQGTKL EIK

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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Thr
 85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ser Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3542
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Gln
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3543

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Glu
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Val Asp
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3544

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<400> 3544

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3545

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<400> 3545

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gln
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Phe
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3546
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Tyr
 85 90 95

Val Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3547
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<400> 3547
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Tyr Tyr
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Glu
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3548

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<400> 3548

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Tyr Glu
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp His Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3549

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<400> 3549

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Tyr
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3550

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<400> 3550

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp His
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Val Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3551

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<400> 3551

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Glu
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3552

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<400> 3552

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly

1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly His
 20 25 30
 Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Ile
 85 90 95
 Ser Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3553
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<400> 3553
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gly
 20 25 30
 Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95
 Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

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105

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<400> 3554
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Pro Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Arg Ser Ser Gly Ser Ile Tyr Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3555
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<400> 3555
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Tyr
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Arg Ser Lys Leu Ser
100 105 110

<210> 3556

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<400> 3556

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3557

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<400> 3557

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Pro Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3558

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<212> PRT

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<400> 3558

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Pro Tyr Asp Leu Phe
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3559
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<400> 3559
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Gly Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3560
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<400> 3560
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Phe
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3561

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<400> 3561

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Glu
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3562
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<400> 3562
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Trp Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Asn Tyr Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Glu
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3563
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<400> 3563
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Tyr
85 90 95

Ile Asp Val Val Phe Gly Gly Asp Thr Lys Val Glu Ile Lys
100 105 110

<210> 3564

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<400> 3564

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Ser Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Asn Tyr Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Glu
85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3565

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<400> 3565

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Thr Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr
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Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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 20 25 30
 Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45
 Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80
 Glu Pro Glu Gly Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Ser Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
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 20 25 30

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 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Tyr
 85 90 95

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Glu Arg Ala Thr Leu Ser Cys Lys Arg Ser Ser Gly Ser Ile Tyr Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp His
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Tyr
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Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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 20 25 30

Thr Tyr Phe Ser Gly Tyr Gln Gln Lys Pro Gly Gln Ala Pro Lys Arg
 35 40 45

Val Ile Tyr Ser Asp Asp Arg Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Xaa Gly Thr Asp Phe Thr Leu Thr Ile Ser Xaa Leu

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Arg Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Ser
 100 105 110

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Arg Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asp
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
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	hBDI-1E1.1	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTDYVMH
	hBDI-1E1.1	CDR-H2	SEQ ID NO.:之 殘基 50-66	TIIPLIDTTSYNQKFKG
	hBDI-1E1.1	CDR-H3	SEQ ID NO.:之 殘基 99-112	TSPYYYSYDVMDA
	hBDI-1E1.1 VL			AIQLTQSPSSLSASVGDRTITCKGSQ NINNYLAWYQKPKGKAPKLLIYKTNNL QTGVPSRFRSGSGGTDFTLTISLQPE DFATYYCYQYDNGYTFGQGTKLEIK
	hBDI-1E1.1	CDR-L1	SEQ ID NO.:之 殘基 24-34	KGSQNINNYLA
	hBDI-1E1.1	CDR-L2	SEQ ID NO.:之 殘基 50-56	KTNNLQT
	hBDI-1E1.1	CDR-L3	SEQ ID NO.:之 殘基 89-96	YQYDNGYT
	hBDI-1E1.10 VH			EVQLVQSGAEVKKPGSSVKVSKASGY TFTDYVMHWVRQAPGQGLEWIGTIIPL IDTTSYNQKFKGRVTITADKSTSTAYM ELSSLRSEDVAVYYCARTSPYYYSYD VMDAWGQGTTVTVSS

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
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 20 25 30

Met Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 <223> 任一胺基酸

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly His Lys Gly Arg Asn Xaa
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Ser Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Phe
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Arg Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Gly Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gln
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
85 90 95

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Phe
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3591

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Glu Pro Glu Asp Phe Ala Val Cys Tyr Cys Gln Ser Tyr Gly Ile Asn
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<223> 任一氨基酸

<400> 3594

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Glu Arg Ala Pro Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

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100 105 110

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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3596
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr

<211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3598
 Glu Ile Val Leu Thr Gln Ser Pro Ser Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3599
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3599
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDI-1E1.10	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTDYVMH
	hBDI-1E1.10	CDR-H2	SEQ ID NO.:之 殘基 50-66	TIIPLIDTTSYNQKFKG
	hBDI-1E1.10	CDR-H3	SEQ ID NO.:之 殘基 99-112	TSPYYSSYDVMDA
	hBDI-1E1.10 VL			AIQLTQSPSSLSASVGDRVTITCKGSQ NINNYLAWYQQKPGKAPKLLIYKTNNL QTGIPSRFSGSGSGTDYTLTISSLOPE DFATYYCYQYDNGYTFGQGTKLEIK
	hBDI-1E1.10	CDR-L1	SEQ ID NO.:之 殘基 24-34	KGSQNINNYLA
	hBDI-1E1.10	CDR-L2	SEQ ID NO.:之 殘基 50-56	KTNNLQT
	hBDI-1E1.10	CDR-L3	SEQ ID NO.:之 殘基 89-96	YQYDNGYT
	hBDI-1E1.11 VH			EVQLVQSGAEVKKPGSSVKVSKASGY TFTDYVMHWVRQAPGQGLEWIGTIIPL IDTTSYNQKFKGRVTITADKSTSTAYM ELSSLRSEDYAVYYCARTSPYYSSYD VMDAWGQGTITVTVSS
	hBDI-1E1.11	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTDYVMH
	hBDI-1E1.11	CDR-H2	SEQ ID NO.:之 殘基 50-66	TIIPLIDTTSYNQKFKG
	hBDI-1E1.11	CDR-H3	SEQ ID NO.:之 殘基 99-112	TSPYYSSYDVMDA

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Asn
100 105 110

<210> 3600

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> .source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3600

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Leu Ser
100 105 110

<210> 3601

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3601

Glu Ile Val Leu Thr Gln Ile Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3602

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3602

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Asn Tyr Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3603
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3603
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Arg Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3604
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3604
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3605

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3605

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ile Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3606

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3606

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Val
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3607

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3607

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu

Glu Arg Ala Ala Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 3610

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3610

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Arg Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 3611
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3611
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 3612
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> MOD_RES
 <222> (5)..(5)
 <223> 任一胺基酸

<400> 3612
 Ala Lys Leu Cys Xaa Pro Val Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His

20

25

30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 3613

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 3613

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Arg Ser Asn
 100 105

<210> 3614

<211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<220>
 <221> VARIANT
 <222> (28)..(28)
 <223> /置換=「Ile」或「Arg」

<220>
 <221> VARIANT
 <222> (30)..(30)
 <223> /置換=「Tyr」或「Ala」或「Asp」或「Thr」或「Met」或「Arg」或
 「Leu」或「Cys」或「Phe」或「Trp」或「Pro」

<220>
 <221> VARIANT
 <222> (32)..(32)
 <223> /置換=「Ser」

<220>
 <221> VARIANT
 <222> (33)..(33)
 <223> /置換=「Glu」

<220>
 <221> VARIANT
 <222> (34)..(34)
 <223> /置換=「Val」

<220>
 <221> VARIANT
 <222> (35)..(35)
 <223> /置換=「Ser」或「Arg」

<220>
 <221> VARIANT
 <222> (36)..(36)
 <223> /置換=「Ile」

<220>
 <221> VARIANT
 <222> (37)..(37)
 <223> /置換=「Asp」或「Leu」或「Ala」或「Cys」或「Val」或「Tyr」或
 「Arg」或「Thr」或「Glu」或「Ser」

<220>
 <221> VARIANT
 <222> (38)..(38)
 <223> /置換=「Leu」

<220>
 <221> VARIANT
 <222> (52)..(52)
 <223> /置換=「Leu」

<220>

<221> VARIANT
<222> (54)..(54)
<223> /置換=「Asp」或「Cys」或「Gly」

<220>
<221> VARIANT
<222> (55)..(55)
<223> /置換=「Cys」

<220>
<221> VARIANT
<222> (56)..(56)
<223> /置換=「Tyr」或「Asn」或「His」或「Val」或「Glu」或「Ile」或
「Pro」或「Ala」或「Cys」或「Gly」

<220>
<221> VARIANT
<222> (57)..(57)
<223> /置換=「Gly」或「Asn」或「His」

<220>
<221> VARIANT
<222> (58)..(58)
<223> /置換=「Glu」或「Gly」或「Val」或「Ala」或「His」或「Tyr」或
「Asn」或「Gln」或「Ser」或「Leu」

<220>
<221> VARIANT
<222> (59)..(59)
<223> /置換=「Glu」或「Thr」或「Ile」或「Gln」或「Val」或「Asn」或
「Arg」或「Tyr」或「Leu」或「Met」或「Cys」

<220>
<221> VARIANT
<222> (60)..(60)
<223> /置換=「His」或「Cys」或「Asp」或「Asn」或「Ser」或「Ala」或
「Phe」或「Gly」

<220>
<221> VARIANT
<222> (62)..(62)
<223> /置換=「Ser」

<220>
<221> VARIANT
<222> (63)..(63)
<223> /置換=「Leu」或「Thr」

<220>
<221> VARIANT
<222> (66)..(66)
<223> /置換=「Asn」

<220>
<221> VARIANT
<222> (67)..(67)
<223> /置換=「Ser」或「Thr」

<220>
<221> VARIANT
<222> (99)..(99)
<223> /置換=「Leu」

<220>
 <221> VARIANT
 <222> (100)..(100)
 <223> /置換=「Tyr」或「Asn」或「Leu」或「Met」或「Val」或「Arg」或
 「Lys」或「Phe」或「Cys」或「Thr」或「Glu」

<220>
 <221> VARIANT
 <222> (101)..(101)
 <223> /置換=「Gln」或「Val」或「Lys」或「Tyr」或「Leu」或「Asp」或
 「Gly」或「Ala」或「Met」或「Arg」或「Ser」

<220>
 <221> VARIANT
 <222> (102)..(102)
 <223> /置換=「Thr」或「Ala」或「Tyr」或「Trp」或「Pro」或「Leu」或
 「Val」或「Glu」或「Lys」或「Phe」或「Cys」

<220>
 <221> VARIANT
 <222> (103)..(103)
 <223> /置換=「Gly」或「Ser」或「Met」或「Val」或「Leu」或「Phe」或
 「Asn」或「Asp」或「His」或「Tyr」或「Thr」或「Arg」或「Gln」或
 「Lys」或「Glu」或「Pro」

<220>
 <221> VARIANT
 <222> (104)..(104)
 <223> /置換=「Trp」或「Pro」或「Phe」或「Cys」或「Tyr」或「Ala」或
 「Glu」或「Leu」或「Val」或「Ser」或「Asp」或「Arg」

<220>
 <221> VARIANT
 <222> (105)..(105)
 <223> /置換=「Pro」或「Trp」或「Arg」或「Ile」或「Phe」或「Ala」或
 「Met」或「Tyr」或「Ser」或「Leu」或「Gly」或「Asp」或「Lys」或
 「Val」或「Asn」或「Glu」

<220>
 <221> VARIANT
 <222> (106)..(106)
 <223> /置換=「Asn」或「Ser」或「Lys」或「Arg」或「Met」或「Ala」或
 「Glu」或「Ile」或「Val」或「Leu」或「Trp」或「Pro」或「Gln」

<220>
 <221> VARIANT
 <222> (108)..(108)
 <223> /置換=「Glu」或「Asp」或「Tyr」或「Ala」或「Cys」或「Asn」或
 「Met」或「Trp」或「Thr」或「Gln」或「Gly」或「Ile」或「Leu」或
 「Pro」

<220>
 <221> VARIANT
 <222> (110)..(110)
 <223> /置換=「Tyr」

<220>
 <221> MISC_FEATURE
 <222> (1)..(122)
 <223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3614

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3615

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<220>

<221> VARIANT

<222> (2)..(2)

<223> /置換=「Phe」

<220>

<221> VARIANT

<222> (24)..(24)

<223> /置換=「Arg」或「Lys」

<220>

<221> VARIANT

<222> (25)..(25)

<223> /置換=「Ala」或「Glu」

<220>

<221> VARIANT

<222> (26)..(26)

<223> /置換=「Tyr」

<220>
 <221> VARIANT
 <222> (28)..(28)
 <223> /置換=「Cys」或「Val」或「Ser」

<220>
 <221> VARIANT
 <222> (29)..(29)
 <223> /置換=「Ser」或「Tyr」

<220>
 <221> VARIANT
 <222> (30)..(30)
 <223> /置換=「Asn」或「Thr」或「Met」

<220>
 <221> VARIANT
 <222> (31)..(31)
 <223> /置換=「Trp」或「Tyr」或「Ser」或「Met」或「His」或「Asp」或
 「Arg」或「Glu」或「Asn」或「Cys」或「Ala」或「Leu」或「Val」或
 「Phe」或「Thr」或「Gln」或「Lys」

<220>
 <221> VARIANT
 <222> (32)..(32)
 <223> /置換=「Tyr」或「Gln」或「Asn」或「His」或「Gly」或「Glu」或
 「Ser」或「Lys」或「Phe」或「Arg」或「Leu」或「Cys」或「Ala」或
 「Pro」

<220>
 <221> VARIANT
 <222> (33)..(33)
 <223> /置換=「Thr」或「Tyr」或「Met」或「Lys」或「Ala」或「Cys」或
 「Phe」或「Leu」或「Glu」或「Trp」或「Asp」或「Pro」或「Gly」

<220>
 <221> VARIANT
 <222> (34)..(34)
 <223> /置換=「Phe」或「Leu」或「Arg」或「His」或「Asn」或「Cys」或
 「Ala」或「Asp」或「Ser」或「Thr」

<220>
 <221> VARIANT
 <222> (35)..(35)
 <223> /置換=「Phe」或「Ser」

<220>
 <221> VARIANT
 <222> (36)..(36)
 <223> /置換=「Pro」

<220>
 <221> VARIANT
 <222> (37)..(37)
 <223> /置換=「Arg」或「Gly」

<220>
 <221> VARIANT
 <222> (40)..(40)
 <223> /置換=「Arg」

<220>

<221> VARIANT
<222> (50)..(50)
<223> /置換=「Met」

<220>
<221> VARIANT
<222> (51)..(51)
<223> /置換=「His」

<220>
<221> VARIANT
<222> (52)..(52)
<223> /置換=「Gly」或「Ser」或「Trp」或「Thr」或「Leu」或「Val」或
「Phe」或「Asn」或「Pro」或「Glu」或「Asp」

<220>
<221> VARIANT
<222> (53)..(53)
<223> /置換=「Tyr」或「Ala」或「Val」

<220>
<221> VARIANT
<222> (54)..(54)
<223> /置換=「Gly」

<220>
<221> VARIANT
<222> (55)..(55)
<223> /置換=「Leu」或「Arg」或「His」或「Trp」或「Tyr」或「Met」或
「Lys」或「Asp」或「Ala」或「Glu」或「Asn」或「Val」或「Ser」或
「Phe」或「Pro」

<220>
<221> VARIANT
<222> (56)..(56)
<223> /置換=「Gln」或「Pro」

<220>
<221> VARIANT
<222> (57)..(57)
<223> /置換=「Ala」

<220>
<221> VARIANT
<222> (58)..(58)
<223> /置換=「Ile」或「Thr」或「Arg」或「Gly」

<220>
<221> VARIANT
<222> (59)..(59)
<223> /置換=「Arg」

<220>
<221> VARIANT
<222> (90)..(90)
<223> /置換=「Arg」

<220>
<221> VARIANT
<222> (91)..(91)
<223> /置換=「Lys」

<220>

<221> VARIANT
 <222> (92)..(92)
 <223> /置換=「Pro」或「Gln」或「His」

<220>
 <221> VARIANT
 <222> (94)..(94)
 <223> /置換=「Gly」

<220>
 <221> VARIANT
 <222> (95)..(95)
 <223> /置換=「Leu」或「Val」或「Glu」或「Thr」或「Ser」或「Gln」或
 「Arg」或「Asn」或「Lys」或「Gly」或「Ala」或「Cys」或「Phe」

<220>
 <221> VARIANT
 <222> (96)..(96)
 <223> /置換=「Phe」或「Asp」或「Glu」或「Thr」或「Ile」或「Tyr」或
 「Cys」或「Val」或「Ser」或「Arg」或「Ala」或「Leu」或「Gly」或
 「His」或「Lys」

<220>
 <221> VARIANT
 <222> (97)..(97)
 <223> /置換=「Thr」或「Ser」或「Val」或「Asp」或「Arg」或「Glu」或
 「Met」或「Leu」或「Pro」或「Phe」或「Asn」或「Lys」

<220>
 <221> VARIANT
 <222> (98)..(98)
 <223> /置換=「Asn」或「Pro」或「Ala」或「Tyr」或「Gly」或「His」或
 「Glu」或「Val」或「Leu」或「Gln」或「Thr」

<220>
 <221> VARIANT
 <222> (99)..(99)
 <223> /置換=「Val」或「Leu」或「Gly」或「Thr」或「Ser」或「Asn」或
 「Phe」或「Ala」或「His」或「Arg」或「Gln」

<220>
 <221> VARIANT
 <222> (100)..(100)
 <223> /置換=「Thr」

<220>
 <221> MISC_FEATURE
 <222> (1)..(110)
 <223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3615
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3616

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 3616

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Gln Ser Gly Trp Thr Asn Tyr Glu Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3617

<211> 12

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3617
Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 3618
<211> 16
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3618
Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 3619
<211> 12
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3619
Ile Gln Ser Gly Trp Thr Asn Tyr Glu Phe Asp Tyr
1 5 10

<210> 3620
<211> 110
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3620
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu

35

40

45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3621

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3621

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
1 5 10

<210> 3622

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3622

Ala Asp Asp Gln Arg Pro Ser
1 5

<210> 3623

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3623

Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
1 5 10

<210> 3624
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3624
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Gln Ser Met Trp Thr Arg Tyr Asp Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3625
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3625
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 3626
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3626
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 3627
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3627
 Ile Gln Ser Met Trp Thr Arg Tyr Asp Phe Asp Tyr
 1 5 10

<210> 3628
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3628
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3629
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3629
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 3630
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3630
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 3631
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3631
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 3632
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3632
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr

20

25

30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3633

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3633

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 3634

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3634

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 3635

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3635
 Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr
 1 5 10

<210> 3636
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3636
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3637
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3637
 Arg Ala Ser Ser Gly Ser Ile Trp Tyr Ser Phe Val Ser
 1 5 10

<210> 3638
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3638
 Ala Asp Asp Gln Arg Ala Ser
 1 5

<210> 3639
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3639
 Gln Ser Tyr Gly Ile Asn Ile Asp Val Val
 1 5 10

<210> 3640
 <211> 122
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3640
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3641
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3641
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 3642
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3642
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 3643
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3643
 Ile Glu Ser Ser Trp Thr Ser Tyr Ser Phe Asp Tyr
 1 5 10

<210> 3644
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3644

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Asn Tyr Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3645

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3645

Glu Arg Ser Ser Gly Ser Asn Tyr Asp Thr Tyr Val Ser
 1 5 10

<210> 3646

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3646

Ala Asp Asp Leu Arg Ala Ser
 1 5

<210> 3647

<211> 10

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3647
Gln Ser Tyr Gly Ile Asn Ile Asp Val Val
1 5 10

<210> 3648
<211> 122
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3648
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Thr Ile Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3649
<211> 12
<212> PRT
<213> 人工序列

<220>
<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3649

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 3650

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3650

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 3651

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3651

Ile Glu Thr Ile Gly Pro Lys Tyr Ser Phe Asp Tyr
1 5 10

<210> 3652

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3652

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3653
<211> 13
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3653
Arg Ala Ser Ser Gly Ser Ile Trp Tyr Ser Phe Val Ser
1 5 10

<210> 3654
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3654
Ala Asp Asp Gln Arg Ala Ser
1 5

<210> 3655
<211> 10
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3655
Gln Ser Tyr Gly Ile Asn Ile Asp Val Val
1 5 10

<210> 3656
<211> 122
<212> PRT
<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3656

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 . 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Ile Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Met Gly Pro Lys Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3657

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3657

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Ile Gly
 1 5 10

<210> 3658

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3658

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 3659

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3659

Ile Glu Ser Met Gly Pro Lys Tyr Ala Phe Asp Tyr
 1 5 10

<210> 3660

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3660

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3661

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3661

Arg Ala Ser Ser Gly Ser Ile Trp Tyr Ser Phe Val Ser
1 5 10

<210> 3662

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3662

Ala Asp Asp Gln Arg Ala Ser
1 5

<210> 3663

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3663

Gln Ser Tyr Gly Ile Asn Ile Asp Val Val
1 5 10

<210> 3664

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3664

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3665
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3665
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 3666
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

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Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Thr Met Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
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Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Pro Thr Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<210> 3684
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

SEQ ID NO:	純系	蛋白質區域	殘基	V區
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	hBDI-1E1.4	CDR-H3	SEQ ID NO.:之 殘基 99-112	TSPYYSSYDVMDA
	hBDI-1E1.4 VL			EIVLTQSPATLSLSPGERATLSCKGSQ NINNYLAWYQQKPGQAPRLLIYKTNL QTGIPARFSGSGSDYTLTISSLEPE DFATYYCYQYDNGYTFGQGTKLEIK
	hBDI-1E1.4	CDR-L1	SEQ ID NO.:之 殘基 24-34	KGSQNINNYLA
	hBDI-1E1.4	CDR-L2	SEQ ID NO.:之 殘基 50-56	KTNLQT
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	hBDI-1E1.5 VH			EVQLVQSGAEVKKPGSSVKVSKASGY TFTDYVMHWVRQAPGQGLEWIGTIIPL IDTTSYNQKFKGRATLTADKSTNTAYM ELSSLRSEDYAVYYCARTSPYYSSYD VMDAWGQGTITVTVSS
	hBDI-1E1.5	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTDYVMH
	hBDI-1E1.5	CDR-H2	SEQ ID NO.:之 殘基 50-66	TIIPLIDTTSYNQKFKG
	hBDI-1E1.5	CDR-H3	SEQ ID NO.:之 殘基 99-112	TSPYYSSYDVMDA

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<210> 3687
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<400> 3687
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<210> 3688
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<400> 3688

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Lys Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
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<400> 3689

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<400> 3691
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3693

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<210> 3694

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Ala Asp Asp Gln Arg Ala Ser
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<400> 3695

Gln Ser Tyr Gly Ile Asn Ile Asp Val Val
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<210> 3696

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20 25 30Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Val Trp Thr Arg Tyr Asp Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

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Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
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<400> 3698
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Ile Glu Ser Val Trp Thr Arg Tyr Asp Phe Asp Tyr
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<210> 3700

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asp
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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<400> 3701
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<210> 3702
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 Gly Asp Asp Gln Arg Ala Ser
 1 5

<210> 3703
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<400> 3703
 Gln Ser Tyr Asp Ile Asp Ile Asp Ile Thr
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<400> 3704
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3705
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<400> 3706
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<210> 3707
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<400> 3707
 Ile Glu Ser Ile Gly Pro Lys Tyr Ser Phe Asp Tyr
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<400> 3708
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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3709
 Arg Ala Ser Ser Gly Ser Ile Trp Tyr Ser Phe Val Ser
 1 5 10

<210> 3710
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<400> 3710
 Ala Asp Asp Gln Arg Ala Ser
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<210> 3711
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<400> 3711
 Gln Ser Tyr Gly Ile Asn Ile Asp Val Val

1 5 10

<210> 3712
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<400> 3712
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

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<400> 3713
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 3714
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<400> 3714
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<400> 3715
Ile Glu Ser Ile Gly Pro Lys Tyr Ser Phe Asp Tyr
1 5 10

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<400> 3716
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1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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<400> 3720
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Leu Gly Trp Ser Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3721
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<400> 3721
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 3722
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<400> 3722
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 3723
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<400> 3723
 Ile Glu Ser Leu Gly Trp Ser Tyr Ser Phe Asp Tyr
 1 5 10

<210> 3724
 <211> 110
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 <213> 人工序列

<220>
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<400> 3724
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Tyr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Phe
 85 90 95

Ile Asp Val Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3725
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<400> 3725
 Glu Arg Ser Ser Gly Asp Ile Trp Asp Tyr Tyr Val Ser
 1 5 10

<210> 3726
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<400> 3726
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 3727
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<400> 3727
 Gln Ser Tyr Asp Leu Phe Ile Asp Val Thr
 1 5 10

<210> 3728
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<400> 3728
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3732

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Ile
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3733

<211> 13

<212> PRT

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<223> /注釋=「人工序列之描述：合成肽」

<400> 3733

Glu Arg Ser Ser Gly Asp Ile Trp Asp Thr Tyr Val Ser
1 5 10

<210> 3734

<211> 7

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<223> /注釋=「人工序列之描述：合成肽」

<400> 3734

Ala Asp Asp Gln Arg Pro Ser
1 5

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<400> 3735
 Gln Ser Tyr Asp Ile Ile Ile Asp Ile Val
 1 5 10

<210> 3736
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<220>
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<400> 3736
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser His Trp Trp Ser Tyr Ala Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3737
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<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3737

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 3738

<211> 16

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 3738

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 3739

<211> 12

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 3739

Ile Glu Ser His Trp Trp Ser Tyr Ala Phe Asp Tyr
 1 5 10

<210> 3740

<211> 110

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3740

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Asn Tyr Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Leu Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Glu
 85 90 95

Thr Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3741

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3741

Glu Arg Ser Ser Gly Ser Asn Tyr Asp Thr Tyr Val Ser
 1 5 10

<210> 3742

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3742

Ala Asp Asp Leu Arg Ala Ser
 1 5

<210> 3743

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3743

Gln Ser Tyr Gly Ile Glu Thr Asp Ile Val
 1 5 10

<210> 3744

<211> 122

<212> PRT
<213> 人工序列

<220>
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<400> 3744
Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3745
<211> 12
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<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3745
Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 3746
<211> 16
<212> PRT
<213> 人工序列

<220>
<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3746

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 3747

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3747

Ile Glu Ser Ser Trp Thr Thr Tyr Ser Phe Asp Tyr
1 5 10

<210> 3748

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3748

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Ser Ile Trp His
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ser Asp Asp Gln Arg Ala Thr Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Tyr
85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3749

<211> 13
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3749
 Glu Arg Ser Ser Gly Ser Ile Trp His Ser Tyr Val Ser
 1 5 10

<210> 3750
 <211> 7
 <212> PRT
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<220>
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<400> 3750
 Ser Asp Asp Gln Arg Ala Thr
 1 5

<210> 3751
 <211> 10
 <212> PRT
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3751
 Gln Ser Tyr Gly Ile Tyr Ile Asp Val Val
 1 5 10

<210> 3752
 <211> 122
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<220>
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<400> 3752
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Asn Pro Trp Lys Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3753
 <211> 12
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<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3753
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 3754
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
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<400> 3754
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 3755
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3755

Ile Glu Ser Asn Pro Trp Lys Tyr Ser Phe Asp Tyr
 1 5 10

<210> 3756

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3756

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Trp Gln
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3757

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3757

Glu Arg Ser Ser Gly Asp Ile Trp Gln Ser Tyr Val Ser
 1 5 10

<210> 3758

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3758

Ser Asp Asp Gln Arg Ala Ser

1 5

<210> 3759

<211> 10

<212> PRT

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<400> 3759

Gln Ser Tyr Gly Ile Asn Ile Asp Val Val

1 5 10

<210> 3760

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3760

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln

1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr

20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu

35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser

50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val

65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr

85 90 95

Cys Ala Arg Ile Glu Ser Ser Phe Thr Ser Tyr Ser Phe Asp Tyr Trp

100

105

110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3761
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3761
 Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
 1 5 10

<210> 3762
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
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<400> 3762
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 3763
 <211> 12
 <212> PRT
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<220>
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<400> 3763
 Ile Glu Ser Ser Phe Thr Ser Tyr Ser Phe Asp Tyr
 1 5 10

<210> 3764
 <211> 110
 <212> PRT
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<220>
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<400> 3764

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Lys Arg Ser Ser Gly Ser Ile Tyr Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ser Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr
 85 90 95

Ile Asp Ile Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3765

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3765

Lys Arg Ser Ser Gly Ser Ile Tyr Asp Thr Tyr Val Ser
 1 5 10

<210> 3766

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3766

Ser Asp Asp Gln Arg Pro Ser
 1 5

<210> 3767

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3767

Gln Ser Tyr Asp Leu Thr Ile Asp Ile Thr
 1 5 10

<210> 3768

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3768

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Val Ser Asp Trp Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3769

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3769

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 3770

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3770

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 3771

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3771

Ile Val Ser Asp Trp Thr Thr Tyr Ser Phe Asp Tyr
1 5 10

<210> 3772

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3772

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
20 25 30Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3776

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Thr Phe Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3777

<211> 12

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 3777

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 3778

<211> 16

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 3778

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn

1 5 10 15

<210> 3779
 <211> 12
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<220>
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<400> 3779
 Ile Glu Thr Phe Gly Pro Lys Tyr Ser Phe Asp Tyr
 1 5 10

<210> 3780
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
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<400> 3780
 Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
 85 90 95

Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3781
 <211> 13
 <212> PRT
 <213> 人工序列

<220>

<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3781
Arg Ala Ser Ser Gly Ser Ile Trp Tyr Ser Phe Val Ser
1 5 10

<210> 3782
<211> 7
<212> PRT
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<220>
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<400> 3782
Ala Asp Asp Gln Arg Ala Ser
1 5

<210> 3783
<211> 10
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3783
Gln Ser Tyr Gly Ile Asn Ile Asp Val Val
1 5 10

<210> 3784
<211> 6
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3784
Ala Ser Thr Lys Gly Pro
1 5

<210> 3785
<211> 13
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<220>
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<223> /注釋=「人工序列之描述：合成肽」

<400> 3785

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
1 5 10

<210> 3786

<211> 10

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 3786

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10

<210> 3787

<211> 6

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成肽」

<400> 3787

Arg Thr Val Ala Ala Pro
1 5

<210> 3788

<211> 13

<212> PRT

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<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3788

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
1 5 10

<210> 3789

<211> 10

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成肽」

<400> 3789

Arg Gly Gly Ser Gly Gly Gly Gly Ser Gly

1 5 10

<210> 3790
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 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3790
 Gly Gly Ser Gly Gly Gly Ser Gly Gly
 1 5 10

<210> 3791
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3791
 Arg Gly Gly Ser Gly Gly Gly Ser Gly Gly
 1 5 10

<210> 3792
 <211> 16
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3792
 Ala Lys Thr Thr Pro Lys Leu Glu Glu Gly Glu Phe Ser Glu Ala Arg
 1 5 10 15

<210> 3793
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3793
 Ala Lys Thr Thr Pro Lys Leu Glu Glu Gly Glu Phe Ser Glu Ala Arg
 1 5 10 15

Val

<210> 3794
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3794
 Ala Lys Thr Thr Pro Lys Leu Gly Gly
 1 5

<210> 3795
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3795
 Ser Ala Lys Thr Thr Pro Lys Leu Gly Gly
 1 5 10

<210> 3796
 <211> 6
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3796
 Ser Ala Lys Thr Thr Pro
 1 5

<210> 3797
 <211> 6
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3797
 Arg Ala Asp Ala Ala Pro
 1 5

<210> 3798
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3798
 Arg Ala Asp Ala Ala Pro Thr Val Ser
 1 5

<210> 3799
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3799
 Arg Ala Asp Ala Ala Ala Ala Gly Gly Pro Gly Ser
 1 5 10

<210> 3800
 <211> 27
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成肽」

<400> 3800
 Arg Ala Asp Ala Ala Ala Ala Gly Gly Gly Gly Ser Gly Gly Gly Gly
 1 5 10 15

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 20 25

<210> 3801
 <211> 18
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3801
 Ser Ala Lys Thr Thr Pro Lys Leu Glu Glu Gly Glu Phe Ser Glu Ala
 1 5 10 15

Arg Val

<210> 3802
 <211> 5
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3802
 Ala Asp Ala Ala Pro
 1 5

<210> 3803
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3803
 Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro
 1 5 10

<210> 3804
 <211> 5
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3804
 Thr Val Ala Ala Pro
 1 5

<210> 3805
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3805
 Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro

1 5 10

<210> 3806
 <211> 6
 <212> PRT
 <213> 人工序列

 <220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3806
 Gln Pro Lys Ala Ala Pro
 1 5

<210> 3807
 <211> 13
 <212> PRT
 <213> 人工序列

 <220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3807
 Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro
 1 5 10

<210> 3808
 <211> 6
 <212> PRT
 <213> 人工序列

 <220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3808
 Ala Lys Thr Thr Pro Pro
 1 5

<210> 3809
 <211> 13
 <212> PRT
 <213> 人工序列

 <220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3809
 Ala Lys Thr Thr Pro Pro Ser Val Thr Pro Leu Ala Pro
 1 5 10

<210> 3810
<211> 6
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3810
Ala Lys Thr Thr Ala Pro
1 5

<210> 3811
<211> 13
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3811
Ala Lys Thr Thr Ala Pro Ser Val Tyr Pro Leu Ala Pro
1 5 10

<210> 3812
<211> 6
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3812
Ala Ser Thr Lys Gly Pro
1 5

<210> 3813
<211> 13
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3813
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
1 5 10

<210> 3814
<211> 15
<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3814

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 3815

<211> 15

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3815

Gly Glu Asn Lys Val Glu Tyr Ala Pro Ala Leu Met Ala Leu Ser
1 5 10 15

<210> 3816

<211> 15

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3816

Gly Pro Ala Lys Glu Leu Thr Pro Leu Lys Glu Ala Lys Val Ser
1 5 10 15

<210> 3817

<211> 15

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3817

Gly His Glu Ala Ala Ala Val Met Gln Val Gln Tyr Pro Ala Ser
1 5 10 15

<210> 3818

<211> 24

<212> PRT

<213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3818
 Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Thr Val Ala Ala
 1 5 10 15

Pro Ser Val Phe Ile Phe Pro Pro
 20

<210> 3819
 <211> 26
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3819
 Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ala Ser Thr
 1 5 10 15

Lys Gly Pro Ser Val Phe Pro Leu Ala Pro
 20 25

<210> 3820
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3820
 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 1 5 10

<210> 3821
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3821
 Gly Gly Ser Gly Gly Gly Gly Ser Gly
 1 5

<210> 3822

<211> 5
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3822
 Gly Gly Gly Gly Ser
 1 5

<210> 3823
 <211> 585
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3823
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr

405

410

415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 3824

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3824

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 3825

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3825

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
 130 135 140

Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr
 145 150 155 160

Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu
 165 170 175

Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro
 180 185 190

Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln
 195 200 205

Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr
 210 215 220

Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 545 550 555 560

Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser
 565 570 575

Leu Ser Pro Gly Lys
 580

<210> 3826

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3826

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Glu Phe Val Leu Thr Gln Ser Pro
 115 120 125

Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu
 130 135 140

Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln
 145 150 155 160

Lys Pro Gly Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg
 165 170 175

Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
 180 185 190

Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
 195 200 205

Tyr Cys Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly
 210 215 220

Thr Lys Val Glu Ile Lys Gly Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 3827

<211> 588

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 3827

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Glu Val Thr Leu Arg Glu Ser Gly
 130 135 140

Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe
 145 150 155 160

Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg
 165 170 175

Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp
 180 185 190

Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser
 195 200 205

Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp
 210 215 220

Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly
 225 230 235 240

Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val
 245 250 255

Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser
 260 265 270

Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys
 275 280 285

Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu
 290 295 300

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu
 305 310 315 320

Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr
 325 330 335

Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val
 340 345 350

Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro
 355 360 365

Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe

370

375

380

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
385 390 395 400

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
405 410 415

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
420 425 430

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
435 440 445

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
450 455 460

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
465 470 475 480

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
485 490 495

Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
500 505 510

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
515 520 525

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
530 535 540

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
545 550 555 560

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala
565 570 575

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 3828

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3828

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
 115 120 125

Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly
 130 135 140

Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
 145 150 155 160

Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg
 165 170 175

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
 180 185 190

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile
 195 200 205

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly
 210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
 225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 3829

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3829

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 3830

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3830

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly
 100 105 110

Gly Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 130 135 140

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 3831

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3831

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
 130 135 140

Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr
 145 150 155 160

Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu
 165 170 175

Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro
 180 185 190

Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln
 195 200 205

Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr
 210 215 220

Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala

355

360

365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 545 550 555 560

Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser
 565 570 575

Leu Ser Pro Gly Lys
 580

<210> 3832

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3832

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Glu Phe Val Leu Thr Gln Ser Pro
 115 120 125

Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu
 130 135 140

Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln
 145 150 155 160

Lys Pro Gly Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg
 165 170 175

Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
 180 185 190

Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
 195 200 205

Tyr Cys Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly
 210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 3833

<211> 586

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 3833

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
115 120 125

Ser Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala
130 135 140

Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly
145 150 155 160

Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro
165 170 175

Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp
180 185 190

Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp
195 200 205

Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val
210 215 220

Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys
225 230 235 240

Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
245 250 255

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
260 265 270

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
275 280 285

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
290 295 300

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
305 310 315 320

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
320 325 330 335

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 340 345 350

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 355 360 365

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 370 375 380

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 385 390 395 400

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 405 410 415

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 420 425 430

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 435 440 445

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 450 455 460

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 465 470 475 480

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
 485 490 495

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 500 505 510

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 515 520 525

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 530 535 540

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 545 550 555 560

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr
 565 570 575

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 3834
 <211> 334
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3834
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser
 130 135 140

Gly Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Gly Ile Asn Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val
210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 3835

<211> 578

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3835

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
100 105 110

Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly Ser Glu Val
115 120 125

Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu
130 135 140

Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met
145 150 155 160

Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu
165 170 175

Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys
180 185 190

Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu
195 200 205

Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala
210 215 220

Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp Gly Gln
225 230 235 240

Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys

Gly Lys

<210> 3836

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3836

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr
 20 25 30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser
 130 135 140

Gly Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Gly Ile Asn Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 3837

<211> 579

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3837

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Glu Val Gln Leu
115 120 125

Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu
130 135 140

Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr Gly Met Asn Trp
145 150 155 160

Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly Trp Ile Asn
165 170 175

Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe Lys Arg Arg Phe
180 185 190

Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr Leu Gln Met Asn
195 200 205

Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys Tyr Pro
210 215 220

His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val Trp Gly Gln Gly
225 230 235 240

Thr Leu Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser
245 250 255

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
260 265 270

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
275 280 285

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
290 295 300

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
305 310 315 320

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
325 330 335

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
340 345 350

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly
355 360 365

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
370 375 380

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
385 390 395 400

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
405 410 415

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
420 425 430

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
435 440 445

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
450 455 460

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
465 470 475 480

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
485 490 495

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
500 505 510

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
515 520 525

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
530 535 540

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
545 550 555 560

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
565 570 575

Pro Gly Lys

<210> 3838

<211> 336

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3838

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile
 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Gly Gly Ser Gly
 100 105 110

Gly Gly Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser
 115 120 125

Val Gly Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile
 130 135 140

Gly Asp Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro
 145 150 155 160

Lys Asn Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser
 165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser
 180 185 190

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp
 195 200 205

Ser Asp Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
 225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
 245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
 260 265 270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
 275 280 285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
 290 295 300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
 305 310 315 320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330 335

<210> 3839

<211> 706

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3839

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe
 50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
130 135 140

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
145 150 155 160

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
165 170 175

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
180 185 190

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
195 200 205

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
210 215 220

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
225 230 235 240

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
245 250 255

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
260 265 270

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
275 280 285

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
290 295 300

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu

Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met
565 570 575

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
580 585 590

Gly Gly Gly Ser Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser
595 600 605

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly
610 615 620

Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln
625 630 635 640

Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile
645 650 655

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
660 665 670

Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser
675 680 685

Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu
690 695 700

Ile Lys
705

<210> 3840
<211> 710
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3840
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe
 50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 130 135 140

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 145 150 155 160

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 165 170 175

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 180 185 190

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 195 200 205

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 210 215 220

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 225 230 235 240

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 245 250 255

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 260 265 270

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 275 280 285

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 290 295 300

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
305 310 315 320

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
325 330 335

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
340 345 350

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
355 360 365

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
370 375 380

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
385 390 395 400

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
405 410 415

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
420 425 430

Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser
435 440 445

Leu Ser Pro Gly Lys Gly Gly Ser Gly Gly Gly Ser Gly Gly Glu
450 455 460

Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr
465 470 475 480

Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly
485 490 495

Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp
500 505 510

Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu
515 520 525

Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val
530 535 540

Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys
545 550 555 560

Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp Gly
 565 570 575

Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
 580 585 590

Gly Gly Ser Gly Gly Gly Gly Ser Glu Ile Val Leu Thr Gln Ser Pro
 595 600 605

Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu
 610 615 620

Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln
 625 630 635 640

Lys Pro Gly Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg
 645 650 655

Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
 660 665 670

Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
 675 680 685

Tyr Cys Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly
 690 695 700

Thr Lys Val Glu Ile Lys
 705 710

<210> 3841

<211> 715

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3841

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe
50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
130 135 140

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
145 150 155 160

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
165 170 175

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
180 185 190

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
195 200 205

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
210 215 220

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
225 230 235 240

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
245 250 255

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
260 265 270

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
275 280 285

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser

290

295

300

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
305 310 315 320

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
325 330 335

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
340 345 350

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
355 360 365

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
370 375 380

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
385 390 395 400

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
405 410 415

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
420 425 430

Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser
435 440 445

Leu Ser Pro Gly Lys Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
450 455 460

Gly Ser Gly Gly Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val
465 470 475 480

Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser
485 490 495

Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly
500 505 510

Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr
515 520 525

Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser
530 535 540

Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr
545 550 555 560

Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser
565 570 575

Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly
580 585 590

Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Ile Val
595 600 605

Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala
610 615 620

Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val
625 630 635 640

Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Val Ile Tyr
645 650 655

Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
660 665 670

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu
675 680 685

Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn Ile Asp Ile
690 695 700

Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
705 710 715

<210> 3842

<211> 710

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3842

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe
 50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 130 135 140

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 145 150 155 160

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 165 170 175

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 180 185 190

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 195 200 205

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 210 215 220

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 225 230 235 240

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 245 250 255

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 260 265 270

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 275 280 285

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
290 295 300

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
305 310 315 320

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
325 330 335

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
340 345 350

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
355 360 365

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
370 375 380

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
385 390 395 400

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
405 410 415

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
420 425 430

Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser
435 440 445

Leu Ser Pro Gly Lys Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Glu
450 455 460

Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu
465 470 475 480

Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
485 490 495

Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Val
500 505 510

Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser
515 520 525

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
530 535 540

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn Ile
 545 550 555 560

Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly Gly
 565 570 575

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Glu Val Thr Leu
 580 585 590

Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu
 595 600 605

Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val
 610 615 620

Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn
 625 630 635 640

Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg
 645 650 655

Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met
 660 665 670

Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile
 675 680 685

Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr
 690 695 700

Met Val Thr Val Ser Ser
 705 710

<210> 3843

<211> 214

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3843

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile
 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
 115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
 130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
 145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
 165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
 180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
 195 200 205

Phe Asn Arg Gly Glu Cys
 210

<210> 3844

<211> 579

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3844

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe
 50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Glu Val Thr Leu
 115 120 125

Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu
 130 135 140

Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe Gly Met Gly Val
 145 150 155 160

Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn
 165 170 175

Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg
 180 185 190

Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala Val Leu Thr Ile
 195 200 205

Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile
 210 215 220

Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala Trp Gly Gln Gly
 225 230 235 240

Thr Thr Val Thr Val Ser Ser Gly Gly Ala Ser Thr Lys Gly Pro Ser
 245 250 255

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala

260

265

270

Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 275 280 285

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 290 295 300

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 305 310 315 320

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
 325 330 335

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
 340 345 350

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly
 355 360 365

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 370 375 380

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 385 390 395 400

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 405 410 415

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 420 425 430

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 435 440 445

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 450 455 460

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 465 470 475 480

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 485 490 495

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 500 505 510

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 515 520 525

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 530 535 540

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 545 550 555 560

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 565 570 575

Pro Gly Lys

<210> 3845

<211> 336

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3845

Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Gly Ser Gly Gly Gly Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu
 115 120 125

Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln
130 135 140

Asp Ile Ser Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala
145 150 155 160

Pro Lys Val Leu Ile Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro
165 170 175

Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
180 185 190

Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr
195 200 205

Ser Thr Val Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
210 215 220

Gly Gly Gly Ser Gly Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe
225 230 235 240

Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys
245 250 255

Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val
260 265 270

Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln
275 280 285

Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser
290 295 300

Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His
305 310 315 320

Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330 335

<210> 3846

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<220>
 <221> VARIANT
 <222> (5)..(5)
 <223> /置換=「Gln」或「Asp」或「Glu」或「Asn」或「Ala」或「Gly」或
 「His」或「Lys」或「Met」或「Leu」或「Arg」或「Ile」或「Tyr」或
 「Val」

<220>
 <221> VARIANT
 <222> (6)..(6)
 <223> /置換=「Ser」或「Lys」或「Tyr」或「Thr」或「Met」或「Gly」或
 「Ala」或「Ile」或「Leu」或「Glu」或「Pro」或「Gln」或「Phe」

<220>
 <221> VARIANT
 <222> (8)..(8)
 <223> /置換=「Ser」或「Asp」或「Lys」或「Cys」或「Val」或「Glu」或
 「Leu」或「Trp」或「Pro」或「Tyr」或「Met」或「Asn」或「Thr」

<220>
 <221> MISC_FEATURE
 <222> (1)..(10)
 <223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3846
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 3847
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<220>
 <221> VARIANT
 <222> (5)..(5)
 <223> /置換=「Tyr」或「Leu」或「Val」或「Trp」或「Ala」或「Gln」或
 「His」或「Gly」或「Lys」或「Asn」或「Met」或「Thr」或「Pro」

<220>
 <221> VARIANT
 <222> (8)..(8)
 <223> /置換=「Asn」或「Asp」或「Thr」或「Pro」或「Trp」或「Tyr」或
 「Val」或「Ser」或「Met」或「Ala」或「Ile」或「Gly」或「Arg」或
 「Leu」

<220>
 <221> VARIANT
 <222> (10)..(10)
 <223> /置換=「Ile」或「Met」或「Lys」或「Ala」或「Asn」或「Pro」或
 「Leu」或「Val」或「Trp」或「Asp」或「Tyr」或「Gly」或「Glu」

<220>
 <221> VARIANT

<222> (13)..(13)
 <223> /置換=「Tyr」或「His」

<220>
 <221> VARIANT
 <222> (16)..(16)
 <223> /置換=「Asn」

<220>
 <221> MISC_FEATURE
 <222> (1)..(17)
 <223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3847
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 3848
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> /置換=「Tyr」或「Gly」或「Ile」或「Ser」或「Lys」或「Asn」或
 「Pro」或「Leu」或「Trp」或「Met」或「Phe」或「Arg」或「Gln」

<220>
 <221> VARIANT
 <222> (2)..(2)
 <223> /置換=「His」或「Ile」或「Thr」或「Asp」或「Phe」或「Leu」或
 「Glu」或「Val」或「Tyr」或「Ala」或「Gly」或「Trp」或「Gln」或
 「Arg」

<220>
 <221> VARIANT
 <222> (6)..(6)
 <223> /置換=「Ser」或「Asn」或「Glu」或「Met」或「Leu」或「Thr」或
 「Trp」或「Gln」或「Gly」或「Ile」或「Ala」或「Cys」或「Val」

<220>
 <221> MOD_RES
 <222> (7)..(7)
 <223> 任一胺基酸

<220>
 <221> VARIANT
 <222> (9)..(9)
 <223> /置換=「Leu」或「Asn」或「Thr」或「Val」或「Ala」或「Arg」或

「Phe」或「Asp」或「Ser」

<220>

<221> MISC_FEATURE

<222> (1)..(14)

<223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3848

Thr Asn Tyr Tyr Tyr Arg Xaa Tyr Ile Phe Tyr Phe Asp Tyr

1 5 10

<210> 3849

<211> 11

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<220>

<221> VARIANT

<222> (7)..(7)

<223> /置換=「Asn」或「Asp」或「Thr」或「Arg」或「His」或「Glu」或
「Ile」或「Leu」或「Gln」或「Cys」或「Met」或「Tyr」或「Lys」或
「Val」

<220>

<221> VARIANT

<222> (8)..(8)

<223> /置換=「Ser」或「Arg」或「Ala」或「Glu」或「Asp」或「Met」或
「Pro」或「Tyr」或「Ile」或「Trp」或「Phe」

<220>

<221> VARIANT

<222> (9)..(9)

<223> /置換=「Ala」或「Asp」或「Cys」或「Pro」或「Arg」或「Tyr」或
「Leu」或「Gln」或「Lys」

<220>

<221> VARIANT

<222> (11)..(11)

<223> /置換=「Ala」或「Pro」

<220>

<221> MISC_FEATURE

<222> (1)..(11)

<223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3849

Arg Ala Ser Glu Ser Val Ser Thr His Met His

1 5 10

<210> 3850

<211> 7

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<220>
<221> VARIANT
<222> (1)..(1)
<223> /置換=「Trp」或「Val」或「Ile」或「Glu」或「Ser」或「Asp」

<220>
<221> VARIANT
<222> (4)..(4)
<223> /置換=「His」或「Tyr」或「Met」或「Thr」或「Phe」或「Val」或
「Arg」或「Gln」或「Ala」或「Ser」或「Glu」或「Gly」或「Cys」或
「Asp」或「Pro」

<220>
<221> VARIANT
<222> (7)..(7)
<223> /置換=「Tyr」

<220>
<221> MISC_FEATURE
<222> (1)..(7)
<223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3850
Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 3851
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<220>
<221> VARIANT
<222> (3)..(3)
<223> /置換=「Cys」或「Gly」或「Ile」或「Trp」或「Arg」或「Asn」或
「Ala」或「Tyr」或「Lys」或「Gln」或「Phe」

<220>
<221> VARIANT
<222> (4)..(4)
<223> /置換=「Cys」或「Leu」或「Gly」或「Glu」或「Ser」

<220>
<221> VARIANT
<222> (5)..(5)

<223> /置換=「Ile」或「Thr」或「Asp」或「Gly」或「Met」或「Ser」或
「His」或「Ala」或「Arg」或「Val」或「Leu」或「Phe」或「Lys」或
「Gln」

<220>

<221> VARIANT

<222> (6)..(6)

<223> /置換=「Asn」或「Tyr」或「Ala」或「Leu」或「Met」或「Pro」或
「Gly」或「His」或「Phe」或「Lys」

<220>

<221> VARIANT

<222> (8)..(8)

<223> /置換=「Met」或「Gly」或「Tyr」或「Ala」或「Trp」或「Ser」或
「Val」或「Cys」或「Pro」

<220>

<221> MISC_FEATURE

<222> (1)..(9)

<223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3851

Gln Gln Ser Trp Asn Asp Pro Phe Thr

1

5

<210> 3852

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<220>

<221> VARIANT

<222> (3)..(3)

<223> /置換=「Ile」或「Arg」

<220>

<221> VARIANT

<222> (5)..(5)

<223> /置換=「Tyr」或「Ala」或「Asp」或「Thr」或「Met」或「Arg」或
「Leu」或「Cys」或「Phe」或「Trp」或「Pro」

<220>

<221> VARIANT

<222> (7)..(7)

<223> /置換=「Ser」

<220>

<221> VARIANT

<222> (8)..(8)

<223> /置換=「Glu」

<220>

<221> VARIANT

<222> (9)..(9)

<223> /置換=「Val」

<220>

<221> VARIANT

<222> (10)..(10)

<223> /置換=「Ser」或「Arg」

<220>

<221> VARIANT

<222> (11)..(11)

<223> /置換=「Ile」

<220>

<221> VARIANT

<222> (12)..(12)

<223> /置換=「Asp」或「Leu」或「Ala」或「Cys」或「Val」或「Tyr」或
「Arg」或「Thr」或「Glu」或「Ser」

<220>

<221> MISC_FEATURE

<222> (1)..(12)

<223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3852

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly

1

5

10

<210> 3853

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<220>

<221> VARIANT

<222> (1)..(1)

<223> /置換=「Leu」

<220>

<221> VARIANT

<222> (3)..(3)

<223> /置換=「Asp」或「Cys」或「Gly」

<220>

<221> VARIANT

<222> (4)..(4)

<223> /置換=「Cys」

<220>

<221> VARIANT

<222> (5)..(5)

<223> /置換=「Tyr」或「Asn」或「His」或「Val」或「Glu」或「Ile」或
「Pro」或「Ala」或「Cys」或「Gly」

<220>

<221> VARIANT
 <222> (6)..(6)
 <223> /置換=「Gly」或「Asn」或「His」

<220>
 <221> VARIANT
 <222> (7)..(7)
 <223> /置換=「Glu」或「Gly」或「Val」或「Ala」或「His」或「Tyr」或
 「Asn」或「Gln」或「Ser」或「Leu」

<220>
 <221> VARIANT
 <222> (8)..(8)
 <223> /置換=「Glu」或「Thr」或「Ile」或「Gln」或「Val」或「Asn」或
 「Arg」或「Tyr」或「Leu」或「Met」或「Cys」

<220>
 <221> VARIANT
 <222> (9)..(9)
 <223> /置換=「His」或「Cys」或「Asp」或「Asn」或「Ser」或「Ala」或
 「Phe」或「Gly」

<220>
 <221> VARIANT
 <222> (11)..(11)
 <223> /置換=「Ser」

<220>
 <221> VARIANT
 <222> (12)..(12)
 <223> /置換=「Leu」或「Thr」

<220>
 <221> VARIANT
 <222> (15)..(15)
 <223> /置換=「Asn」

<220>
 <221> VARIANT
 <222> (16)..(16)
 <223> /置換=「Ser」或「Thr」

<220>
 <221> MISC_FEATURE
 <222> (1)..(16)
 <223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3853
 Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
 1 5 10 15

<210> 3854
 <211> 12
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> /置換=「Tyr」或「Asn」或「Leu」或「Met」或「Val」或「Arg」或
 「Lys」或「Phe」或「Cys」或「Thr」或「Glu」

<220>
 <221> VARIANT
 <222> (2)..(2)
 <223> /置換=「Gln」或「Val」或「Lys」或「Tyr」或「Leu」或「Asp」或
 「Gly」或「Ala」或「Met」或「Arg」或「Ser」

<220>
 <221> VARIANT
 <222> (3)..(3)
 <223> /置換=「Thr」或「Ala」或「Tyr」或「Trp」或「Pro」或「Leu」或
 「Val」或「Glu」或「Lys」或「Phe」或「Cys」

<220>
 <221> VARIANT
 <222> (4)..(4)
 <223> /置換=「Gly」或「Ser」或「Met」或「Val」或「Leu」或「Phe」或
 「Asn」或「Asp」或「His」或「Tyr」或「Thr」或「Arg」或「Gln」或
 「Lys」或「Glu」或「Pro」

<220>
 <221> VARIANT
 <222> (5)..(5)
 <223> /置換=「Trp」或「Pro」或「Phe」或「Cys」或「Tyr」或「Ala」或
 「Glu」或「Leu」或「Val」或「Ser」或「Asp」或「Arg」

<220>
 <221> VARIANT
 <222> (6)..(6)
 <223> /置換=「Pro」或「Trp」或「Arg」或「Ile」或「Phe」或「Ala」或
 「Met」或「Tyr」或「Ser」或「Leu」或「Gly」或「Asp」或「Lys」或
 「Val」或「Asn」或「Glu」

<220>
 <221> VARIANT
 <222> (7)..(7)
 <223> /置換=「Asn」或「Ser」或「Lys」或「Arg」或「Met」或「Ala」或
 「Glu」或「Ile」或「Val」或「Leu」或「Trp」或「Pro」或「Gln」

<220>
 <221> VARIANT
 <222> (9)..(9)
 <223> /置換=「Glu」或「Asp」或「Tyr」或「Ala」或「Cys」或「Asn」或
 「Met」或「Trp」或「Thr」或「Gln」或「Gly」或「Ile」或「Leu」或
 「Pro」

<220>
 <221> VARIANT
 <222> (11)..(11)
 <223> /置換=「Tyr」

<220>
 <221> MISC_FEATURE
 <222> (1)..(12)
 <223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3854
 Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 1 5 10

<210> 3855
 <211> 13
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> /置換=「Arg」或「Lys」

<220>
 <221> VARIANT
 <222> (2)..(2)
 <223> /置換=「Ala」或「Glu」

<220>
 <221> VARIANT
 <222> (3)..(3)
 <223> /置換=「Tyr」

<220>
 <221> VARIANT
 <222> (5)..(5)
 <223> /置換=「Cys」或「Val」或「Ser」

<220>
 <221> VARIANT
 <222> (6)..(6)
 <223> /置換=「Ser」或「Tyr」

<220>
 <221> VARIANT
 <222> (7)..(7)
 <223> /置換=「Asn」或「Thr」或「Met」

<220>
 <221> VARIANT
 <222> (8)..(8)
 <223> /置換=「Trp」或「Tyr」或「Ser」或「Met」或「His」或「Asp」或
 「Arg」或「Glu」或「Asn」或「Cys」或「Ala」或「Leu」或「Val」或
 「Phe」或「Thr」或「Gln」或「Lys」

<220>
 <221> VARIANT
 <222> (9)..(9)
 <223> /置換=「Tyr」或「Gln」或「Asn」或「His」或「Gly」或「Glu」或
 「Ser」或「Lys」或「Phe」或「Arg」或「Leu」或「Cys」或「Ala」或
 「Pro」

<220>

<221> VARIANT
 <222> (10)..(10)
 <223> /置換=「Thr」或「Tyr」或「Met」或「Lys」或「Ala」或「Cys」或
 「Phe」或「Leu」或「Glu」或「Trp」或「Asp」或「Pro」或「Gly」

<220>
 <221> VARIANT
 <222> (11)..(11)
 <223> /置換=「Phe」或「Leu」或「Arg」或「His」或「Asn」或「Cys」或
 「Ala」或「Asp」或「Ser」或「Thr」

<220>
 <221> VARIANT
 <222> (12)..(12)
 <223> /置換=「Phe」或「Ser」

<220>
 <221> VARIANT
 <222> (13)..(13)
 <223> /置換=「Pro」

<220>
 <221> MISC_FEATURE
 <222> (1)..(13)
 <223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3855
 Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
 1 5 10

<210> 3856
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<220>
 <221> VARIANT
 <222> (1)..(1)
 <223> /置換=「Gly」或「Ser」或「Trp」或「Thr」或「Leu」或「Val」或
 「Phe」或「Asn」或「Pro」或「Glu」或「Asp」

<220>
 <221> VARIANT
 <222> (2)..(2)
 <223> /置換=「Tyr」或「Ala」或「Val」

<220>
 <221> VARIANT
 <222> (3)..(3)
 <223> /置換=「Gly」

<220>
 <221> VARIANT
 <222> (4)..(4)

<223> /置換=「Leu」或「Arg」或「His」或「Trp」或「Tyr」或「Met」或
 「Lys」或「Asp」或「Ala」或「Glu」或「Asn」或「Val」或「Ser」或
 「Phe」或「Pro」

<220>

<221> VARIANT

<222> (5)..(5)

<223> /置換=「Gln」或「Pro」

<220>

<221> VARIANT

<222> (6)..(6)

<223> /置換=「Ala」

<220>

<221> VARIANT

<222> (7)..(7)

<223> /置換=「Ile」或「Thr」或「Arg」或「Gly」

<220>

<221> MISC_FEATURE

<222> (1)..(7)

<223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3856

Ala Asp Asp Gln Arg Pro Ser

1

5

<210> 3857

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<220>

<221> VARIANT

<222> (1)..(1)

<223> /置換=「Lys」

<220>

<221> VARIANT

<222> (2)..(2)

<223> /置換=「Pro」或「Gln」或「His」

<220>

<221> VARIANT

<222> (4)..(4)

<223> /置換=「Gly」

<220>

<221> VARIANT

<222> (5)..(5)

<223> /置換=「Leu」或「Val」或「Glu」或「Thr」或「Ser」或「Gln」或
 「Arg」或「Asn」或「Lys」或「Gly」或「Ala」或「Cys」或「Phe」

<220>
 <221> VARIANT
 <222> (6)..(6)
 <223> /置換=「Phe」或「Asp」或「Glu」或「Thr」或「Ile」或「Tyr」或
 「Cys」或「Val」或「Ser」或「Arg」或「Ala」或「Leu」或「Gly」或
 「His」或「Lys」

<220>
 <221> VARIANT
 <222> (7)..(7)
 <223> /置換=「Thr」或「Ser」或「Val」或「Asp」或「Arg」或「Glu」或
 「Met」或「Leu」或「Pro」或「Phe」或「Asn」或「Lys」

<220>
 <221> VARIANT
 <222> (8)..(8)
 <223> /置換=「Asn」或「Pro」或「Ala」或「Tyr」或「Gly」或「His」或
 「Glu」或「Val」或「Leu」或「Gln」或「Thr」

<220>
 <221> VARIANT
 <222> (9)..(9)
 <223> /置換=「Val」或「Leu」或「Gly」或「Thr」或「Ser」或「Asn」或
 「Phe」或「Ala」或「His」或「Arg」或「Gln」

<220>
 <221> VARIANT
 <222> (10)..(10)
 <223> /置換=「Thr」

<220>
 <221> MISC_FEATURE
 <222> (1)..(10)
 <223> /注釋=「序列中所出示之變體殘基針對彼等在變體位置所註解者無優先性」

<400> 3857
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 3858
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3858
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 3859
 <211> 17
 <212> PRT
 <213> 人工序列

<220>

<221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3859
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 3860
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3860
 Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 3861
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3861
 Arg Ala Ser Glu Ser Val Ser Thr His Met His
 1 5 10

<210> 3862
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3862
 Gly Ala Ser Asn Leu Glu Ser
 1 5

<210> 3863
 <211> 9
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3863
 Gln Gln Ser Trp Asn Asp Pro Phe Thr
 1 5

<210> 3864
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3864
 Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr
 1 5 10

<210> 3865
 <211> 17
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3865
 Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15

Gly

<210> 3866
 <211> 14
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3866
 Thr Asn Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 1 5 10

<210> 3867
 <211> 11
 <212> PRT
 <213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3867
Arg Ala Ser Glu Ser Val Ser Thr His Met His
1 5 10

<210> 3868
<211> 7
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3868
Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 3869
<211> 9
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3869
Gln Gln Ser Trp Asn Asp Pro Phe Thr
1 5

<210> 3870
<211> 12
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成肽」

<400> 3870
Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 3871
<211> 16
<212> PRT
<213> 人工序列

<220>
<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3871

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 3872

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3872

Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
1 5 10

<210> 3873

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3873

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
1 5 10

<210> 3874

<211> 7

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3874

Ala Asp Asp Gln Arg Pro Ser
1 5

<210> 3875

<211> 10

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3875

Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
1 5 10

<210> 3876

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3876

Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly
1 5 10

<210> 3877

<211> 16

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3877

Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn
1 5 10 15

<210> 3878

<211> 12

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3878

Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
1 5 10

<210> 3879

<211> 13

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成肽」

<400> 3879

Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser
1 5 10

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDI-5H1.3 VH			EVTLRESGPALVKPTQTLTLTCTFSGF SLSTFGMGVGVIRQPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQVV LTMTNMDPVDTATYYCARISTGISSYY VMDAWGQGTTVTVSS
	hBDI-5H1.3	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTFGMGVG
	hBDI-5H1.3	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	hBDI-5H1.3	CDR-H3	SEQ ID NO.:之 殘基 100-112	ISTGISSYYVMDA
	hBDI-5H1.3 VL			EIVLTQSPGTLISLSPGERATLSCERSS GDIGDITYVSWYQQKPGQAPRLLIYGND QRPSGIPDRFSGSGSGTDFTLTISRLE PEDFAVYYCQSYDSIDIVFGGGTKVE IK
	hBDI-5H1.3	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIGDITYVS
	hBDI-5H1.3	CDR-L2	SEQ ID NO.:之 殘基 52-58	GNDQRPS
	hBDI-5H1.3	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDSIDIV
	hBDI-5H1.4 VH			EVTLRESGPALVKPTQTLTLTCTFSGF SLSTFGMGVGVIRQPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQVV LTMTNMDPVDTATYYCARISTGISSYY VMDAWGQGTTVTVSS

<210> 3880
 <211> 7
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3880
 Ala Asp Asp Gln Arg Pro Ser
 1 5

<210> 3881
 <211> 10
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成肽」

<400> 3881
 Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val
 1 5 10

<210> 3882
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3882
 Gln Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3883

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3883

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3884

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3884

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3885

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3885

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3887

Gln Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3888

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3888

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3889

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3889

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Ser Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3890

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3890

Glu Val Thr Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3891

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3891

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3892
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3892
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Phe
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 3893
 <211> 111
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3893
 Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Ser Pro Thr Thr Val
 35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser
 85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 3894
 <211> 111
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3894
 Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Pro Pro Thr Asn Val
 35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ser
85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 3895

<211> 111

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3895

Gln Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
1 5 10 15

Thr Val Thr Ile Pro Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Pro Pro Thr Asn Val
35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Glu Val Ser Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ser
85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 3896

<211> 111

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDI-5H1.4	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTFGMGVG
	hBDI-5H1.4	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	hBDI-5H1.4	CDR-H3	SEQ ID NO.:之 殘基 100-112	ISTGISSYYVMDA
	hBDI-5H1.4 VL			EFVLTQSPGTLSSLSPGERATLSCERSS GDIGDTYVSWYQQKPGQAPRLVIYGND QRPSGIPDRFSGSGSGTDFTLTISRLE PEDFAVYYCQSYDSIDIVFGGGTKVE IK
	hBDI-5H1.4	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSGDIGDTYVS
	hBDI-5H1.4	CDR-L2	SEQ ID NO.:之 殘基 52-58	GNDQRPS
	hBDI-5H1.4	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDSIDIV
	hBDI-5H1.5 VH			EVTLKESGPALVKPTQTLTLTCTFSGF SLSTFGMGVWIRPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQAV LTITNMPVDATATYYCARISTGISSYY VMDAWGQGTIVVSS
	hBDI-5H1.5	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTFGMGVG
	hBDI-5H1.5	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	hBDI-5H1.5	CDR-H3	SEQ ID NO.:之 殘基 100-112	ISTGISSYYVMDA

<400> 3896

Gln Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Ser Pro Thr Thr Val
 35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ser
 85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 3897

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3897

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ser Asp

85

90

95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3898

<211> 111

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3898

Glu Phe Val Leu Thr Gln Ser Pro Gly Leu Ser Leu Ser Pro Gly Glu
 1 5 10 15

Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Thr
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Arg Asn Val
 35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Asp Ala Thr Leu Thr Ile Ser Arg
 65 70 75 80

Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ser
 85 90 95

Asp Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3899

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3899

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3900

<211> 110

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3900

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Arg Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3901

<211> 110

<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3901
Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3902
<211> 110
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3902
Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3903

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3903

Gln Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3904

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3904

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3905

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3905

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3906

<211> 122

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3906

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3907

<211> 122

<212> PRT

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3907

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3908

<211> 122

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<400> 3908

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser

50

55

60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3909

<211> 122

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<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3909

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 3910

<211> 111
 <212> PRT
 <213> 人工序列

<220>
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<400> 3910
 Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Ser Pro Thr Thr Val
 35 40 45

Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ile
 85 90 95

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 3911
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<400> 3911
 Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Pro Pro Thr Asn Val
 35 40 45

Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ile
85 90 95

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
100 105 110

<210> 3912
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<400> 3912
Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3913
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<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 3913

Glu Phe Val Leu Thr Gln Ser Pro Gly Leu Ser Leu Ser Pro Gly Glu
 1 5 10 15

Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Arg Asn Val
 35 40 45

Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Gly Asn Asp Ala Thr Leu Thr Ile Ser Arg
 65 70 75 80

Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ile
 85 90 95

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3914

<211> 110

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3914

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3915
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 <212> PRT
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<400> 3915
 Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 3916
 <211> 110
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3916
 Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 3917

<211> 120

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3917

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Ala Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Asp Trp Asp Asn Asn Trp Gly Tyr Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 3918
 <211> 120
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3918
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Ala Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Trp Asp Asn Asn Trp Gly Tyr Phe Asp Tyr Trp Gly Gln
 100 105 110

Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3919
 <211> 120
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3919
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Ala Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile

35

40

45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Ala Thr Leu Thr Ala Asp Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Trp Asp Asn Asn Trp Gly Tyr Phe Asp Tyr Trp Gly Gln
 100 105 110

Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3920

<211> 120

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3920

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Ala Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Trp Asp Asn Asn Trp Gly Tyr Phe Asp Tyr Trp Gly Gln
 100 105 110

Gly Thr Met Val Thr Val Ser Ser

115

120

<210> 3921
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3921
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr
 20 25 30

Ala Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Asp Trp Asp Asn Asn Trp Gly Tyr Phe Asp Tyr Trp Gly Gln
 100 105 110

Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 3922
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<220>
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<400> 3922
 Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Glu Tyr Ser
 20 25 30

Asp Gly Tyr Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Gly Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Ala
 85 90 95

Thr His Asp Pro Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 3923

<211> 112

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3923

Asp Val Val Leu Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Glu Tyr Ser
 20 25 30

Asp Gly Tyr Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Gly Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Ala
 85 90 95

Thr His Asp Pro Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 3924

<211> 112

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3924

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Glu Tyr Ser
 20 25 30

Asp Gly Tyr Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Gly Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Phe Gln Ala
 85 90 95

Thr His Asp Pro Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 3925

<211> 123

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3925

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3926

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3926

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3927

<211> 123

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3927

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Leu Thr Ala Asp Lys Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3928

<211> 123

<212> PRT

<213> 人工序列

<220>

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3928

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20 25 30

Val Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Thr Ile Ile Pro Leu Ile Asp Thr Thr Ser Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Ser Pro Tyr Tyr Tyr Ser Ser Tyr Asp Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3929

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3929

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Lys Thr Asn Asn Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 3930

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3930

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15Asp Arg Val Thr Ile Thr Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
20 25 30Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80Glu Asp Phe Ala Thr Tyr Tyr Cys Tyr Gln Tyr Asp Asn Gly Tyr Thr
85 90 95Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 3931

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3931

Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15Glu Arg Ala Thr Leu Ser Cys Lys Gly Ser Gln Asn Ile Asn Asn Tyr
20 25 30Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45Tyr Lys Thr Asn Asn Leu Gln Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Asp Ser
 20 25 30

Ala Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Thr Ile Ile Tyr Asp Gly Ser Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Phe Asn Tyr Gly Asn Tyr Gly Tyr Tyr Val Met Asp
 100 105 110

Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3934

<211> 124

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3934

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Asp Ser
 20 25 30

Ala Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Thr Ile Ile Tyr Asp Gly Ser Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Ser Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Phe Asn Tyr Gly Asn Tyr Gly Tyr Tyr Val Met Asp
 100 105 110

Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3935
 <211> 124
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<400> 3935
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asp Ser
 20 25 30

Ala Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Thr Ile Ile Tyr Asp Gly Ser Gly Thr Tyr Tyr Val Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Phe Asn Tyr Gly Asn Tyr Gly Tyr Tyr Val Met Asp
 100 105 110

Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3936
 <211> 124
 <212> PRT
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3936

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Ser Phe Ser Asp Ser
 20 25 30

Ala Met Ala Trp Val Arg Gln Ala Pro Gly Gln Arg Leu Glu Trp Met
 35 40 45

Gly Thr Ile Ile Tyr Asp Gly Ser Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Phe Asn Tyr Gly Asn Tyr Gly Tyr Tyr Val Met Asp
 100 105 110

Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3937

<211> 124

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3937

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Ser Phe Ser Asp Ser
 20 25 30

Ala Met Ala Trp Val Arg Gln Ala Pro Gly Gln Arg Leu Glu Trp Met
 35 40 45

Gly Thr Ile Ile Tyr Asp Gly Ser Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Phe Asn Tyr Gly Asn Tyr Gly Tyr Tyr Val Met Asp
 100 105 110

Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3938

<211> 124

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3938

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Ser Phe Ser Asp Ser
 20 25 30

Ala Met Ala Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Val
 35 40 45

Ala Thr Ile Ile Tyr Asp Gly Ser Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Thr Arg Asp Asn Ser Ala Ser Thr Leu Tyr
 65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Leu Gly Phe Asn Tyr Gly Asn Tyr Gly Tyr Tyr Val Met Asp
 100 105 110

Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3939

<211> 124

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3939

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Ser Phe Ser Asp Ser
20 25 30

Ala Met Ala Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Val
35 40 45

Gly Thr Ile Ile Tyr Asp Gly Ser Gly Thr Tyr Tyr Arg Asp Ser Val
50 55 60

Lys Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Ala Ser Thr Ala Tyr
65 70 75 80

Leu Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Leu Gly Phe Asn Tyr Gly Asn Tyr Gly Tyr Tyr Val Met Asp
100 105 110

Ala Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3940

<211> 113

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3940

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Ser Pro Thr Thr Val
35 40 45

Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser
85 90 95

Asn Ile Asp Ile Asn Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val
100 105 110

Leu

<210> 3941

<211> 113

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3941

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Pro Pro Thr Asn Val
35 40 45

Ile Phe Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Phe Cys Gln Ser Tyr Asp Ser
85 90 95

Asn Ile Asp Ile Asn Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val
100 105 110

Leu

<210> 3942

<211> 113

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3942

Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys
 1 5 10 15

Thr Val Thr Ile Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp Ser
 20 25 30

Tyr Val Ser Trp Tyr Gln Gln Arg Pro Gly Ser Ser Pro Thr Thr Val
 35 40 45

Ile Phe Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60

Gly Ser Ile Asp Ser Ser Ser Asn Ser Ala Ser Leu Thr Ile Ser Gly
 65 70 75 80

Leu Lys Thr Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser
 85 90 95

Asn Ile Asp Ile Asn Ile Val Phe Gly Gly Gly Thr Lys Leu Thr Val
 100 105 110

Leu

<210> 3943

<211> 121

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3943

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe

50

55

60

Lys Asn Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3944

<211> 121

<212> PRT

<213> 人工序列

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<223> /注釋=「人工序列之描述：合成多肽」

<400> 3944

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
50 55 60

Lys Asn Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3945

<211> 121
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3945
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3946
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3946
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
50 55 60

Lys Asn Arg Val Thr Leu Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3947

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3947

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
20 25 30

Tyr Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
50 55 60

Lys Asn Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 3948
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3948
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Ser Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Glu Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3949
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3949
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 3950

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3950

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 3951

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3951

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
85 90 95

Thr Phe Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 3952

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3952

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 3953

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3953

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Trp
85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 3954

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3954

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly

1 5 10 15
 Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30
 Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Arg Leu Leu Ile
 35 40 45
 Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 3955

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 3955

Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

100

105

<210> 3956
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3956
 Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 3957
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
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 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3957
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Ile Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3958

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3958

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Ile Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3959
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3959
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Ile Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Glu Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3960
 <211> 121
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3960
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Ile Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Arg Val Thr Leu Thr Ala Asp Glu Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3961

<211> 121

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3961

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
 20 25 30

Tyr Ile Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
 35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
 50 55 60

Lys Asn Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Phe Gly Ala Arg Ser Tyr Phe Tyr Pro Met Asp Ala Trp Gly
 100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser
 115 120

<210> 3962
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 3962
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 3963
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
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<400> 3963
 Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Pro Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 3964

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3964

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 3965

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3965

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 3966

<211> 107

<212> PRT

<213> 人工序列

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<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3966

Asp Ile Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Asp Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 3969

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 3969

Asp Thr Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDI-9E8.13	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	hBDI-9E8.13	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	hBDI-9E8.13	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIGTTYSFDY
	hBDI-9E8.13 VL			DFQLTQSPSSLSASVGDRTITCERSS GDIGDSYVSWYQQKPGKAPKNVIYADD QRPSGVPSRFSGSGSGNSASLTISLQ PEDFATYYCQSYDINIDIVFGQGTKVE IK
	hBDI-9E8.13	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIGDSYVS
	hBDI-9E8.13	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRPS
	hBDI-9E8.13	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDINIDIV
	hBDI-9E8.2 VH			EVTLRESGPALVKPTQTLLTCTFSGF SLSTYGMGVGWIRQPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQVV LTMTNMDPVDTATYYCARIESIGTTYS FDYWQGTMTVSS
	hBDI-9E8.2	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	hBDI-9E8.2	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	hBDI-9E8.2	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIGTTYSFDY

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDI-9E8.2 VL			NFMLTQPHSVSESPGKTVTISCERSSG DIGDSYVSWYQQRPGSPPTNVIYADDQ RPSGVPDRFSGSIDSSSNSASLTISGL KTEDEADYFCQSYDINIDIVFGGGTKL TVL
	hBDI-9E8.2	CDR-L1	SEQ ID NO.:之 殘基 23-35	ERSSGDIGDSYVS
	hBDI-9E8.2	CDR-L2	SEQ ID NO.:之 殘基 51-57	ADDQRPS
	hBDI-9E8.2	CDR-L3	SEQ ID NO.:之 殘基 92-101	QSYDINIDIV
	hBDI-9E8.3 VH			EVTLRRESGPALVKPTQTLTLTCTFSGF SLSTYGMGVGWIRQPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQVV LTMNMDPVDATYYCARIESIGTTYS FDYWGQGTMTVTVSS
	hBDI-9E8.3	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	hBDI-9E8.3	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	hBDI-9E8.3	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIGTTYSFDY
	hBDI-9E8.3 VL			EIVLTQSPGTLSSLSPGERATLSCERSS GDIGDSYVSWYQQKPGQAPRLLIYADD QRPSGIPDRFSGSGSGTDFTLTISRLE PEDFAVYYCQSYDINIDIVFGGGTKVE IK

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDI-9E8.6	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	hBDI-9E8.6	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	hBDI-9E8.6	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIGTTYSFYD
	hBDI-9E8.6 VL			NFMLTQPHSVSESPGKTVTISCERSSG DIGDSYVSWYQQRPGSPPTNVIYADDQ RPSGVPDRFSGSIDSSNSASLTISGL KTEDEADYFCQSYDINIDIVFGGGTKL TVL
	hBDI-9E8.6	CDR-L1	SEQ ID NO.:之 殘基 23-35	ERSSGDIGDSYVS
	hBDI-9E8.6	CDR-L2	SEQ ID NO.:之 殘基 51-57	ADDQRPS
	hBDI-9E8.6	CDR-L3	SEQ ID NO.:之 殘基 92-101	QSYDINIDIV
	hBDI-9E8.7 VH			EVTLRESGPALVKPTQTLTLTCTFSGF SLSTYGMGVGWIRQPPGKGLEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQAV LTITNMDPVDATYYCARIESIGTTYS FDYWGQGTMTVTVSS
	hBDI-9E8.7	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	hBDI-9E8.7	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	hBDI-9E8.7	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIGTTYSFYD

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDI-9E8.7 VL			EIVLTQSPGTL SL SPGERATLSCERSS GDIGDSYVSWYQQKPGQAPRLLIYADD QRPSGIPDRFSGSGSGTDFTLTISRLE PEDFAVYYCQSYDINIDIVFGGGTKVE IK
	hBDI-9E8.7	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIGDSYVS
	hBDI-9E8.7	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRPS
	hBDI-9E8.7	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDINIDIV
	hBDI-9E8.8 VH			EVTLRESGPALVKPTQTLTLTCTFSGF SLSTYGMGVGWIRQPPGKGLEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQAV LTITNMDPVDATYYCARIESIGTTYS FDYWGQGTMTVSS
	hBDI-9E8.8	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	hBDI-9E8.8	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	hBDI-9E8.8	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIGTTYSFDY
	hBDI-9E8.8 VL			EFVLTQSPGTL SL SPGERATLSCERSS GDIGDSYVSWYQQKPGQAPRLVIYADD QRPSGIPDRFSGSGSGTDFTLTISRLE PEDFAVYYCQSYDINIDIVFGGGTKVE IK

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBDI-9E8.8	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIGDSYVS
	hBDI-9E8.8	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRPS
	hBDI-9E8.8	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDINIDIV
	hBDI-9E8.9 VH			EVTLRESGPALVKPTQTLTLTCTFSGF SLSTYGMGVGWIRQPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQAV LTITNMDPVDATYYCARIESIGTTYS FDYWGQGTTVTVSS
	hBDI-9E8.9	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	hBDI-9E8.9	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	hBDI-9E8.9	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIGTTYSFDY
	hBDI-9E8.9 VL			DFVLTQSPDSLAVSLGERATINCERS GDIGDSYVSWYQQKPGQPPKQVYADD QRPSGVPDRFSGSGSGNSASLTISLQ AEDVAVYFCQSYDINIDIVFGGGTKVE IK
	hBDI-9E8.9	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIGDSYVS
	hBDI-9E8.9	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRPS
	hBDI-9E8.9	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDINIDIV

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBFU-3E2.1	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTESYMY
	hBFU-3E2.1	CDR-H2	SEQ ID NO.:之 殘基 50-66	RIDPEDGSTDYVEKFKN
	hBFU-3E2.1	CDR-H3	SEQ ID NO.:之 殘基 99-110	FGARSYFYPMDA
	hBFU-3E2.1 VL			ETVLTQSPATLSLSPGERATLSCRASE SVSTLMHWYQQKPGQQRLLIYGASNL ESGVPARFSGSGSGTDFTLTISLEPE DFAVYFCQQSWNDPWTFGGGTKVEIK
	hBFU-3E2.1	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTLMH
	hBFU-3E2.1	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	hBFU-3E2.1	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWNDPWT
	hBFU-3E2.2 VH			EVQLVQSGAEVKKPGSSVKVSKASGY TFTESYMYWVRQAPGQGLELIGRIDPE DGSTDYVEKFKNRVTLTADKSTSTAYM ELSSLRSEDVAVYYCARFGARSYFYPM DAWGQGTITVTVSS
	hBFU-3E2.2	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTESYMY
	hBFU-3E2.2	CDR-H2	SEQ ID NO.:之 殘基 50-66	RIDPEDGSTDYVEKFKN
	hBFU-3E2.2	CDR-H3	SEQ ID NO.:之 殘基 99-110	FGARSYFYPMDA

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
				12345678901234567890123456
	hBCU-6B1.1 VH			EVQLVQSGSELKKPGASVKVSKASG YFTFTNYGMYWVKQAPGQGLEFMGWIN TETGQPTYADDFKGRFVFSLDTSVST AYLQISSLKAEDTAVYFCARLGNNYG IWFAYWGQGLVTVSS
	hBCU-6B1.1	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTFTNYGMY
	hBCU-6B1.1	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGQPTYADDFKG
	hBCU-6B1.1	CDR-H3	SEQ ID NO.:之 殘基 99-109	LGNNYGIWFAY
	hBCU-6B1.1 VL			DIQMTQSPSSLSASVGRVTIECRAS DDLYSTLAWYQQKPKGKSPKLLIFDAN RLAAGVPSRFSGSGSGTDYSLTISSL QPEDVATYFCQQYNKFPWTFGGGTKV EIK
	hBCU-6B1.1	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASDDLYSTLA
	hBCU-6B1.1	CDR-L2	SEQ ID NO.:之 殘基 50-56	DANRLAA
	hBCU-6B1.1	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQYNKFPWT
	hBCU-6B1.2 VH			EVQLVQSGAEVKKPGASVKVSKASG YFTFTNYGMYWVKQAPGQGLEFMGWIN TETGQPTYADDFKGRFTFTLDTSTST AYMELRSLRSDDTAVYFCARLGNNYG IWFAYWGQGLVTVSS

SEQ ID NO.	純系	蛋白質區 域	殘基	V區
	hBCU-6B1.2	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBCU-6B1.2	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGQPTYADDFKG
	hBCU-6B1.2	CDR-H3	SEQ ID NO.:之 殘基 99-109	LGNNYGIWFAY
	hBCU-6B1.2 VL			DIQMTQSPSSLSASVGDRTTIECRAS DDL Y STLAWYQQKPGKSPKLLIFDAN RLAAGVPSRFSGSGSGTDYSLTISSL QPEDVATYFCQQYNKFPWTFGGGTKV EIK
	hBCU-6B1.2	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASDDL Y STLA
	hBCU-6B1.2	CDR-L2	SEQ ID NO.:之 殘基 50-56	DANRLAA
	hBCU-6B1.2	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQYNKFPWT
	hBCU-6B1.3 VH			EVQLVQSGAEVKKPGASVKVSKKASG YTFTNYGMYWVRQAPGQGLEFMGWIN TETGQPTYADDFKGRFTFTLDTSTST AYMELRSLRSDDTAVYYCARLGNNY IWFAYWGQGLVTVSS
	hBCU-6B1.3	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBCU-6B1.3	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGQPTYADDFKG
	hBCU-6B1.3	CDR-H3	SEQ ID NO.:之 殘基 99-109	LGNNYGIWFAY

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	hBCU-6B1.3 VL			DIQMTQSPSSLSASVGDRVTIECRAS DDLYSTLAWYQQKPGKSPKLLIFDAN RLAAGVPSRFSGSGSGTDYSLTISSL QPEDVATYFCQQYNKFPWTFGGGTKV EIK
	hBCU-6B1.3	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASDDLYSTLA
	hBCU-6B1.3	CDR-L2	SEQ ID NO.:之 殘基 50-56	DANRLAA
	hBCU-6B1.3	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQYNKFPWT
	hBCU-6B1.4 VH			EVQLVQSGAEVKKPGASVKVSKASG YTFFTNYGMYWVRQAPGQGLEFMGWIN TETGQPTYADDFKGRFTFTLDTSTST AYMELRSLRSDDTAVYYCARLGNNY IWFAYWGQGLVTVSS
	hBCU-6B1.4	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	hBCU-6B1.4	CDR-H2	SEQ ID NO.:之 殘基 50-66	WINTETGQPTYADDFKG
	hBCU-6B1.4	CDR-H3	SEQ ID NO.:之 殘基 99-109	LGNNYGIWFAY
	hBCU-6B1.4 VL			DIQMTQSPSSLSASVGDRVTITCRAS DDLYSTLAWYQQKPGKSPKLLIFDAN RLAAGVPSRFSGSGSGTDYTLTISSL QPEDVATYFCQQYNKFPWTFGGGTKV EIK

SEQ ID NO.	純系	蛋白質區域	殘基	V 區
	hBDE-3C9.2	CDR-L1	SEQ ID NO.:之 殘基 24-34	QASQSIKNYIA
	hBDE-3C9.2	CDR-L2	SEQ ID NO.:之 殘基 50-56	YTSTLES
	hBDE-3C9.2	CDR-L3	SEQ ID NO.:之 殘基 89-96	VQYANLYT

人類化抗體之產生

將所有變體選殖至 pHybE 載體中且以 60%對 40%輕鏈對重鏈構築體之比率瞬時轉染至 50 ml HEK 293 6e 懸浮細胞培養物中。使用 1 mg/ml PEI 來轉染細胞。在搖瓶中 6 天後收穫細胞上清液，旋轉沉降成細胞糰粒，且經由 0.22 μm 過濾器過濾以分離 IgG 與培養污染物。藉由添加 1 上清液體積之蛋白質 A IgG 結合緩衝液(Thermo Scientific 21001)及 1 ml rProteinA sepharose fast flow 珠粒(GE Healthcare, 17-1279-04)來批量純化所有濾液。在 4°C 下將添加有珠粒及緩衝液之上清液搖動過夜，且第二天藉由重力經多製備型層析管柱(Bio Rad, 731-1550)來收集珠粒。在上清液通過管柱後，立即用 10 管柱體積之結合緩衝液洗滌珠粒，且用 Immunopure IgG 溶析緩衝液(Pierce, 185 1520)溶析 IgG 並以 1 ml 等份收集。彙集含有 IgG 之部分且在 4°C 下在 15mM 組胺酸(pH 6)中透析過夜。

藉由結合 ELISA、Biacore 及基於細胞之功效分析進一步表徵經純化變體對重組人類靶蛋白之親和力。

表 31. 用於人類化抗人類 VEGF-A 及人類化抗人類 PDGF-BB 單株抗體之蛋白質表現及純化之概述

名稱	Octet 效價 (mg/L) ¹	~產量 (mg/L) ²	SEC (單體%) ³
hBDB-4G8.1	19.9	19.7	100.0
hBDB-4G8.2	105.3	95.8	100.0
hBDB-4G8.3	34.8	31.9	100.0
hBDB-4G8.4	45.8	34.2	100.0
hBDB-4G8.5	24.7	27.4	100.0
hBDB-4G8.6	28.6	34.2	100.0
hBDB-4G8.7	75.8	63.4	100.0
hBDB-4G8.8	145.9	101.4	100.0
hBDB-4G8.9	38.8	39.0	100.0
hBDB-4G8.10	40.7	32.9	89.1
hBDB-4G8.11	47.9	38.0	87.2
hBDB-4G8.12	37.5	38.3	100.0
hBDB-4G8.13	44.8	35.1	100.0
hBDB-4G8.14	73.0	47.0	100.0
hBDB-4G8.15	161.2	94.9	100.0
hBDI-5H1.1	49.8	38.7	100.0
hBDI-5H1.2	63.4	62.0	100.0
hBDI-5H1.3	94.2	86.5	99.1
hBDI-5H1.4	109.0	123.1	99.2
hBDI-5H1.5	23.0	27.7	100.0
hBDI-5H1.6	41.2	46.0	100.0
hBDI-5H1.7	9.6	9.6	88.1
hBDI-5H1.8	36.0	41.5	100.0
hBDI-5H1.9	56.0	60.2	85.6
hBDI-5H1.10	34.2	31.1	85.2
hBDI-5H1.11	41.0	34.4	96.3
hBDI-5H1.12	37.7	30.2	100.0
hBDI-9E8.1	90.0	72.4	100.0
hBDI-9E8.2	89.9	89.1	99.3

名稱	Octet 效價 (mg/L) ¹	~產量 (mg/L) ²	SEC (單體%) ³
hBDI-9E8.3	28.8	24.4	97.1
hBDI-9E8.4	52.8	54.8	98.2
hBDI-9E8.5	78.0	57.7	100.0
hBDI-9E8.6	60.6	61.4	100.0
hBDI-9E8.7	30.4	27.9	88.1
hBDI-9E8.8	37.1	38.0	98.4
hBDI-9E8.9	50.3	44.9	94.6
hBDI-9E8.10	93.0	56.2	94.7
hBDI-9E8.11	78.4	52.7	99.1
hBDI-9E8.12	92.3	68.5	100.0
hBDI-5H1.13	13.6	10.5	88.1
hBDI-9E8.13	53.5	66.9	100.0
hBDI-1E1.1	133.5	ND	ND
hBDI-1E1.2	115.6	ND	ND
hBDI-1E1.3	83.4	ND	ND
hBDI-1E1.4	137.6	ND	ND
hBDI-1E1.5	97.4	ND	ND
hBDI-1E1.6	70.6	ND	ND
hBDI-1E1.7	91.9	ND	ND
hBDI-1E1.8	71.2	ND	ND
hBDI-1E1.9	94.3	ND	ND
hBDI-1E1.10	72.7	ND	ND
hBDI-1E1.11	57.4	ND	ND
hBDI-1E1.12	151.6	ND	ND
hBEW-9A8.1	0.2	ND	ND
hBEW-9A8.2	0.2	ND	ND
hBEW-9A8.3	0.2	ND	ND
hBEW-9A8.4	0.2	ND	ND
hBEW-9A8.5	0.5	ND	ND

名稱	Octet 效價 (mg/L) ¹	~產量 (mg/L) ²	SEC (單體%) ³
hBEW-9A8.6	0.2	ND	ND
hBEW-9A8.7	0.3	ND	ND
hBEW-9A8.8	3.5	ND	ND
hBEW-9A8.9	15.3	18.6	ND
hBEW-9A8.10	5.2	ND	ND
hBEW-9A8.11	30.6	18.9	ND
hBEW-9A8.12	38.3	28.4	ND
hBEW-9A8.13	0.4	ND	ND
hBEW-9A8.14	0.3	ND	ND
hBEW-9A8.15	0.3	ND	ND
hBEW-9A8.16	3.2	ND	ND
hBEW-6C2.1	5.4	ND	ND
hBEW-6C2.2	1.5	ND	ND
hBEW-6C2.3	14.8	7.8	ND
hBEW-6C2.4	79.6	29.5	ND
hBEW-6C2.5	4.7	ND	ND
hBEW-6C2.6	3.9	ND	ND
hBEW-6C2.7	140.8	39.7	ND
hBEW-6C2.8	75.3	24.8	ND
hBDI-5H1.16	ND	23.9	93.4
hBDI-5H1.17	ND	21.0	92.1
hBFU-3E2.1	ND	40.2	88.1
hBFU-3E2.2	ND	34.6	93.6
hBFU-3E2.3	ND	33.6	84.2
hBFU-3E2.4	ND	38.4	94.7
hBEW-9A8.17	ND	20.0	98.7
hBEW-9A8.20	ND	17.6	86.6
hBEW-9A8.21	ND	13.3	97.5
hBEW-5C3.1	ND	20.8	85.0

名稱	Octet 效價 (mg/L) ¹	~產量 (mg/L) ²	SEC (單體%) ³
hBEW-5C3.2	ND	17.7	74.6
hBEW-5C3.3	ND	6.9	93.7
hBEW-5C3.4	ND	32.0	88.7
hBEW-5C3.5	ND	30.6	85.1
hBEW-5C3.6	ND	19.4	75.4
hBEW-9E10.1	ND	42.7	98.0
hBEW-9E10.2	ND	46.1	98.0
hBEW-9E10.3	ND	45.9	97.6
hBEW-9E10.4	ND	47.1	98.0
hBEW-9E10.5	ND	56.2	97.9
hBEW-9E10.6	ND	52.9	97.6
hBEW-1B10.1	ND	34.1	97.8
hBEW-1B10.2	ND	45.3	98.1
hBEW-1E3.1	ND	29.6	95.5
hBEW-1E3.2	ND	20.9	98.3
hBEW-1E3.3	ND	22.0	98.5
hBEW-1E3.4	ND	48.0	98.1
hBEW-1E3.5	ND	23.8	98.5
hBEW-1E3.6	ND	17.0	98.7

ND = 未測定

¹Octet 效價係未經純化之上清液中如使用 Octet 儀器藉由與標準曲線相比之蛋白質 A 結合確定的 IgG 量。

²產量係用經純化蛋白質之總量(mg)除以總細胞培養物體積(升)來確定。

³SEC 單體%係使用 HPLC 粒徑篩析層析來測定。

根據實例 1.1 中所述之方法測試人類化抗 VEGF 抗體與人類 VEGF-A 之結合。、締合速率、離解速率及結合動力學概述於下表 32

中。

表 32. 人類化抗 VEGF 抗體之 Biacore 結合

抗體	k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)
hBDB-4G8.1	1.8 E+07	1.0 E-04	5.8 E-12
hBDB-4G8.2	1.7 E+07	6.2 E-05	3.6 E-12
hBDB-4G8.3	1.0 E+07	4.8 E-05	4.8 E-12
hBDB-4G8.4	2.7 E+07	1.5 E-04	5.5 E-12
hBDB-4G8.5	2.5 E+07	4.0 E-05	1.6 E-12
hBDB-4G8.6	2.6 E+07	3.7 E-05	1.4 E-12
hBDB-4G8.7	3.7 E+07	1.3 E-03	3.4 E-11
hBDB-4G8.8	1.8 E+07	8.6 E-04	4.7 E-11
hBDB-4G8.9	1.4 E+07	8.8 E-04	6.2 E-11
hBDB-4G8.10	2.7 E+07	2.2 E-04	8.1 E-12
hBDB-4G8.11	2.6 E+07	3.4 E-05	1.3 E-12
hBDB-4G8.12	2.6 E+07	3.2 E-05	1.2 E-12
hBDB-4G8.13	2.2 E+07	1.7 E-04	7.6 E-12
hBDB-4G8.14	1.5 E+07	5.6 E-05	3.7 E-12
hBDB-4G8.15	2.0 E+07	8.7 E-05	4.4 E-12
hBEW-9A8.9	1.0 E+07	8.2 E-03	8.2 E-10
hBEW-9A8.11	1.5 E+07	1.1 E-03	7.4 E-11
hBEW-9A8.12	9.6 E+06	1.4 E-04	1.5 E-11
hBEW-9A8.17	7.9 E+06	1.4 E-05	1.7 E-12
hBEW-9A8.20	7.6 E+06	1.2 E-05	1.6 E-12
hBEW-9A8.21	5.8 E+06	3.9 E-05	6.7 E-12
hBEW-5C3.1	1.1 E+07	6.9 E-05	6.0 E-12
hBEW-5C3.4	9.9 E+06	8.5 E-05	8.6 E-12
hBEW-5C3.5	1.2 E+07	9.7 E-05	8.5 E-12
hBEW-9E10.1	1.2 E+07	2.5 E-05	2.1 E-12
hBEW-9E10.2	1.6 E+07	1.9 E-04	1.2 E-11
hBEW-9E10.3	1.3 E+07	4.2 E-05	3.2 E-12

hBEW-9E10.4	1.2 E+07	2.5 E-05	2.1 E-12
hBEW-9E10.5	1.6 E+07	2.3 E-04	1.5 E-11
hBEW-9E10.6	1.5 E+07	4.0 E-05	2.6 E-12
hBEW-1B10.1	7.6 E+06	1.4 E-04	1.8 E-11
hBEW-1B10.2	7.5 E+06	1.5 E-04	2.0 E-11
hBEW-1E3.1	1.1 E+07	8.5 E-05	7.7 E-12
hBEW-1E3.2	1.1 E+07	1.0 E-04	9.2 E-12
hBEW-1E3.4	9.8 E+06	9.6 E-05	9.7 E-12
hBEW-1E3.5	1.0 E+07	1.0 E-04	1.0 E-11

測試在兩種細胞分析格式中之一者中人類化抗 VEGF-A 抗體對 hVEGF₁₆₅ 誘導之細胞增殖之功效。HMVEC-d 生物分析利用天然表現 VEGFR2 之細胞(實例 1.10)。用 VEGFR2 穩定轉染 VEGFR2-3T3 細胞(實例 1.7)。數據概述於下表 33 中。

表 33. 人類化抗人類 VEGF-A 單株抗體之表徵之概述。

人類化分子	hVEGF ₁₆₅ IC50 (nM)	
	HMVEC-d	VEGFR2-3T3
hBDB-4G8.1	NT	0.847
hBDB-4G8.2	NT	0.603
hBDB-4G8.3	NT	0.665
hBDB-4G8.3 半體	NT	>10
hBDB-4G8.4	NT	0.918
hBDB-4G8.5	NT	0.620
hBDB-4G8.6	NT	0.488
hBDB-4G8.7	NT	>10
hBDB-4G8.8	NT	>10
hBDB-4G8.9	NT	>10
hBDB-4G8.10	NT	>10
hBDB-4G8.11	NT	0.385
hBDB-4G8.12	NT	0.563

hBDB-4G8.13	NT	0.791
hBDB-4G8.14	NT	0.499
hBDB-4G8.15	NT	0.963
hBEW-1B10.1	0.168	NT
hBEW-1B10.2	0.222	NT
hBEW-1E3.1	0.138	NT
hBEW-1E3.4	0.212	NT
hBEW-1E3.2	0.161	NT
hBEW-1E3.3	0.205	NT
hBEW-1E3.5	0.184	NT
hBEW-1E3.6	0.26	NT
hBEW-5C3.1	0.071	NT
hBEW-5C3.2	0.162	NT
hBEW-5C3.3	>2	NT
hBEW-5C3.4	0.098	NT
hBEW-5C3.5	0.123	NT
hBEW-5C3.6	> 2	NT
hBEW-9A8.9	NT	>10
hBEW-9A8.11	NT	>10
hBEW-9A8.12	NT	0.598
hBEW-9A8.17	0.059	NT
hBEW-9A8.20	0.064	NT
hBEW-9A8.21	0.09	NT
hBEW-9E10.1	0.064	NT
hBEW-9E10.2	0.181	NT
hBEW-9E10.3	0.062	NT
hBEW-9E10.4	0.071	NT
hBEW-9E10.5	0.229	NT
hBEW-9E10.6	0.068	NT

NT = 未測試

根據實例 1.1 中所述之方法測試人類化抗 PDGF-BB 抗體與人類 PDGF-BB 之結合。締合速率、離解速率及結合動力學概述於下表 34 中。

表 34. 人類化抗 PDGF 抗體之 Biacore 結合

抗體	k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)
hBDI-9E8.1	$\geq 1.0E+07$	5.6E-03	$\leq 5.6E-10$
hBDI-9E8.2	$\geq 1.0E+07$	5.1E-03	$\leq 5.1E-10$
hBDI-9E8.3	$\geq 1.0E+07$	6.5E-04	$\leq 6.5E-11$
hBDI-9E8.4	$\geq 1.0E+07$	2.1E-04	$\leq 2.1E-11$
hBDI-9E8.5	$\geq 1.0E+07$	2.1E-03	$\leq 2.1E-10$
hBDI-9E8.6	$\geq 1.0E+07$	2.1E-03	$\leq 2.1E-10$
hBDI-9E8.7	$\geq 1.0E+07$	4.5E-04	$\leq 4.5E-11$
hBDI-9E8.8	$\geq 1.0E+07$	1.7E-04	$\leq 1.7E-11^*$
hBDI-9E8.9	$\geq 1.0E+07$	1.5E-03	$\leq 1.5E-10$
hBDI-9E8.10	$\geq 1.0E+07$	1.8E-03	$\leq 1.8E-10$
hBDI-9E8.11	$\geq 1.0E+07$	7.4E-04	$\leq 7.4E-11$
hBDI-9E8.12	$\geq 1.0E+07$	2.1E-03	$\leq 2.1E-10$
hBDI-9E8.13	$\geq 1.0 E+07$	1.0 E-03 *	$\leq 1.0 E-10 *$
hBDI-5H1.1	$\geq 1.0 E+07$	4.1 E-03	$\leq 4.1 E-10$
hBDI-5H1.2	$\geq 1.0 E+07$	1.9 E-03	$\leq 1.9 E-10$
hBDI-5H1.3	$\geq 1.0 E+07$	4.5 E-03	$\leq 4.5 E-10$
hBDI-5H1.4	$\geq 1.0 E+07$	1.4 E-02	$\leq 1.4 E-09$
hBDI-5H1.5	$\geq 1.0 E+07$	1.7 E-03	$\leq 1.7 E-10$
hBDI-5H1.6	$\geq 1.0 E+07$	8.2 E-04	$\leq 8.2 E-11$
hBDI-5H1.7	$\geq 1.0 E+07$	2.9 E-02 *	$\leq 2.9 E-09 *$
hBDI-5H1.8	$\geq 1.0 E+07$	7.2 E-01 *	$\leq 7.2 E-08 *$
hBDI-5H1.9	$\geq 1.0 E+07$	3.1 E-03	$\leq 3.1 E-10$
hBDI-5H1.10	$\geq 1.0 E+07$	2.3 E-03	$\leq 2.3 E-10$
hBDI-5H1.11	$\geq 1.0 E+07$	3.7 E-03	$\leq 3.7 E-10$
hBDI-5H1.12	$\geq 1.0 E+07$	2.3 E-03	$\leq 2.3 E-10$

hBDI-5H1.13	$\geq 1.0 \text{ E}+07$	$4.9 \text{ E}-03 *$	$\leq 4.9 \text{ E}-10 *$
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*異質離解速率

測試在功能分析中人類化抗 PDGF-BB 抗體對 hPDGF-BB 之功效。評估中和 hPDGF-BB 誘導之細胞增殖之能力(實例 1.15)以及在競爭 ELISA 格式中阻斷 hPDGF-BB 與 hPDGF-R β 之結合之能力(實例 1.13)。數據概述於下表 35 中。

表 35. 人類化抗人類 PDGF-BB 單株抗體之表徵之概述

人類化分子	hPDGF-BB IC50 (nM)	hPDGF- BB/hPDGFR β 競爭 IC50 (nM)
hBDI-9E8.1	>5	+
hBDI-9E8.2	>5	+
hBDI-9E8.3	1.583	+
hBDI-9E8.4	0.061	4.301
hBDI-9E8.4 半體	>5	NT
hBDI-9E8.5	>5	+
hBDI-9E8.6	>5	+
hBDI-9E8.7	0.350	+
hBDI-9E8.8	0.105	+
hBDI-9E8.9	0.574	+
hBDI-9E8.10	0.562	+
hBDI-9E8.11	0.309	1.730
hBDI-9E8.12	0.525	+
hBDI-5H1.1	<10	+
hBDI-5H1.2	<10	+
hBDI-5H1.3	<10	-
hBDI-5H1.4	<10	-
hBDI-5H1.9	<10	+

hBDI-5H1.10	<10	-
hBDI-5H1.11	<10	-
hBDI-5H1.12	<10	-
hBDI-5H1.5	<10	+
hBDI-5H1.6	<10	+
hBDI-5H1.7	<10	-
hBDI-5H1.8	<10	-
hBDI-5H1.13	<10	+
hBDI-5H1.16	<10	NT
hBDI-5H1.17	<10	NT
hBFU-3E2.1	0.183	NT
hBFU-3E2.2	0.659	NT
hBFU-3E2.3	0.335	NT
hBFU-3E2.4	0.571	NT

NT - 未測試

測試在功能分析格式中人類化抗 VEGFR2 抗體對 hVEGFR2 之功效。表徵在競爭 ELISA 格式中該等抗體阻斷 VEGFR2 與 hVEGF₁₆₅ 之結合之能力(實例 1.22)。亦測試該等抗體結合外源 hVEGFR2 及允許因應 hVEGF₁₆₅ 之信號傳導的能力(實例 1.23)。數據概述於下表 36 中。

表 36. 人類化抗人類 VEGFR II 單株抗體之表徵之概述。

人類化分子	功效(nM)	
	hVEGF ₁₆₅ / hVEGFR2-Fc 競爭	hVEGF ₁₆₅ / Tyr1054 磷 酸-分析
hBCU-6B1.1	0.474	NT
hBCU-6B1.2	0.340	NT
hBCU-6B1.3	0.319	NT
hBCU-6B1.4	0.335	NT

NT - 未測試

表徵人類化抗 PDGF-R β 抗體在功能分析中之活性。評估抗體結合 hPDGF-R β 之能力(實例 1.26)及在競爭 ELISA 格式中阻斷 hPDGF-R β 與 hPDGF-BB 之結合之能力(實例 1.27)。亦測試其結合外源 hPDGF-R β 及允許因應 hPDGF-BB 之信號傳導的能力(實例 1.28)。數據概述於下表 37 中。

表 37. 人類化抗人類 PDGFR-B 單株抗體之表徵之概述

人類化分子	功效(nM)		
	hPDGFR β -Fc 結合	hPDGF-BB/ hPDGFR β - Fc 競爭	hPDGF-BB Tyr751 磷酸- 分析
hBDE-3C9.1	NT	0.217	1.053
hBDE-3C9.2	NT	0.260	0.882

NT - 未測試

實例 7：抗人類 VEGF-A 抗體 4G8 之親和力成熟

文庫設計及策略

製造兩條不同的 hBDB-4G8.3 親代序列：在 VL 開頭處一者具有「DT」且另一者具有「EI」。兩個親本皆測試為 scFv，且選擇「EI」作為文庫之模板。藉由摻雜引子製造兩個文庫：HC 及 LC。在文庫選擇及多樣性減少後，將多個文庫組合成一個重組文庫(rHC+LC)。將來自 3 個文庫中每一者之最終所選純系轉化至 IgG。

HC 文庫

- 在 76080808 處摻雜(X) 11 個殘基：30、31、33、53、56、58、95、96、100、100a 及 100c
- 共進化(1)：D61Q/D62G/K64T。文庫將含有 **DDFKG** 或 **QGFTG**

10⁹ 文庫將能夠使樣品突變體攜載至多 4 個摻雜殘基至少 4 次。

文庫成員將平均具有 5 個摻雜殘基。

LC 文庫

- 在 76080808 處摻雜(X) 10 個殘基：30、31、32、50、53、91-94 及 96

- 種系切換(Z)：E27Q、V58I 及 F87Y

- 共進化(1)：M33L/H34A。文庫將含有 HMHW 或 YLAW

10⁹ 文庫將能夠使樣品突變體攜載至多 4 個摻雜殘基至少 4 次。

文庫成員將平均具有 5 個摻雜殘基。

重組文庫

將 H1+H2 文庫與 H3 文庫重組成 HC 文庫。HC 文庫與 LC 文庫重組用於總重組文庫 rHC+LC。

對欲摻雜之殘基指定之密碼子

例如，若欲摻雜脯胺酸，則摻雜寡核苷酸將具有 C₍₅₋₈₅₋₅₋₅₎C₍₅₋₈₅₋₅₋₅₎S 密碼子而與抗體序列中之原始密碼子無關。該等密碼子係基於以下準則來選擇：增加非同義突變；在突變時增加更多胺基酸之覆蓋率；及使用高頻率密碼子以及避免 SSS 及 WWW 密碼子

摻雜順序為 A-C-G-T

A₍₇₀₋₁₀₋₁₀₋₁₀₎

C₍₁₀₋₇₀₋₁₀₋₁₀₎

G₍₁₀₋₁₀₋₇₀₋₁₀₎

T₍₁₀₋₁₀₋₁₀₋₇₀₎

丙胺酸(A)：

GCN

G₍₁₀₋₁₀₋₇₀₋₁₀₎C₍₁₀₋₇₀₋₁₀₋₁₀₎S

蘇胺酸(T)：

ACN

A₍₇₀₋₁₀₋₁₀₋₁₀₎C₍₁₀₋₇₀₋₁₀₋₁₀₎S

脯胺酸(P)：

CCN

C₍₁₀₋₇₀₋₁₀₋₁₀₎C₍₁₀₋₇₀₋₁₀₋₁₀₎S

絲胺酸(S)：

TCN

T₍₁₀₋₁₀₋₁₀₋₇₀₎C₍₁₀₋₇₀₋₁₀₋₁₀₎S

AGY

A₍₇₀₋₁₀₋₁₀₋₁₀₎G₍₁₀₋₁₀₋₇₀₋₁₀₎C₍₁₀₋₇₀₋₁₀₋₁₀₎

纈胺酸(V) :	
GTN	$G_{(10-10-70-10)}T_{(10-10-10-70)}S$
甘胺酸(G) :	
GGN	$G_{(10-10-70-10)}G_{(10-10-70-10)}S$
白胺酸(L) :	
CTN	$C_{(10-70-10-10)}T_{(10-10-10-70)}S$
TTR	$T_{(10-10-10-70)}T_{(10-10-10-70)}G_{(10-10-70-10)}$
精胺酸(R) :	
CGN	$C_{(10-70-10-10)}G_{(10-10-70-10)}S$
AGR	$A_{(70-10-10-10)}G_{(10-10-70-10)}G_{(10-10-70-10)}$
甲硫胺酸(M) :	
ATG	$A_{(70-10-10-10)}T_{(10-10-10-70)}G_{(10-10-70-10)}$
色胺酸(W) :	
TGG	$T_{(10-10-10-70)}G_{(10-10-70-10)}G_{(10-10-70-10)}$
苯丙胺酸(F) :	
TTY	$T_{(10-10-10-70)}T_{(10-10-10-70)}C_{(10-70-10-10)}$
異白胺酸(I) :	
50% ATY	$A_{(70-10-10-10)}T_{(10-10-10-70)}C_{(10-70-10-10)}$
50% ATA	$A_{(70-10-10-10)}T_{(10-10-10-70)}A_{(70-10-10-10)}$
酪胺酸(Y) :	
TAY	$T_{(10-10-10-70)}A_{(70-10-10-10)}C$
組胺酸(H) :	
CAY	$C_{(10-70-10-10)}A_{(70-10-10-10)}C_{(10-70-10-10)}$
麩醯胺酸(Q) :	
CAR	$C_{(10-70-10-10)}A_{(70-10-10-10)}G_{(10-10-70-10)}$
天冬醯胺(N) :	
AAV	$A_{(70-10-10-10)}A_{(70-10-10-10)}C_{(10-70-10-10)}$
離胺酸(K) :	
AAR	$A_{(70-10-10-10)}A_{(70-10-10-10)}G_{(10-10-70-10)}$
天冬胺酸(D) :	
GAY	$G_{(10-10-70-10)}A_{(70-10-10-10)}C_{(10-70-10-10)}$

純系	SEQ ID NO:	VH
CL-27669		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYCMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARRN YYYXCYIFYFDYWGQGMVTVSS
CL-27670		EVQLVQSGSELKKPGASVKVSCKASGYTFTTYDMYWVRQAPGQGLEWMGW INTVTGSPAYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTT YYYCSYTFYFDYWGQGMVTVSS
CL-27671		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTGTGXPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARXN YYYXSYXFYFDYWGQGMVTVSS
CL-27672		EVQLVQSGSELKKPGASVKVSCKASGYTF SKYGMYWVRQAPGQGLEWMGW INTYTGKPLYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYMGYRFYFDYWGQGMVTVSS
CL-27673		EVQLVQSGSELKKPGASVKVSCKASGYTFTPYGMYWVRQAPGQGLEWMGW INTETGVPSY AQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARSN YYYSYRFYFDYWGQGMVTVSS
CL-27674		EVQLVQSGSELKKPGASVKVSCKASGYTFINYVMYWVRQAPGQGLEWMGW INTATGXPSY AQGFTGRFVFLDTSVSTTYLQISSLKAEDTAVYYCARTT YYYRRYIFYFDYWGQGMVTVSS
CL-27675		EVQLVQSGSELKKPGASVKVSCKASGYTFTKYDMYWVRQAPGQGLEWMGW INTATGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTL YYYRRYIFYFDYWGQGMVTVSS
CL-27676		EVQLVQSGSELKKPGASVKVSCKASGYTFIKYGYWVRQAPGQGLEWMGW INTETGRPAYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARIR YYYGSYIFYFDYWGQGMVTVSS
CL-27677		EVQLVQSGSELKKPGASVKVSCKASGYTFKNYEMYWVRQAPGQGLEWMGW INTETGKPRYADDFKGRFVFLDTSVNTAYLQISSLKAEDTAVYYCARTN YYYSYVFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-27678		EVQLVQSGSELKKPGASVKV SCKASGYTFPLYSMYWVRQAPGQGLEWMGW INTHTGNPSYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYTFYFDYWGQGMVTVSS
CL-27679		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTATGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARMN YYYRSYIFYFDYWGQGMVTVSS
CL-27680		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYCMYWVRQAPGQGLEWMGW INTEGKPLYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARN YYYGGYIFYFDYWGQGMVTVSS
CL-27681		EVQLVQSGSELKKPGASVKV SCKASGYTFTXYGMYWVRQAPGQGLEWMGW INTQTGPPPYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTY YYYRWYIFYFDYWGQGMVTVSS
CL-27682		EVQLVQSGSELKKPGASVKV SCKASGYTFTIYEMYWVRQAPGQGLEWMGW INTEGTPPYAXDFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARXX YYYXSYIFYFDYWGQGMVTVSS
CL-27683		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYVMYWVRQAPGQGLEWMGW INTDTGNPAYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTT YYYRVYMFYFDYWGQGMVTVSS
CL-27685		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYCMYWVRQAPGQGLEWMGW INTATGNPSYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYASYIFYFDYWGQGMVTVSS
CL-27686		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYAMYWVRQAPGQGLEWMGW INTPTGMPNYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTS YYYSSYLFYFDYWGQGMVTVSS
CL-27687		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTDTGTPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTE YYYRSYIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-27688		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYEMYWVRQAPGQGLEWMGW INTATGKPSYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTI YYYVRYIFYFDYWGQGMVTVSS
CL-27689		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGTPSYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTV YYYRSYLFYFDYWGQGMVTVSS
CL-27690		EVQLVQSGSELKKPGASVKVSCKASGYTFATYGYWVGQAPGQGLEWMGW INTETGMPAYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARIR YYYGRYLFYFDYWGQGMVTVSS
CL-27691		EVQLVQSGSELKKPGASVKVSCKASGYTFSIYYMYWVRQAPGQGLEWMGW INTGTGTPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTS YYYRSYLFYFDYWGQGMVTVSS
CL-27692		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYAMYWVRQAPGQGLEWMGW INTQTGKPRYAQGFTRFVFLDTSVSTAYLQISSLKAEDTAVYYCARPQ YYYTSYIFYFDYWGQGMVTVSS
CL-27694		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTXTGXPTYAXDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARXX YYYRSYXFYFDYWGQGMVTVSS
CL-27695		EVQLVQSGSELKKPGASVKVSCKASGYTFTYYNMYWVRQAPGQGLEWMGW INTATGSPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARST YYYRSYIFYFDYWGQGMVTVSS
CL-27696		EVQLVQSGSELKKPGASVKVSCKASGYTFTKYGYWVRQAPGQGLEWMGW INTQTGKPRYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYWSYIFYFDYWGQGMVTVSS
CL-27697		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYPMYWVRQAPGQGLEWMGW INTETGXPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARXX YYYXRYIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-27699		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYDMYWVRQAPGQGLEWMGW INTATGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRSYLFYFDYWGQGMVTVSS
CL-27700		EVQLVQSGSELKKPGASVKVSCKASGYTFAHYGMYWVRQAPGQGLEWMGW INTETGNPDYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRCYIFYFDYWGQGMVTVSS
CL-27701		EVQLVQSGSELKKPGASVKVSCKASGYTFTIYGYWVRQAPGQGLEWMGW INTETGKPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRCYMFYFDYWGQGMVTVSS
CL-27702		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTVTGAPIYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYWGYRFYFDYWGQGMVTVSS
CL-27703		EVQLVQSGSELKKPGASVKVSCKASGYTFRSYVMYWVRQAPGQGLEWMGW INTDTGTPSYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARPY YYYRRYIFYFDYWGQGMVTVSS
CL-27704		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYCMYWVRQAPGQGLEWMGW INTKTGNPAYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARXI YYYRRYVLYFDYWGQGMVTVSS
CL-27705		EVQLVQSGSELKKPGASVKVSCKASGYTFANYSMYWVRQAPGQGLEWMGW INTETGKPKYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRRYSFYFDYWGQGMVTVSS
CL-27706		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYCMYWVRQAPGQGLEWMGW INTTTGKPNYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARSN YYYRRYLFYFDYWGQGMVTVSS
CL-27708		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTMTGKPNYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTD YYYRSYDFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-27709		EVQLVQSGSELKKPGASVKVSCKASGYTFPKYAMYWVRQAPGQGLEWMGW INTETGXPRYAHDFGTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRGIIFYFDYWGQGMVTVSS
CL-27710		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYVMYWVRQAPGQGLEWMGW INTETGTPMYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARRD YYYRRYVFYFDYWGQGMVTVSS
CL-27711		EVQLVQSGSELKKPGASVKVSCKASGYTFTKYDMYWVRQVPGQGLEWMGW VNTDTGKPPYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARSK YYYWTYVFYFDYWGQGMVTVSS
CL-27712		EVQLVQSGSELKKPGASVKVSCKASGYTFTYYDMYWVRQAPGQGLEWMGW INTXTGKPIYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTI YYYGRYSFYFDYWGQGMVTVSS
CL-27713		EVQLVQSGSELKKPGASVKVSCKASGYTFPFYVMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRRYIFYFDYWGQGMVTVSS
CL-27714		EVQLVQSGSELKKPGASVKVSCKASGYTFTTYSMYWVRQAPGQGLEWMGW INTKTGKPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTI YYMCMYVFYFDYWGQGMVTVSS
CL-27715		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGNPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARKH YYYGSYLFYFDYWGQGMVTVSS
CL-27716		EVQLVQSGSELKKPGASVKVSCKASGYTFPDYDMYWVRQAPGQGLEWMGW INTETGMPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRGIIFYFDYWGQGMVTVSS
CL-27717		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTDTGKPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTY YYYKKYIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-27718		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTGTGRPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTQ YYYRRIIFYFDYWGQGMVTVSS
CL-27719		EVQLVQSGSELKKPGASVKVSCKASGYTFPNYGMYWVRQAPGQGLEWMGW INTKTGKPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARKN YYYKSYVIFYFDYWGQGMVTVSS
CL-27721		EVQLVQSVSELKKPGASVKVSCKASGYTFTKYTMYWVRQAPGQGLEWMGW INTETGNPMYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRIYIFYFDYWGQGMVTVSS
CL-27722		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTATGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARSS YYYRNYIFYFDYWGQGMVTVSS
CL-27723		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTVTGKPDYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARQK YYYRSYFFIFYFDYWGQGMVTVSS
CL-27725		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYDMYWVRQAPGQGLEWMGW INTDTGKPAYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARPS YYYVXYIFYFDYWGQGMVTVSS
CL-27726		EVQLVQSGSELKKPGASVKVSCKASGYTFTLYXMYWVRQAPGQGLEWMGW INTATGKPTYAHDFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTX YYYRSYIFYFDYWGQGMVTVSS
CL-27727		EVQLVQSGSELKKPGASVKVSCKASGYTFTKYGMYWVRQAPGQGLEWMGW INTHTGNPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRCYIFYFDYWGQGMVTVSS
CL-27728		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGKPEYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARPN YYYRSYFFIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-27729		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGRPGYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARLW YYYWMIIFYFDYWGQGMVTVSS
CL-27730		EVQLVQSGSELKKPGASVKVSCKASGYTFTTYGMYWVRQAPGQGLEWMGW INTETGTPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARVY YYYGSYSFYFDYWGQGMVTVSS
CL-27731		EVQLVQSGSELKKPGASVKVSCKASGYTFVNYAMYWVRQAPGQGLEWMGW INTXTGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARKT YYYRGYIFYFDYWGQGMVTVSS
CL-27733		EVQLVQSGSELKKPGASVKVSCKASGYTFTHYMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARSK YYYRSYTFYFDYWGQGMVTVSS
CL-27734		EVQLVQSGSELKKPGASVKVSCKASGYTFLHYGMYWVRQAPGQGLEWMGW INTETGWPRYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTS YYYVSYIFYFDYWGQGMVTVSS
CL-27735		EVQLVQSGSELKKPGASVKVSCKASGYTFTIYGMYWVRQAPGQGLEWMGW INTATGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTX YYYRSYVFYFDYWGQGMVTVSS
CL-27736		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGNPIYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAH YYYRTYXFYFDYWGQGMVTVSS
CL-27737		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGNPIYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAH YYYRTYNFYFDYWGQGMVTVSS
CL-27738		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYWYWVRQAPGQGLEWMGW INTETGRPRYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARVY YYYRCYSFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-27739		EVQLVQSGSELKKPGASVKVSCKASGYTFTHYWYWVRQAPGQGLEWMGW INTETGTPSYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTT YYYRSYIFYFDYWGQGMVTVSS
CL-27741		EVQLVQSGSELKKPGASVKVSCKASGYTFTKYGMYWVRQAPGQGLEWMGW INTNTGKPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAY YYYWSYIFYFDYWGQGMVTVSS
CL-27742		EVQLVQSGSELKKPGASVKVSCKASGYTFTSYVMYWVRQAPGQGLEWMGW INTKTGMPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTT YYYMSYIFYFDYWGQGMVTVSS
CL-27744		EVQLVQSGSELKKPGASVKVSCKASGYTFTQYGYWVRQAPGQGLEWMGW INTETGKPKY AQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYWSYKIFYFDYWGQGMVTVSS
CL-27747		EVQLVQSGSELKKPGASVKVSCKASGYTFTSTYMMYWVRQAPGQGLEWMGW INTETGXPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARSN YYYRSYIFYFDYWGQGMVTVSS
CL-27750		EVQLVQSGSELKKPGASVKVSCKASGYTFMNYVMYWVRQAPGQGLEWMGW INTKTGMPRYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYMRYIFYFDYWGQGMVTVSS
CL-27751		EVQLVQSGSELKKPGASVKVSCKASGYTFTTYGMYWVRQAPGQGLEWMGW INTQTGEPPY AQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTG YYYWNYLFYFDYWGQGMVTVSS
CL-27752		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYRMYWVRQAPGQGLEWMGW INTETGKPPYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYMSYIFYFDYWGQGMVTVSS
CL-27753		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGSPRYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYVSYIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-27755		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGXPTYAHDFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARXN YYYXXYIFYFDYWGQGMVTVSS
CL-27756		EVQLVQSGSELKKPGASVKVSCKASGYTFTIYGMYWVRQAPGQGLEWMGW INTDTGRPIYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARI I YYYCSYIFYFDYWGQGMVTVSS
CL-27757		EVQLVQSGSELKKPGASVKVSCKASGYTFNNYGMYWVRQAPGQGLEWMGW INTETGKPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRYSYIFYFDYWGQGMVTVSS
CL-27758		EVQLVQSGSELKKPGASVKVSCKASGYTFSLYAMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRYSYNFYFDYWGQGMVTVSS
CL-27760		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRYSYIFYFDYWGQGMVTVSS
CL-27824		EVQLVQSGSELNXPASLKVSCKASGYTFXNYGXYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRYSYIFYFDYWGQGMVTVSS
CL-27833		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGIYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRYSYIFYFDYWGQGMVTVSS
CL-29884		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRLYMFYFDYWGQGMVTVSS
CL-29885		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYQSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29887		EVQLVQSGSELKKPGASVKVSCKASGYTFPNYGMWVRQAPGQGLEWMGW INTETGEPsyADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPsyMFYFDYWGQGMVTVSS
CL-29888		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPTYAQQFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYRtYMFYFDYWGQGMVTVSS
CL-29889		EVQLVQSGSELKKPGASVKVSCKASGYTFADYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARSN YYRtYMFYFDYWGQGMVTVSS
CL-29890		EVQLVQSGSELKKPGASVKVSCKASGYTFTTYGMWVRQAPGQGLEWMGW INTETGXPTYAXDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARRX YYXsYXFYFDYWGQGMVTVSS
CL-29891		EVQLVQSGSELKKPGASVKVSCKASGYTFPNYGMWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPsyMFYFDYWGQGMVTVSS
CL-29892		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMWVRQAPGQGLEWMGW INTETGQPTYAQQFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPsyMFYFDYWGQGMVTVSS
CL-29893		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARVN YYRNyMFYFDYWGQGMVTVSS
CL-29895		EVQLVQSGSELKKPGASVKVSCKASGYTFSdyGMWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARVN YYMsyMFYFDYWGQGMVTVSS
CL-29896		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPTYAQQFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRMymFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29897		EVQLVQSGSELKKPGASVKVSCKASGYTFLNYGMYWVRQAPGQGLEWMGW INTETGKPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTK YYYWRYIFYFDYWGQGMVTVSS
CL-29898		EVQLVQSGSELKKPGASVKVSCKASGYTFNDYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-29899		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARIN YYRSYMFYFDYWGQGMVTVSS
CL-29901		EVQLVQSGSELKKPGASVKVSCKASGYTFMNYGMYWVRQAPGQGLEWMGW IDTETGXXXAHDFTGRFVFSLDTSVSTAYLEISSLKAEDTAVYYCARXN YYYXXYMFYFDYWGQGMVTVSS
CL-29902		EVQLVQSGSELKKPGASVKVSCKASGYTFTSYGMYWVRQAPGQGLEWMGW INTETGQPMYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARRI YYRCYLFYFDYWGQGMVTVSS
CL-29904		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTDTGMPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYRSYMFYFDYWGQGMVTVSS
CL-29906		EVQLVQSGSELKKPGASVKVSCKASGYTFNNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRNMYMFYFDYWGQGMVTVSS
CL-29907		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPsyADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARSN YYRSYMFYFDYWGQGMVTVSS
CL-29908		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYKSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29909		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRSYMFYFDYWGQGMVTVSS
CL-29910		EVQLVQSGSELKKPGASVKVSCKASGYTFNYYGMYWVRQAPGQRLWWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYESYMFYFDYWGQGMVTVSS
CL-29912		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTDTGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-29913		EVQLVQSGSELKKPGASVKVSCKASGYTFTKYRMYWVRQAPGQGLEWMGW INTVTGPKPYADDFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARFK YYYGSYFFYFDYWGQGMVTVSS
CL-29914		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGQPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPSYMFYFDYWGQGMVTVSS
CL-29915		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRNYMFYFDYWGQGMVTVSS
CL-29916		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGDPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-29917		EVQLVQSGSELKKPGASVKVSCKASGYTFNYYGMYWVRQAPGQGLEWMGW IDTETGQPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPRYMFYFDYWGQGMVTVSS
CL-29918		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTDTGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYASYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29919		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYQSYMFFDYWGQGMVTVSS
CL-29921		EVQLVQSGSELKKPGASVKVSCKASGYTFSHYGMYWVRQAPGQGLEWMGW INTETGSPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPSYMFFDYWGQGMVTVSS
CL-29922		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTDTGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPSYMFFDYWGQGMVTVSS
CL-29924		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGNPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFFDYWGQGMVTVSS
CL-29925		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGEPTYAXGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFFDYWGQGMVTVSS
CL-29926		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARSN YYYTSYMFFDYWGQGMVTVSS
CL-29927		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGQPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRMYMFFDYWGQGMVTVSS
CL-29928		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGEPYYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPKYMFFDYWGQGMVTVSS
CL-29929		EVQLVQSGSELKKPGASVKVSCKASGYTFTHYWMYWVRQAPGQGLEWMGW INTETGKPAYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYIYYLFFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29931		EVQLVQSGSELKKPGASVKV SCKASGYTFFPNY GMYWVRQAPGQGLEWMGW INTGTGKPTYAQGFTGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRNYMFYFDYWGQGMVTVSS
CL-29932		EVQLVQSGSELKKPGASVKV SCKASGYTFFPY GMYWVRQAPGQGLEWMGW INTDTGXPPYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYTCYIFYFDYWGQGMVTVSS
CL-29934		EVQLVQSGSELKKPGASVKV SCKASGYTFTHY GMYWVRQAPGQGLEWMGW INTETGXPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYPRYMFYFDYWGQGMVTVSS
CL-29935		EVQLVQSGSELKKPGASVKV SCKASGYTFPDY GMYWVRQAPGQGLEWMGW IDTETGMPXYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRNYMFYFDYWGQGMVTVSS
CL-29936		EVQLVQSGSELKKPGASVKV SCKASGYTFTNY GMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-29937		EVQLVQSGSELKKPGASVKV SCKASGYTFTNY GMYWVRQAPGQGLEWMGW INTETGDPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARXN YYRXYMFYFDYWGQGMVTVSS
CL-29938		EVQLVQSGSELKKPGASVKV SCKASGYTFNKY DMYWVRQAPGQGLEWMGW INTKTGKPTYAQGFTGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTA YYRNYKSTLITGGQGMVTVSS
CL-29939		EVQLVQSGSELKKPGASVKV SCKASGYTFTNY GMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYKGYMFYFDYWGQGMVTVSS
CL-29940		EVQLVQSGSELKKPGASVKV SCKASGYTFTNY GMYWVRQAPGQGLEWMGW INTETGTPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTY YYRTYIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29941		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRGYMFYFDYWGQGMVTVSS
CL-29942		EVQLVQSGSELKKPGASVKVSCKASGYNFTKYEMYWVRQAPGQGLEWMGW INTETGNPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTK YYRSYVVFYFDYWGQGMVTVSS
CL-29943		EVQLVQSGSELKKPGASVKVSCKASGYTFPNYGYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYLSYMFYFDYWGQGMVTVSS
CL-29946		EVQLVQSGSELKKPGASVKVSCKASGYTFTHYGYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYPSYMFYFDYWGQGMVTVSS
CL-29947		EVQLVQSGSELKKPGASVKVSCKASGYFTDYGYWVRQAPGQGLEWMGW INTDTGDPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRTYMFYFDYWGQGMVTVSS
CL-29948		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGYWVRQAPGQGLEWMGW IDTETGTPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYPSYMFYFDYWGQGMVTVSS
CL-29949		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARVN YYRSYMFYFDYWGQGMVTVSS
CL-29950		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGYWVRQAPGQGLEWMGW IDTQTGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARSN YYYRLYMFYFDYWGQGMVTVSS
CL-29951		EVQLVQSGSELKKPGASVKVSCKASGYTFPDYGYWVRQAPGQGLEWMGW IDTETGQPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAD YYYPTYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29952		EVQLVQSGSELKKPGASVKV SCKASGYTFTHY GMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPTYMFYFDYWGQGMVTVSS
CL-29955		EVQLVQSGSELKKPGASVKV SCKASGYTFSNY GMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARSN YYYRSYMFYFDYWGQGMVTVSS
CL-29957		EVQLVQSGSELKKPGASVKV SCKASGYTFTNY GMYWVRQAPGQGLEWMGW INTVTGQPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTH YYYRTYLFYFDYWGQGMVTVSS
CL-29958		EVQLVQSGSELKKPGASVKV SCKASGYTFPNY GMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-29959		EVQLVQSGSELKKPGASVKV SCKASGYTFTNY GMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRGYMFYFDYWGQGMVTVSS
CL-29960		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYS MYWVRQAPGQGLEWMGW INTXTGKPIYAQGF TGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTK YYYRTYRFYFDYWGQGMVTVSS
CL-29961		EVQLVQSGSELKKPGASVKV SCKASGYTFSNY GMYWVRQAPGQGLEWMGW IDTETGTPVYADDFKGRFV FSLDTSVNTAYLQISSLKAEDTAVYYCARTN YYYKSYMFYFDYWGQGMVTVSS
CL-29962		EVQLVQSGSELKKPGASVKV SCKASGYTFSNY GMYWVRQAPGQGLEWMGW IDTETGEPTYADDF TGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARSN YYYSSYMFYFDYWGQGMVTVSS
CL-29963		EVQLVQSGSELKKPGASVKV SCKASGYTFSEY GMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFV FSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29966		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARVN YYRWYMFYFDYWGQGMVTVSS
CL-29967		EVQLVQSGSELKKPGASVKVSCKASGYTFPNYGMYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYPSYMFYFDYWGQGMVTVSS
CL-29968		EVQLVQSGSELKKPGASVKVSCKAYGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYEKYMFYFDYWGQGMVTVSS
CL-29969		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARSN YYRGYMFYFDYWGQGMVTVSS
CL-29970		EVQLVQSGSELKKPGASVKVSCKASGYTFMTYVMYWVRQAPGQGLEWMGW INTETGKPSYAHDFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARMX YYYXIYMFYFDYWGQGMVTVSS
CL-29971		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-29972		EVQLVQSGSELKKPGASVKVSCNASGXTFTNYGMYWVRQAPGQGLEWMGW INTETGKPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARIN YYRSYIFYFDYWGQGMVTVSS
CL-29973		EVQLVQSGSELKKPGASVKVSCKASGYTFNDYGMYWVRQAPGQGLEWMGW INTETGEPTYAXXFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYEGYMFYFDYWGQGMVTVSS
CL-29974		EVQLVQSGSELKKPGASVKVSCKASGYTFSYDYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29975		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYKSYMIFYFDYWGQGMVTVSS
CL-29976		EVQLVQSGSELRKPGASVKVSCKASGYTFNNYGYWVRQAPGQGLEWMGW IDTETGRPWYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYQGYMIFYFDYWGQGMVTVSS
CL-29980		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMHWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYIFYFDYWGQGMVTVSS
CL-30036		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSHIFYFDYWGQGMVTVSS
CL-30060		EVQLVQSGSELKKPGASVRVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYIFYFDYWGQGMVTVSS
CL-30075		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTXTGKPTYAXGFTGRFVFSLDTSVSTAYLQIXXLXAXDTAVYYCARXK YYYXSYIFYFDYWGQGMVTVSS
CL-30076		EVQLVQSGSELKKPGASVKVSCKASGYTFYNYCMYWVRQAPGQGLEWMGW INTETGIPKYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARIN YYYKRYIFYFDYWGQGMVTVSS
CL-30077		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTX YYYXRYXFYFDYWGQGMVTVSS
CL-30078		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYIFYFDYWGQGMVTVFS

純系	SEQ ID NO:	VH
CL-30079		EVQLVQSGSELKKPGASVKVSCKASGYTFIHYGMYWVRQAPGQGLEWMGW INTETGRPTYADDFKGRFVFLDTSVSTAYLQISSLKXEDTAVYYCARTV YYYPRYTFYFDYWGQGMVTVSS
CL-30082		EVQLVQSGSELKKPGASVKVSCKASGYTFMNYGMYWVRQAPGQGLEWMGW INTETGKPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPGYIFYFDYWGQGMVTVSS
CL-30083		EVQLVQSGSELKKPGASVKVSCKASGYTFTLYGMYWVRQAPGQGLEWMGW INTDTGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYXSYIFYFDYWGQGMVTVSS
CL-30084		EVQLVQSGSELKKPGASVKVSCKASGYTFNKYGYWVRQAPGQGLEWMGW INTETGKPSY AQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAK YYYRSYIFYFDYWGQGMVTVSS
CL-30086		EVQLVQSGSELKKPGASVKVSCKASGYTFLNYGMYWVRQAPGQGLEWMGW INTETGRPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRIYRFYFDYWGQGMVTVSS
CL-30087		EVQLVQSGSELKKPGASVKVSCKASGYTFYNYGMYWVRQAPGQGLEWMGW INTATGKPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARXK YYYXSYIFYFDYWGQGMVTVSS
CL-30091		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYDMYWVRQAPGQGLEWMGW INTVTGLPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTI YYYKSYIFYFDYWGQGMVTVSS
CL-30092		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTGTGIPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTS YYYRNYLFYFDYWGQGMVTVSS
CL-30093		EVQLVQSGSELKKPGASVKVSCKASGYTFTKYGYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTT YYYRRYIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30096		EVQLVQSGSELKKPGASVKVSCKASGYTFTTYAMYWVRQAPGQGLEWMGW INTETGKPRYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRSYIFYFDYWGQGMVTVSS
CL-30097		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQIXLKTEDTAVYYCARSN YYYRGYIFYFDYWGQGMVTVSS
CL-30103		EVQLVQSGSELKKPGASVKVSCKASGYTFAIYRMYWVRQAPGQGLEWMGW INTDTGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARSK YYYGfymfyFDYWGQGMVTVSS
CL-30107		EVQLVQSGSELKKPGASVKVSCKASGYTFMNYGMYWVRQAPGQGLEWMGW INTETGRPvYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYLRYVfyFDYWGQGMVTVSS
CL-30108		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTGTGMPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARNK YYYRSYMFYFDYWGQGMVTVSS
CL-30110		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYDMYWVRQAPGQGLEWMGW INTETGKPPYADGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYIFYFDYWGQGMVTVSS
CL-30113		EVQLVQSGSELKKPGASVKVSCKASGYTFTSYGMYWVRQAPGQGLEWMGW INTETGIPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARWD YYYTSYKfyFDYWGQGMVTVSS
CL-30114		EVQLVQSGSELKKPGASVKVSCKASGYTFTIYGMYWVRQAPGQGLEWMGW INTVTGNPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTE YYYMNYIFYFDYWGQGMVTVSS
CL-30116		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYDMYWVRQAPGQGLEWMGW INTGTGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYSRydfyFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30119		EVQLVQSGSELKKPGASVKVSCKASGYTFTKYGMYWVRQAPGQGLEWMGW INTQTGKPAYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAI YYYRIYIFYFDYWGQGMVTVSS
CL-30124		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYAMYWVRQAPGQGLEWMGW INTQTGEPHYAQGFTGXFVFSLDTSASTEYLXISILXDXTAVYYCARXT YYYXNYIFYFDYWGXGMVTVSS
CL-30127		EVQLVQSGSELKKPGASVKVSCKASGYTFTTYGMYWVRQAPGQGLEWMGW INTETGRPTYADDFNGWFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRIYIFYFDYWGQGMVTVSS
CL-30128		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYIFYFDYWGQGMVTVSS
CL-30129		EVQLVQSGSELKKPGASVKVSCKASGYTFNNYGMYWVRQAPGQGLEWMGW INTGTGKPTYAQGFTGRFVFSLDTSVSTAYLQIXSLKAEDTAVYYCARPI YYYIRYIFYFDYWGQGMVTVSS
CL-30130		EVQLVQSGSELKKPGASVKVSCKASGYTFADYPMYWVRQAPGQGLEWMGW INTXTGQPLYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTS YYYSYIFYFDYWGQGMVTVSS
CL-30135		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAXDTAVYYCARTN YYYSYIFYFDYWGQGMVTVSS
CL-30136		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYSMYWVRQAPGQGLEWMGW INTETGKPRYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTS YYYSYIFYFDYWGQGMVTVSS
CL-30138		EVQLVQSGSELKKPGASVKVSCKASGYTFTTYWYWVRQAPGQGLEWMGW INTETGEPHYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTE YYYKSYNFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30140		EVQLVQSGSELKKPGASVKVSCKASGYTFTAYGMYWVRQAPGQGLEWMGW INTETGMPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTK YYYSYMFYFDYWGQGMVTVSS
CL-30141		EVQLVQSGSELKKPGASVKVSCKASGYTFHNYGMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTS YYYSYFFYFDYWGQGMVTVSS
CL-30142		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYVMYWVRQAPGQGLEWMGW INTETGNPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARLI YYYXTYIFYFDYWGQGMVTVSS
CL-30145		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYAMYWVRQAPGQGLEWMGW INTETGKPPYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTL YYYRTYIFYFDYWGQGMVTVSS
CL-30147		EVQLVQSGSELKKPGASVKVSCKASGYTFTHYCMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRRYIFYFDYWGQGMVTVXS
CL-30148		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGQPSYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRCYIFYFDYWGQGMVTVSS
CL-30151		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGKPNYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARPN YYYSYIFYFDYWGQGMVTVSS
CL-30154		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYAMYWVRQAPGQGLEWMGW INTETGNPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYGIYLFYFDYWGQGMVTVSS
CL-30156		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYDMYWVRQAPGQGLEWMGW INTVTGRPAYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARIT YYYRMYRFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30159		EVQLVQSGSELKKPGASVKVSCKASGYTFIDYLMYWVRQAPGQGLEWMGW INTVTGKPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTH YYYSYAFYFDYWGQGMVTVSS
CL-30161		EVQLVQSGSELKKPGASVKVSCKASGYTFAKYEMYWVRQAPGQGLEWMGW INTETGNPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRDYTFYFDYWGQGMVTVSS
CL-30162		EVQLVQSGSELKKPGASVKVSCKASGYTFTTYRMYWVRQAPGQGLEWMGW INTVTGRPSY AQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARNI YYRSYIFYFDYWGQGMVTVSS
CL-30164		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYIFYFDYWGQGMVTVSS
CL-30165		EVQLVQSGSELKKPGASVKVSCKASGYTFRNYVMYWVRQAPGQGLEWMGW INTQTGEP SYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYGIIYIFYFDYWGQGMVTVSS
CL-30166		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLQAEDTAVYYCARTN YYRSYIFYFDYWGQGMVTVSS
CL-30168		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGMPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARSN YYRGIYIFYFDYWGQGMVTVSS
CL-30169		EVQLVQSGSELKKPGASVKVSCKASGYTFLGYSMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARKF YYYESYIFYFDYWGQGMVTVSS
CL-30170		EVQLVQSGSELKKPGASVKVSCKASGYTFTYYCMYWVRQAPGQGLEWMGW INTHTGKPMYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARKK YYRSYIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30593		EVQLVQSGSELKKPGASVKVSCKASGYTFSYDYGMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGQGMVTVSS
CL-30594		EVQLVQSGSELKKPGASVKVSCKASGYTFMNYGMYWVRQAPGQGLEWMGW INTETGKPMYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTI YYYPRYIFYFDYWGQGMVTVSS
CL-30595		EVQLVQSGSELKKPGASVKVSCKASGYTFAMYKMYWVRQAPGQGLEWMGW INTQTGGPSYAQGFTRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTK YYYWRYVIFYFDYWGQGMVTVSS
CL-30597		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGQPMYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPSYMFYFDYWGQGMVTVSS
CL-30599		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGNPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARSN YYYSSYMFYFDYWGQGMVTVSS
CL-30600		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTATGQPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYMYLIFYFDYWGQGMVTVSS
CL-30602		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRLYMFYFDYWGQGMVTVSS
CL-30604		EVQLVQSGSELKKPGASVKVSCKASGYTFPNYGMYWVRQAPGQGLEWMGW INTWTGKPTYAXDFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPSYMFYFDYWGQGMVTVSS
CL-30605		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRTYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30606		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYRMYWVRQAPGQGLEWMGW INTETGKPTYAQQFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-30608		EVQLVQSGSELKKPGASVKV SCKASGYTFTTYDMYWVRQAPGQGLEWMGW INTVTGXPTYAXXFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCAR SX YYYSYIFYFDYWGQGMVTVSS
CL-30609		EVQLVQSGSELKKPGASVKV SCKASGYTFNNYGMYWVRQAPGQGLEWMGW INTETGKPRYAQQFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTD YYYRRYTFYFDYWGQGMVTVSS
CL-30611		EVQLVQSGSELKKPGASVKV SCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTYTGIPSYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARVN YYYSTYIFYFDYWGQGMVTVSS
CL-30613		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYGIYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCAR SN YYYRGYMFYFDYWGQGMVTVSS
CL-30614		EVQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCAR SN YYYSYMFYFDYWGQGMVTVSS
CL-30615		EVQLVQSGSELKKPGASVKV SCKASGYTFNNYGMYWVRQAPGQGLEWMGW INTDTGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARVN YYYSYMFYFDYWGQGMVTVSS
CL-30616		EVQLVQSGSELKKPGASVKV SCKASGYTFTTYGMYWVRQAPGQGLEWMGW INTLTGAPMYAQQFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYIFYFDYWGQGMVTVSS
CL-30617		EVQLVQSGSELKKPGASVKV SCKASGYTFKNYSMYWVRQAPGQGLEWMGW INTDTGMPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRFRYIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30618		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARVN YYYRSYMFYFDYWGQGMVTVSS
CL-30619		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRSYMFYFDYWGQGMVTVSS
CL-30620		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRGYMFYFDYWGQGMVTVSS
CL-30623		EVQLVQSGSELKKPGASVKVSCKASGYTFANYGMYWVRQAPGQGLEWMGW INTETGQPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYQSYMFYFDYWGQGMVTVSS
CL-30624		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTDTGTPAYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYTRYNFYFDYWGQGMVTVSS
CL-30626		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-30628		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRSYMFYFDYWGQGMVTVSS
CL-30629		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYDMYWVRQAPGQGLEWMGW INTETGNPTYAXXFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARXN YYYSSYIFYFDYWGQGMVTVSS
CL-30630		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARSN YYYRTYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30631		EVQLVQSGSELKKPGASVKVSKKASGYTFNNYGMYWVRQAPGQGLEWMGW INTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP SYMFYFDYWGQGMVTVSS
CL-30632		EVQLVQSGSELKKPGASVKVSKKASGYTFDYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP SYMFYFDYWGQGMVTVSS
CL-30634		EVQLVQSGSELKKPGASVKVSKKASGYTFYYGMYWVRQAPGQGLEWMGW INTETGKPSYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTI YYT TYIFDYWGQGMVTVSS
CL-30635		EVQLVQSGSELKKPGASVKVSKKASGYTFPNYGMYWVRQAPGQGLEWMGW IDTETGEPIYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARIN YYYP NYMFYFDYWGQGMVTVSS
CL-30636		EVQLVQSGSELKKPGASVKVSKKTSGYTFNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYR GYMFYFDYWGQGMVTVSS
CL-30637		EVQLVQSGSELKKPGASVKVSKKASGYTFNYGMYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP SYMFYFDYWGQGMVTVSS
CL-30638		EVQLVQSGSELKKPGASVKVSKKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGNPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYR SYMFYFDYWGQGMVTVSS
CL-30639		EVQLVQSGSELKKPGASVKVSKKASGYTFDYGMYWVRQAPGQGLEWMGW IDTETGTPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYR SYMFYFDYWGQGMVTVSS
CL-30640		EVQLVQSGSELKKPGASVKVSKKASGYTFSSYGMYWVRQAPGQGLEWMGW IDTETGEPKYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP SYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30642		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARYN YYYRIYLFYFDYWGQGMVTVSS
CL-30643		EVQLVQSGSELKKPGASVKVSCKASGYTFPYYSMYWVRQAPGQGLEWMGW INTDTGTPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTT YYYWSYIFYFDYWGQGMVTVSS
CL-30644		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGDPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYPSYMFYFDYWGQGMVTVSS
CL-30645		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTXTGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTS YYYRCYIFYFDYWGQGMVTVSS
CL-30647		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGQPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-30649		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTDTGKPTYAXDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYTGYMFYFDYWGQGMVTVSS
CL-30651		EVQLVQSGSELEKPGASVKVSCKASGYTFPNYGMYWVRQAPGQGLEWMGW IDTDTGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRSYMFYFDYWGQGMVTVSS
CL-30653		EVQLVQSGSELKKPGASVKVSCKASGYTFNNYGMYWVRQAPGQGLEWMGW IDTETGDPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYLSYMFYFDYWGQGMVTVSS
CL-30654		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYIFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30655		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGEP SYA QGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPSYMFYFDYWGQGMVTVSS
CL-30657		EVQLVQSGSELKKPGASVKVSCKASGYTFANYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYKSYMFYFDYWGQGMVTVSS
CL-30658		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTDTGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-30659		EVQLVQSGSELKKPGASVKVSCKASGYTFPYYGMYWVRQAPGQGLEWMGW INTETGEPTYADDFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYRMYMFYFDYWGQGMVTVSS
CL-30660		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRGYMFYFDYWGQGMVTVSS
CL-30662		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW INTETGSPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARI I YYYSYLFYFDYWGQGMVTVSS
CL-30663		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW INTETGDPTYAQGFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPSYMFYFDYWGQGMVTVSS
CL-30664		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYSGYMFYFDYWGQGMVTVSS
CL-30665		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30666		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP SYMFYFDYWGQGMVTVSS
CL-30669		EVQLVQSGSELKKPGASVKVSCKASGYTFTKYAMYWVRQAPGQGLEWMGW INTYTGVPPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARGH YYMMYIFYFDYWGQGMVTVSS
CL-30670		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARYK YYRSYKIFYFDYWGQGMVTVSS
CL-30671		EVQLVQSGSELKKPGASVKVSCKASGYTFPDYGYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYR GYMFYFDYWGQGMVTVSS
CL-30674		EVQLVQSGSELKKPGASVKVSCKASGYTFSHYGYWVRQAPGQGLEWMGW INTETGDPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP SYMFYFDYWGQGMVTVSS
CL-30675		EVQLVQSGSELKKPGASVKVSCKASGYTFPNYGYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-30676		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGYPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYR TYMFYFDYWGQGMVTVSS
CL-30677		EVQLVQSGSELKKPGASVKVSCKASGYTFNNGMYWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYR TYMFYFDYWGQGMVTVSS
CL-30678		EVQLVQSGSELKKPGASVKVSCKASGYTFSHYGYWVRQAPGQGLEWMGW INTETGEPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYRSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-30679		EVQLVQSGSELKKPGASVKVSCKASGYTFTSYRMYWVRQAPGQGLEWMRW INTETGWPTYAQQFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTS YYRNYMFYFDYWGQGMVTVSS
CL-30682		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMWVRQAPGQGLEWMGW INTETGNPMYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYPSYMFYFDYWGQGMVTVSS
CL-30684		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRNYMFYFDYWGQGMVTVSS
CL-30685		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMWVRQAPGQGLEWMGW INTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCVRTN YYRTYMFYFDYWGQGMVTVSS
CL-32447		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMWXRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-32466		EVQLVQSGSELKKPGASVKVSCKASGYTFHDYGMWVRQAPGQGLEWMGW IDTETGTPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-32470		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMWVRQAPGQGLEWMGW IDTETGXPTYAXXFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-32507		EVQLVQSGSELKKPGASVKVSCKASGYTFNDYGMWVRQAPGQGLEWMGW IDTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-34445		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMWVRQAPGQGLEWMGW INTETGEPTYADDFXGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-34457		EVQLVQSGSELKKPGASVKVSCASGYTFTDYGMWVRQAPGQGLEWMGW IDTETGEPTYAHDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARXN YYYRSYMFYFDYWGGQTMVTVSS
CL-34458		EVQLVQSGSELKKPGAPVKVSCASGYTFTDYGMWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGGQTMVTVSS
CL-34465		EVQLVQSGSELKKPGASVKVSCASGYTFPDYGMWVRQAPGQGLEWMGW IDTETGQPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRTYMFYFDYWGGQTMVTVSS
CL-34466		EVQLVQSGSELKKPGASVKVSCASGYTFTDYGMWVRQAPGQGLEWMGW IDTETGEPIYAQGFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYNSYMFYFDYWGGQTMVTVSS
CL-34468		EVQLVQSGSELKKPGASVKVSCASGYTFTDYGMWVRQAPGQGLEWMGW IDTETGEPRYAQGFGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPSYMFYFDYWGGQTMVTVSS
CL-34478		EVQLVQSGSELKKPGASVKVSCASGYTFPHYGMWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGGQTMVTVSS
CL-34480		EVQLVQSGSELKKPGASVKVSCASGYTFEDYGMWVRQAPGQGLEWMGW INTETGEPTYAQGFGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRNYMFYFDYWGGQTMVTVSS
CL-34482		EVQLVQSGSELKKPGASVKVSCASGYTFTNYGMWVRQAPGQGLEWMGW IDTETGEPTYAQGFGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRTYMFYFDYWGGQTMVTVSS
CL-34488		EVQLVQSGSELKKPGASVKVSCASGYTFDDYGMWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGGQTMVTVSS

純系	SEQ ID NO:	VH
CL-34490		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGTPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGQGMVTVSS
CL-34493		EVQLVQSGSELKKPGASVKVSCKASGYTFGDYGMYWVRQAPGQGLEWMGW IDTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARVN YYRNMYMFYFDYWGQGMVTVSS
CL-34495		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGQPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYKSYMFYFDYWGQGMVTVSS
CL-34496		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRGYMFYFDYWGQGMVTVSS
CL-34499		EVQLVQSGSELKKPGASVKVSCKASGYTFSDYGMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-34502		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-34503		EVQLVQSGSELKKPGASVKVSCKASGYTFSYGMYWVRQAPGQGLEWMGW IDTETGTPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYKSYMFYFDYWGQGMVTVSS
CL-34505		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGQPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYPSYMFYFDYWGQGMVTVSS
CL-34510		EVQLVQSGSELKKPGASVKVSCKASGYTFSHYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYMSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-34512		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTDTGTPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPKYMFIYFDYWGQGMVTVSS
CL-34527		EVQLVQSGSELKKPGASVKVSCKASGYTFANYGMYWVRQAPGQGLEWMGW IDTETGTPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGQGMVTVSS
CL-34528		EVHLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGQGMVTVSS
CL-34529		EVQLVQSGSELNKPASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPYADDFKGRFVFSLDTSVSTAYXQISSLKAEDXAVYXCARTN YYYSSYMFYFDYWGQGTXTVTVSS
CL-34534		EVQLVQSGSELKKPGASVKVSCKASGYTFNDYGMYWVRQAPGQGLEWMGW IDTETGNPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYSYMFYFDYWGQGMVTVSS
CL-34539		EVQLVPSGSHFNNPGASXKVSASGYTFSYDYGMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFSLDTSVXXAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGQGMVTVSS
CL-34548		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP SYMFYFDYWGQGMVTVSS
CL-34562		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGKPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRTYMFYFDYWGQGMVTVSS
CL-34568		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGQPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-34577		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGTPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYESYMFYFDYWGQGMVTVSS
CL-34582		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP SYMFYFDYWGQGMVTVSS
CL-34586		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYAXXFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-34590		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-34592		EVQLVQSGSELKKPGASVKVSCKASGYTFNDYGMYWVRQAPGQGLEWMGW IDTETGTPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-34595		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYR TYMFYFDYWGQGMVTVSS
CL-34596		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYR NYMFYFDYWGQGMVTVSS
CL-34597		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-34599		EVQLVQSGSELKKPGASVKVSCKASGYTFSYDYGMYWVRQAPGQGLEWMGW IDTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP SYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-34600		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISNLKAEDTAVYYCARTN YYYSYMFYFDYWGGQTMVTVSS
CL-34617		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPRYMFYFDYWGGQTMVTVSS
CL-40631		EVQLVQSGSELKKPGASVKVSCXASGYTFSYDGMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYSYMFYFDYWGGQTMVTVSS
CL-40642		RVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGGQTMVTVSS
CL-40646		EVQLVQSGSELKKPGASVKVSCXASGYTFSYDGMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYSYMFYFDYWGGQTMVTVSS
CL-40665		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPSYMFYFDYWGGQTMVTSLQ
CL-40668		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKVEDTAVYYCARTN YYYSYMFYFDYWGGQTMVTVSS
CL-40671		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGTPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGGQTMVTVSS
CL-40687		ASAAVQSGSELKKPGASVKVSCKASGYTFENYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGGQTMVTVSS

純系	SEQ ID NO:	VH
CL-40688		EVQLVQSGSELKKPGASVKVSCKASGYTFENYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-40694		EVQLVQSGSELKKPGASVKVSCKASGYTFENYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLGTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-40708		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-40716		EVQLVQSGSELKKPGASVKVSCKASGYTFSDYGMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARAN YYYSYMFYFDYWGQGMVTVSS
CL-40717		EVQLVQSGSELKKPGASVKVSCKASGYTFDDYGMYWVRQAPGQGLEWMGW IDTETGTPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-40721		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYAQGFTGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYPYMFYFDYWGQGMVTVSS
CL-40722		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGQGMVTVSS
CL-40723		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGQGMVTVSS
CL-40736		EVQLVQSGSELKKPGASVKVSCKASGYTFTHYGMXXVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-40740		EVQLVQSGSELKKPGASVKVSCKASGYTFS SDY GMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP S YMFYFDYWGQGMVTVSS
CL-40741		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGP EW MGW IDTETGNPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYP S YMFYFDYWGQGMVTVSS
CL-40742		EVQLVQSGSELKKPGASVKVSCKASGYTFTHYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAENTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-40745		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-40746		EVQLVQSGSXLKXPGXSXKVSXVSGYTFQNYGMYCVRPAPGQWLXWMGW IDXXTGEPTYAYDFKGWFLFSLHTSVSMSSLQNXSLKXDDTAVYYCAKTN YYYN S YMFYFDYWGQGTXXTVSS
CL-40747		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGQPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRNYMFYFDYWGQGMVTVSS
CL-40753		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGDPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRNYMFYFDYWGQGMVTVSS
CL-40758		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYAQGFTGRFVFSLDTSVSTAYLQISSLKAEDTAVHYCARTN YYYRSYMFYFDYWGQGMVTVSS
CL-40760		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-40763		EVQLVQSGSELKKPGASVKVSCKASGYTFTHYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-40764		EVQLVQSGSELKKPGASVKVSCKASGYTFDYGMYWVRQAPGQGLEWMGW IDTETGNPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYPSYMFYFDYWGQGMVTVSS
CL-40765		EVQLVQSGSELKKPGASVKVSCKASGYTFDYGMYWVRQAPGQGLEWMGW IDTETGQPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-40766		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEGTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-40768		EVQLVQSGSELKKPGASVKVSCKASGYTFSNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS
CL-40770		EVQLVQSGSELKKPGASVKVSCKASGYTFTHYGMYWVRRAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-40774		EVQLVQSGSELKKPGASVKVSCKASGYTFSYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKVEDTAVYYCARTN YYRSYMFYFDYWGQGMVTVSS
CL-40779		EVQLVQSGSELKKPGASVKVSCKASGYTFDYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYPSYMFYFDYWGQGMVTVSS
CL-40780		EVQLVQSGSELEKPGASVKVSCKASGYTFDYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRGYMFYFDYWGQGMVTVSLQ

純系	SEQ ID NO:	VH
CL-40788		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDAETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRGYMFYFDYWGQGMVTVSS
CL-40790		EGHLGQSGSELKNPGASVKVSCXASGYTFXNYGMYWVRQAPGQGLEWMGW IDTETGEPTYAXDFKGRFVFLDTSVSTAYLQIXSLRAEDTAVYYCEXTN YYYSRYMFYFXYWGQGMVTVSS
CL-40791		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGX IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYKSYMFFYFDYWGQGMVTVSS
CL-40793		EVQLVQSGSELKKPGASVKVSCKASGYTFSYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYMFYFDYWGQGMVTVFS
CL-40795		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRGYMLYFDYWGQGMVTVSS
CL-40796		EVQLVQSGSELKKPGASVKVSCKASGYTFPNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYKSYMFFYFDYWGQGMVTVSS
CL-40800		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRRAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRGYMFYFDYWGQGMVTVSS
CL-40801		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYKSYMFFYFDYWGQGMVTVSS
CL-40805		EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYSSYMFYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-40806		EVQLVQSGSELKKPGASVKV SCKASGYTFTDY GMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFV FLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYR GYMFYFDYWGQ TMVTVSS
CL-40811		EVQLVQSGSELKKPGASVKV SCKASGYTFPNY GMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFV FLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYR SYMFYFDYWGQ TMVTVSS
CL-40812		EVQLVQSGSELKKPGASVKV SCKASGYTFTDY GMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFV FLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYX SYMFYFDYWGQ TMVTVSS
CL-40815		EVQLVQSGSELKKPGASVKV SCKASGYTFTNY GMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFV FLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYK SYMFYFDYWGQ TMVTVSS
CL-40816		EVQLVQSGSELKKPGASVKV SCKASGYTFTDY GMYWVRQAPGQGLEWMGW IDTETGEPTYADDFK Q FV FLDTSVSTAYLQISSLKAEDTAVYYCARTN YYY P SYM FYFDYWGQ TMVTVSS
CL-40817		EVQLVQSGSELKKPGASVKV SCKASGYTFTDY GMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFV FLDTSVSTAYLQISSLKAEDTAVYYCARTN YYY P SH MFYFDYWGQ TMVTVSS
CL-40819		EVQLVQSGSELKKPGASVKV SCKASGYTFS DYGMYWVRQAPGQGLEWMGW IDTETGEPTYADDFKGRFV FLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYR SYMFYFDYWGQ TMVTVSS

親和力成熟之 h4G8.3 VL 變體之胺基酸序列之列表

表 39 提供源自 hBDB-4G8.3 之親和力成熟之人類化 VEGF 抗體之獨特功能性 VL 區的胺基酸序列之列表。每一 VL 序列之個別 CDR 之胺基酸殘基以粗體指示。

表 39. 親和力成熟之 H4g8.3 VL 變體之胺基酸序列之列表

純系	SEQ ID NO:	VL
CL-27686		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG XAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGQGTKLEIK
CL-27698		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSRSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGQGTKLEIK
CL-27717		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGQGAKLEIK
CL-27741		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGLGTKLEIK
CL-27758		EIVLTQFPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGQGTKLEIK
CL-27762		EIVLTQSPATLSLSPGERATLSCRASQSVTPHMHWYQQKPG QAPRLLIYGASTLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSCNDPFTFGQGTKLEIK
CL-27763		EIVLTQSPATLSLSPGERATLSGRASESVDKYMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSRNDPLTFGQGTKLEIK
CL-27764		EIVLTQSPATLSLSPGERATLSCRASQSVKTDHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSRNEPFTFGQGTKLEIK
CL-27765		EIVLTQSPATLSLSPGERATLSCRASQSVSTHLAWYQQKPG QAPRLLIYRASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQNWNDPLTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-27766		EIVLTQSPATLSLSPGERATLSCRASQSVRTHMHWYQQKPG QAPRLLIYGASALESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQGCNXPFTFGQGTKLEIK
CL-27767		EIVLTQSPATLSLSPGERATLSCRASQSVRTHMHWYQQKPG QAPRLLIYEASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSCNDPFTFGQGTKLEIK
CL-27768		EIVLTQSPATLSLSPGERATLSCRASQSVSTDMHWYQQKPG QAPRLLIYGASKLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGQGTKLEIK
CL-27770		EIVLTQSPATLSLSPGERATLSCRASQSVSPHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTSNEPFTFGQGTKLEIK
CL-27771		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASDLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSXIDPVTFTFGQGTKLEIK
CL-27772		EIVLTQSPATPSLSPGERATLSCRASESVNAHMHWYQQKPG QAPRLLIYDASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWSDPFTFGQGTKLEIK
CL-27773		EIVLTQSPATLSLSPGERATLSCRASESVRTLAWYQQKPG QAPRLLIYSASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSRTEPFTFGQGTKLEIK
CL-27774		EIVLTQSPATLSLSPGERATLSCRASQSVSTPMHWYQQKPG QAPRLLIYSASNLESGIPARFSDSGSGTDFTLTISSLEPED FAVYYCQQFWDDPYTFTFGQGTKLEIK
CL-27775		EIVLTQSPATLSLSPGERATLSCRASESVITHLAWYQQKPG QAPRLLIYSASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQCCIDPFTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-27776		EIVLTQSPATLSLSPGERATLSCRASQSVRSQLAWYQQKPG QAPRLLIYVASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSXNDPFTFGQGTKLEIK
CL-27779		EIVLTQSPATLSLSPGERATLSCRASESVRTHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWIDPFTFGQGTKLEIK
CL-27780		EIVLTQSPATLSLSPGERATLSCRASESVSIHLAWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPFTFGQGTKLEIK
CL-27781		EIVLTQSPATLSLSPGERATLSCRASQSVSTPMHWYQQKPG QAPRLLIYGASYLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNEPYTFGQGTKLEIK
CL-27782		EIVLTQSPATLSLSPGERATLSCRASESVSAHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWIYPFTFGQGTKLEIK
CL-27783		EIVLTQSPATLSLSPGERATLSCRASQSVRTHMHWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGIDFTLTISSLEPED FAVYYCQQSXRYPFTFGQGTKLEIK
CL-27784		EIVLTQSPATLSLSPGERATLSCRASQSVRTHMHWYQQKPG QAPRLLIYRASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQRSNEPFTFGQGTKLEIK
CL-27785		EIVLTQSPATLSLSPGERATLSCRASQSVRSHMHWYQQKPG QAPRLLIYGASGLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQRWNEPSTFGQGTKLEIK
CL-27786		EIVLTQSPATLSLSPGERATLSCRASQSVRFMHWYQQKPG QAPRLLIYGASPLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSRRHPFTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-27787		EIVLTQSPATLSLSPGERATLSCRASQSVSIQMHWYQQKPG QAPRLLIYGASKLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQQWNVPFTFGQGTKLEIK
CL-27788		EIVLTQSPATLSLSPGERATLSCRASQSVSTPMHWYQQKPG QAPRLLIYRASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQGGNDPYTFGQGTKLEIK
CL-27790		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYWASDLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQCWNGPLTFGQGTKLEIK
CL-27791		EIVLTQSPATLSLSPGERATFSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGCGTDFTLTISSLEPED FAVYXCQQSGNDPFTFGQGTKLEIK
CL-27792		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYRASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQGGNVPCTFGQGTKLEIK
CL-27794		EIVLTQSPATLSLSPGERATLSCRASESVSWMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQIRADPFTFGQGTKLEIK
CL-27795		EIVLTQSPATLSLSPGERATLSCRASESVCAHMHWYQQKPG QAPRLLIYWASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSGLDPVTFGQGTKLEIK
CL-27796		EIVLTQSPATLSLSPGERATLSCRASESVSTQMHWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSGNNPFTFGQGTKLEIK
CL-27797		EIVLTQSPATLSLSPGERATLSCRASQSVSTLMHWYQQKPG QAPRLLIYRASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQGWNKPFTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-27798		EIVLTQSPATLSLSPGERATLSCRASQSVTTHLAWYQQKPG QAPRLLIYWASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSSKNPFTFGQGTKLEIK
CL-27799		EIVLTQSPATLSLSPGERATLSCRASESVSXHMHWYQQKPG QAPRLLIYWASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGQGTKLEIK
CL-27800		EIVLTQSPATLSLSPGERATLSCRASQSVSSHAWYQQKPG QAPRLLIYGASKLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSSRDPFTFGQGTKLEIK
CL-27801		EIVLTQSPATLSLSPGERATLSCRASQSVTTNMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQRWNDPFTFGQGTKLEIK
CL-27802		EIVLTQSPATLSLSPGERATLSCRASQSVSTHLAWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQKSNXPFTFGQGTKLEIK
CL-27803		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYRASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWKDPYTFGQGTKLEIK
CL-27805		EIVLTQSPATLSLSPGERATLSCRASQSVSAHLAWYQQKPG QAPRLLIYEASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNVPFTFGQGTKLEIK
CL-27806		EIVLTQSPATLSLSPGERATLSCRASESVLILMHYQQKPG QAPRLLIYEASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSSNDPFTFGQGTKLEIK
CL-27807		EIVLTQSPATLSLSPGERATLSCRASQSVSSLMHWYQQKPG QAPRLLIYGASCLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQYXNDPYTFGQGTKLEIK

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CL-27809		EIVLTQSPATLSLSPGERATLSCRASQSVITHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQRWKFPFTFGQGTKLEIK
CL-27810		EIVLTQSPATLSLSPGERATLSCRASESVSTQLAWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQNWNPLTFGQGTKLEIK
CL-27811		EIVLTQSPATLSLSPGERATLSCRASQSVSRDMHWYQQKPG QAPRLLIYGASYLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQRWKEPFTFGQGTKLEIK
CL-27812		EIVLTQSPATLSLSPGERATLSCRASQSVTTLMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQGCNDPLTFGQGTKLEIK
CL-27813		EIVLTQSPATLSLSPGERATLSCRASESVVTHMHWYQQKPG QAPRLLIYRAGLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWQHPFTFGQGTKLEIK
CL-27814		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSGNDPCTFGQGTKLEIK
CL-27815		EIVLTQSPATLSLSPGERATLSCRASQSVNSYLAWYQQKPG QAPRLLIYWASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQAWNDPSTFGQGTKLEIK
CL-27816		EIVLTQSPATLSLSPGERATLSCRASQSVSNPMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGQGTKLEIK
CL-27818		EIVLTQSPATLSLSPGERATLSCRASQSVSTLMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQGLTDPFTFGQGTKLEIK

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CL-27819		EIVLTQSPATLSLSPGERATLSCRASESVSPPLAWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSENDPLTFGQGTKLEIK
CL-27820		EIVLTQSPATLSLSPGERATLSCRASESVNTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWNHPFTFGQGTKLEIK
CL-27821		EIVLTQSPATLSLSPGERATLSCRASESVSYPMHWYQQKPG QAPRLLIYGASRLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQRWSDPFTFGQGTKLEIK
CL-27822		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYIASFLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSXFEPSTFGQGTKLEIK
CL-27823		EIVLTQSPATLSLSPGERATLSCRASESVSTQMHWYQQKPG QAPRLLIYGASYLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWKDPFTFGQGTKLEIK
CL-27824		EIVLTQSPATLSLSPGERATLSCRASQSVSTKMHWYQQKPG QAPRLLIYRASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWIDPFTFGQGTKLEIK
CL-27826		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYRASYLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWKDPFTFGQGTKLEIK
CL-27827		EIVLTQSPATLSLSPGERATLSCRASQSVMTHLAWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNEPFTFGQGTKLEIK
CL-27828		EIVLTQSPATLSLSPGERATLSCRASQSVXTHLAWYQQKPG QAPRLLIYGASKLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWQDPITFGQGTKLEIK

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CL-27833		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQOKPG QAPRLLIYAASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYXXQQSWNDPFTFGQGTKLEIK
CL-27838		EIVLTQSPATLSLSPGERATLSCRASQSVSSLMHWYQOKPG QAPRLLIYVASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNYPFTFGQGTKLEIK
CL-27840		EIVLTQSPATLSLSPGERATLSCRASQSVITPLAWYQOKPG QAPRLLIYGASRLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQIWNDPFTFGQGTKLEIK
CL-27841		EIVLTQSPATLSLSPGERATLSCRASQSVSPLLAWYQOKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQRWNEPFTFGQGTKLEIK
CL-27842		EIVLTQSPATLSLSPGERATLSCRASQSVNPHLAWYQOKPG QAPRLLIYWASSLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQNWNDPFTFGQGTKLEIK
CL-27843		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQOKPG QAPRLLIYGASRLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQGWNYPFTFGQGTKLEIK
CL-27844		EIVLTQSPATLSLSPGERATLSCRASQSVSTRMHWYQOKPG QAPRLLIYGASYLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTRYDPFTFGQGTKLEIK
CL-27845		EIVLTQSPATLSLSPGERATLSCRASESVSSHMHWYQOKPG QAPRLLIYGASRLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPFTFGQGTKLEIK
CL-27846		EIVLTQSPATLSLSPGERATLSCRASQSVTTHMHWYQOKPG QAPRLLIYAASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNHPFTFGQGTKLEIK

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CL-27847		EIVLTQSPATLSLSPGERATLSCRASQSVKTQLAWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQR CNGP FTFGQGTKLEIK
CL-27848		EIVLTQSPATLSLSPGERATLSCRASQSVSTQLAWYQQKPG QAPRLLIYGASHLESGV PAR FSGSGSGTDFTLTISSLEPED FAVYYCQQT GNDP FTFGQGTKLEIK
CL-27849		EIVLTQSPATLSLSPGERATLSCRASESVSPLMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQ QSWKDP FTFGQGTKLEIK
CL-27850		EIVLTQSPATLSLSPGERATLSCRASESVSAHMHWYQQKPG QAPRLLIYGASKLESGV PAR FSGSGSGTDFTLTISSLEPED FAVYYCQ QWNNP FTFGQGTKLEIK
CL-27851		EIVLTQSPATLSLSPGERATLSCRASQSVNTHMHWYQQKPG QAPRLLIYRASNLESGV PAR FSGSGSGTDFTLTISSLEPED FAVYYCQ QSWNEPL FTFGQGTKLEIK
CL-29979		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQ QSWQDPL FTFGQGTKLEIK
CL-29980		EIVLTQSPATLSLSPGERATLSCRASQSVNTNMHWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQT TWNV FTFGQGTKLEIK
CL-29981		EIVLTQSPATLSLSPGERATLSCRASESVSTAMHWYQQKPG QAPRLLIYGASNLESGV PAR FSGSGSGTDFTLTISSLEPED FAVYFCQ QOTWNP ITFGQGTKLEIK
CL-29982		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGAS M LESGV PAR FSGSGSGTDFTLTISSLEPED FAVYYCQ QSWNDPL FTFGQGTKLEIK

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CL-29983		EIVLTQSPATLSLSPGERATLSC RASESVND HMHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNNPIT FGQGTKLEIK
CL-29984		EIVLTQSPATLSLSPGERATLSC RASQSVG THMHWYQQKPG QAPRLLIY GASYLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWNDPLT FGQGTKLEIK
CL-29985		EIVLTQSPATLSLSPGERATLSC RASQSVST HMHWYQQKPG QAPRLLIY GASILES GVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQTWDDPIT FGQGTKLEIK
CL-29986		EIVLTQSPATLSLSPGERATLSC RASQSVG THMHWYQQKPG QAPRLLIY GASKLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSFLDPIT FGQGTKLEIK
CL-29987		EIVLTQSPATLSLSPGERATLSC RASESVST NMHWYQQKPG QAPRLLIY GASILES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQGWSDPLT FGQGTKLEIK
CL-29988		EIVLTQSPATLSLSPGERATLSC RASESVST HMHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWIDPLT FGQGTKLEIK
CL-29989		EIVLTQSPATLSLSPGERATLSC RASESVST HMHWYQQKPG QAPRLLIY GASHLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWIDPIT FGQGTKLEIK
CL-29990		EIVLTQSPATLSLSPGERATLSC RASQSVG THMHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGCGTDFTLT ISSLE PED FAVYFC QQSWHDPLT FGQGTKLEIK
CL-29991		EIVLTQSPATLSLSPGERATLSC RASQSVS NMHWYQQKPG QAPRLLIY GASILES GVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQTWDDPIT FGQGTKLEIK

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CL-29992		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASELESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWNDPITFGQGTKLEIK
CL-29993		EIVLTQSPATLSLSPGERATLSCRASESVNTLMHWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWNEPITFGQGTKLEIK
CL-29994		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWSDPLTFGQGTKLEIK
CL-29995		EIVLTQSPATLSLSPGERATLSCRASQSVSKMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNNPITFGQGTKLEIK
CL-29996		EIVLTQSPATLSLSPGERATLSCRASQSVDTMHMWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWHDPITFGQGTKLEIK
CL-29997		EIVLTQSPATLSLSPGERATLSCRASESVSNMHMWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWTDPLTFGQGTKLEIK
CL-29998		EIVLTQSPATLSLSPGERATLSCRASQSVSSHMHMWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPLTFGQGTKLEIK
CL-29999		EIVLTQSPATLSLSPGERATLSCRASESVSTNMHWYQQKPG QAPRLLIYAASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNEPFTFGQGTKLEIK
CL-30000		EIVLTQSPATLSLSPGERATLSCRASQSVDTMHMWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWGDPITFGQGTKLEIK

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CL-30001		EIVLTQSPATLSLSPGERATLSC RASESVSNNL LAWYQQKPG QAPRLLIY GASHLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQTWNDPIT FGQGTKLEIK
CL-30002		EIVLTQSPATLSLSPGERATLSC CRASQSVSNH MHWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNDPIT FGQGTKLEIK
CL-30003		EIVLTQSPATLSLSPGERATLSC CRASQSVGTH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLTISSLEPED FAVYFC QQSWNEPWT FGQGTKLEIK
CL-30004		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASKLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWIDPLT FGQGTKLEIK
CL-30005		EIVLTQSPATLSLSPGERATLSC CRASQSVGNN MHWYQQKPG QAPRLLIY GASHLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNDPLT FGQGTKLEIK
CL-30006		EIVLTQSPATLSLSPGERATLSC CRASQSVSTH MHWYQQKPG QAPRLLIY GASNLES GVPARFGSGSGSGTDFTLTISSLEPED FAVYYC QQSWTDPLT FGQGTKLEIK
CL-30007		EIVLTQSPATLSLSPGERATLSC RASESVYTXL LAWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLTISSLEPED FAVYYC QQILNDPFT FGQGTKLEIK
CL-30009		EIVLTQSPATLSLSPGERATLSC CRASQSVSNH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNDPLT FGQGTKLEIK
CL-30010		EIVLTQSPATLSLSPGERATLSC CRASQSVGTN MHWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLTISSLEPED FAVYFC QQSWNDPIT FGQGTKLEIK

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CL-30011		EIVLTQSPATLSLSPGERATLSC RASESVATHM HWYQQKPG QAPRLLIY GASYLES GVPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNDPL TFGQGTKLEIK
CL-30012		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASHLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNDPL TFGQGTKLEIK
CL-30013		EIVLTQSPATLSLSPGERATLSC RASESVMNHL AWYQQKPG QAPRLLIY GASYLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQTWSDPL TFGQGTKLEIK
CL-30014		EIVLTQSPATLSLSPGERATLSC RASQSVGTS MHWYQQKPG QAPRLLIY AASELES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNDPF TFGQGTKLEIK
CL-30015		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLTISSLEPED FAVYFC QQSWNDPL TFGQGTKLEIK
CL-30017		EIVLTQSPATLSLSPGERATLSC RASESVSNM HWHYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQTWSDPF TFGQGTKLEIK
CL-30018		EIVLTQSPATLSLSPGERATLSC RASQSVSSH MHWYQQKPG QAPRLLIY GASKLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSFSDPIT FGQGTKLEIK
CL-30019		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASHLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWSDPL TFGQGTKLEIK
CL-30020		EIVLTQSPATLSLSPGERATLSC RASQSVSNH MHWYQQKPG QAPRLLIY GASHLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNDPL TFGQGTKLEIK

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CL-30021		EIVLTQSPATLSLSPGERATLSCRASQSVSNHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNPITFGQGTKLEIK
CL-30022		EIVLTQSPATLSLSPGERATLSCRASESVSNHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNEPFTFGQGTKLEIK
CL-30023		EIVLTQSPATLSLSPGERATLSCRASQSVGTNMHWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWNEPITFGQGTKLEIK
CL-30024		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPVTFGQGTKLEIK
CL-30025		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWNDPLTFGQGTKLEIK
CL-30026		EIVLTQSPATLSLSPGERATLSCRASQSVSSHMHYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-30027		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-30028		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWSDPLTFGQGTKLEIK
CL-30029		EIVLTQSPATLSLSPGERATLSCRASESVSTHMNHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNVPYTFGQGTKLEIK

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CL-30030		EIVLTQSPATLSLSPGERATLSC RASESVTSNM HWYQQKPG QAPRLLIY AASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWQNPIT FGQGTKLEIK
CL-30031		EIVLTQSPATLSLSPGERATLSC RASESVSDHM HWYQQKPG QAPRLLIY GASNLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWTDPLT FGQGTKLEIK
CL-30032		EIVLTQSPATLSLSPGERATLSC RASESVSTHM HWYQQKPG QAPRLLIY GASNLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNDPLT FGQGTKLEIK
CL-30033		EIVLTQSPATLSLSPGERATLSC RASESVSNM HWYQQKPG QAPRLLIY GASNLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWTDPLT FGQGTKLEIK
CL-30034		EIVLTQSPATLSLSPGERATLSC RASQSVSTHM HWYQQKPG QAPRLLIY GASILE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWNDPIT FGQGTKLEIK
CL-30035		EIVLTQSPATLSLSPGERATLSC RASQSVGTAM HWYQQKPG QAPRLLIY GASNLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWDAPFT FGQGTKLEIK
CL-30036		EIVLTQSPATLSLSPGERATLSC RASQSVRSHM HWYQQKPG QAPRLLIY GASNLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWTPPIT FGQGTKLEIK
CL-30037		EIVLTQSPATLSLSPGERATLSC RASESVSTSMN HWYQQKPG QAPRLLIY GASNLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWKDPIT FGQGTKLEIK
CL-30038		EIVLTQSPATLSLSPGERATLSC RASQSVSNM HWYQQKPG QAPRLLIY GASNLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNVPWT FGQGTKLEIK

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CL-30039		EIVLTQSPATLSLSPGERATLSCRASESVNSMHWYQQKPG QAPRLLIYGASTLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWTDPLTFGQGTKLEIK
CL-30040		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWNDPSTFGQGTKLEIK
CL-30041		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK
CL-30042		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASTLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWSDPLTFGQGTKLEIK
CL-30043		EIVLTQSPATLSLSPGERATLSCRASESVDSNMHWYQQKPG QAPRLLIYRASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWGDPIITFGQGTKLEIK
CL-30044		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASYLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK
CL-30045		EIVLTQSPATLSLSPGERATLSCRASESVSNMHWYQQKPG QAPRLLIYGASYLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK
CL-30046		EIVLTQSPATLSLSPGERATLSCRASESVSDHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWTDPLTFGQGTKLEIK
CL-30047		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK

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CL-30048		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWSDPLT FGQGTKLEIK
CL-30049		EIVLTQSPATLSLSPGERATLSC RASESVNTH LAWYQQKPG QAPRLLIY GASMLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWSLPYT FGQGTKLEIK
CL-30050		EIVLTQSPATLSLSPGERATLSC RASQSVSSH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNDPLT FGQGTKLEIK
CL-30053		EIVLTQSPATLSLSPGERATLSC RASESVSTH MNWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWNDPFT FGQGTKLEIK
CL-30054		EIVLTQSPATLSLSPGERATLSC RASESVGTH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWNEPYT FGQGTKLEIK
CL-30055		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASKLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWGDPI TFGQGTKLEIK
CL-30056		EIVLTQSPATLSLSPGERATLSC RASQSVSTN MHWYQQKPG QAPRLLIY AASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWNEPI TFGQGTKLEIK
CL-30057		EIVLTQSPATLSLSPGERATLSC RASESVGKH MHWYQQKPG QAPRLLIY GASKLES GI PARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWNDPI TFGQGTKLEIK
CL-30058		EIVLTQSPATLSLSPGERATLSC RASESVSNH MHWYQQKPG QAPRLLIY GASFLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWTNPI TFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-30059		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWDDPLTFGQGTKLEIK
CL-30060		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASYLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWTDPITFGQGTKLEIK
CL-30061		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWIDPITFGQGTKLEIK
CL-30062		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASKLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPITFGQGTKLEIK
CL-30063		EIVLTQSPATLSLSPGERATLSCRASESVCTRMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPYTFGQGTKLEIK
CL-30064		EIVLTQSPATLSLSPGERATLSCRASQSVSNHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTFDDPLTFGQGTKLEIK
CL-30066		EIVLTQSPATLSLSPGERATLSCRASQSVGDSLAWYQQKPG QAPRLLIYAASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWNVPITFGQGTKLEIK
CL-30067		EIVLTQSPATLSLSPGERATLSCRASESVANHLAWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPITFGQGTKLEIK
CL-30068		EIVLTQSPATLSLSPGERATLSCRASESVSTHMNHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQGWYDPLTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-30069		EIVLTQSPATLSLSPGERATLSCRASESVSSHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPITFGQGTKLEIK
CL-30070		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNVPFTFGQGTKLEIK
CL-30071		EIVLTQSPATLSLSPGERATLSCRASESVNKHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWIDPFTFGQGTKLEIK
CL-30072		EIVLTQSPATLSLSPGERATLSCRASQSVGNMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNMPITFGQGTKLEIK
CL-30073		EIVLTQSPATLSLSPGERATLSCRASESVGEHMHWYQQKPG QAPRLLIYAASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-30074		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWDVPLTFGQGTKLEIK
CL-30078		ENVLTQSPATLSLSPGERATLSCRASESVITHMNWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPFTFGQGTKLEIK
CL-30090		EIVLTQSPATLSLSPGERATLSCRASQSVSNMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-30095		EIVLTQSPATLSLSPGERATLSCRASESVSNMHWYQQKPG QAPRLLIYGASELESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWSVDPLTFGQGTKLEIK

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CL-30098		EIVLTQSPATLSLSPGERATLSCRASQSVDTMHMWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWIDPITFGQGTKLEIK
CL-30099		EIVLTQSPATLSLSPGERATLSCRASQSVSTMHMWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWIDPLTFGQGTKLEIK
CL-30103		EIVLTQSPATPSLSPGERATLSCRASESVSTMHMWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGQGTKLEIK
CL-30104		EIVLTQSPATLSLSPGERATLSCRASESVSSHMHMWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWNDPITFGQGTKLEIK
CL-30106		EIVLTQSPATLSLSPGERATLSCRASQSVSNMHMWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK
CL-30109		EIVLTQSPATLSLSPGERATLSCRASQSVITHMNWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWNDPITFGQGTKLEIK
CL-30115		EIVLTQSPATLSLSPGERATLSCRASESVQTHMNWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPFTFGQGTKLEIK
CL-30120		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHMWYQQKPG QAPRLLIYAASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-30121		EIVLTQSPATLSLSPGERATLSCRASESVSTMHMWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPLTFGQGTKLEIK

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CL-30123		EIVLTQSPATLSLSPGERATLSC RASESVITHM NWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWDNPIT FGQGTKLEIK
CL-30126		EIVLTQSPATLSLSPGERATLSC RASQSVHKHM NWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQGWDDPLT FGQGTKLEIK
CL-30128		EIVLTQSPATLSLSPGERATLSC RASESVSTHM HWYQQKPG QAPRLLIY GASHLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNDPLT FGQGTKLEIK
CL-30131		EIVLTQSPATLSLSPGERATLSC RASESVLTHM NWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQTWYEPWT FGQGTKLEIK
CL-30132		EIVLTQSPATLSLSPGERATLSC RASESVDTHM HWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPIT FGQGTKLEIK
CL-30133		EIVLTQSPATLSLSPGERATLSC RASQSVSTHM HWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWSDPIT FGQGTKLEIK
CL-30134		EIVLTQSPATLSLSPGERATLSC RASQSVGTHM NWYQQKPG QAPRLLIY GASFLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWSDPIT FGQGTKLEIK
CL-30135		EIVLTQSPATLSLSPGERATLSC RASQSVGTPM HWYQQKPG QAPRLLIY GASTLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPLT FGQGTKLEIK
CL-30137		EIVLTQSPATLSLSPGERATLSC RASESVSTHM HWYQQKPG QAPRLLIY GASYLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPIT FGQGTKLEIK

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CL-30143		EIVLTQSPATLSLSPGERATLSC RASESV DTHMHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLTISSLEPED FAVYYC QQTWYDPIT FGQGTKLEIK
CL-30144		EIVLTQSPATLSLSPGERATLSC RASESV STHMHWYQQKPG QAPRLLIY GASMLES GIPARFSGSGSGTDFTLTISSLEPED FAVYFC QQTWTDPI TFGQGTKLEIK
CL-30147		EIVLTQSPATLSLXPGERATLSC RASESV STHMHWYQQKPG QAPRLLIY GASNLEY GVPARFSGSGCGTDFTLTISSIEHED FAVYFC QQSWNDP FTFGQGTKLEIK
CL-30150		EIVLTQSPATLSLSPGERATLSC RASQSV ANHLAWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLTISSLEPED FAVYYC QQTWTDPI TFGQGTKLEIK
CL-30152		EIVLTQSPATLSLSPGERATLSC RASESV STHMHWYQQKPG QAPRLLIY GASMLES GVPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNNP ITFGQGTKLEIK
CL-30155		EIVLTQSPATLSLSPGERATLSC RASQSV SNMHWYQQKPG QAPRLLIY AASNLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWDDPL TFGQGTKLEIK
CL-30158		EIVLTQSPATLSLSPGERVTLSC RASESV STHMHWYQQKPG QAPRLLIY GASHLES GIPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNDP ITFGQGTKLEIK
CL-30160		EIVLTQSPATLSLSPGERATLSC RASQSV SNMHWYQQKPG QAPRLLIY AASNLES GVPARFSGSGSGTDFTLTISSLEPED FAVYYC QQSWNDPL TFGQGTKLEIK
CL-30163		EIVLTQSPATLSLSPGERATLSC RASQSV SSHMHWYQQKPG QAPRLLIY AASKLES GVPARFSGSGSGTDFTLTISSLEPED FAVYYC QQTWYDPL TFGQGTKLEIK

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CL-30164		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWMDPIT FGQGTKLEIK
CL-30166		EIVLTQSPATLSLSPGERATLSC RASESVSTN MHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWSEPWT FGQGTKLEIK
CL-30167		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWSDPLT FGQGTKLEIK
CL-30593		EIVLTQSPATLSLSPGERATLSC RASQSVDT HMHYQQKPG QAPRLLIY GASNLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGTKLEIK
CL-30594		EIVLTQSPATLSLSPGERATLSC RASQSVSN HMHYQQKPG QAPRLLIY GASNLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNEPFT FGQGTKLEIK
CL-30595		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASHLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNDPIT FGQGTKLEIK
CL-30597		EIVLTQSPATLSLSPGERATLSC RASESVSN HMHYQQKPG QAPRLLIY GASTLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNDPLT FGQGTKLEIK
CL-30598		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASVLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWDDPLT FGQGTKLEIK
CL-30600		EIVLTQSPATLSLSPGERATLSC RASQSVSN HMHYQQKPG QAPRLLIY GASNLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWLDPIT FGQGTKLEIK

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CL-30601		EIVLTQSPATLSLSPGERATLSCRASQSVNTHLAWYQQKPG QAPRLLIYAASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWTDPLTFGQGTKLEIK
CL-30602		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWS DPLTFGQGTKLEIK
CL-30604		EIVLTQSPATLSLSPGERATLSCRASQSVSNPMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNXPF TFGQGTKLEIK
CL-30606		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWDDPFTFGQGTKLEIK
CL-30608		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWSDPLTFGQGTKLEIK
CL-30609		EIVLTQSPATLSLSPGERATLSCRASESVNSNMHWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-30610		EIVLTQSPATLSLSPGERATLSCRASQSVRNHMHYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWDDPLTFGQGTKLEIK
CL-30611		EIVLTQSPATLSLSPGERATLSCRASESVSNHMHYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWDDPLTFGQGTKLEIK
CL-30613		EIVLTQSPATLSLSPGERATLSCRASQSVNTAMHWYQQKPG QAPRLLIYGASSLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK

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CL-30614		EIVLTQSPATLSLSPGERATLSCRASESVGSHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNLPLTFGQGTKLEIK
CL-30615		EIVLTQSPATLSLSPGERATLSCRASESVSNMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPITFGQGTKLEIK
CL-30616		EIVLTQSPATLSLSPGERATLSCRASQSVITHMNWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWGDPWTFGQGTKLEIK
CL-30617		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWIDPLTFGQGTKLEIK
CL-30618		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASMLESIGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWDDPLTFGQGTKLEIK
CL-30619		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYAASNLESIGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPITFGQGTKLEIK
CL-30620		EIVLTQSPATLSLSPGERATLSCRASQSVSNMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPITFGQGTKLEIK
CL-30624		EIVLTQSPATPSLSPGERATLSCRASESVGSCMHWYQQKPG QAPRLLIYGASNLESIGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLEIK
CL-30626		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESIGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPLTFGQGTKLEIK

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CL-30627		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK
CL-30628		EIVLTQSPATLSLSPGERATLSCRASESVSRHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNNPLTFGQGTKLEIK
CL-30629		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPATFGQGTKLEIK
CL-30630		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK
CL-30631		EIVLTQSPATLSLSPGERATLSCRASQSVGRHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWTDPITFGQGTKLEIK
CL-30632		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWSDPITFGQGTKLEIK
CL-30634		EIVLTQSPATLSLSPGERATLSCRASQSVSNMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK
CL-30635		EIVLTQSPATLSLSPGERATLSCRASESVSSNMNHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSFYDPITFGQGTKLEIK
CL-30636		EIVLTQSPATLSLSPGERATLSCRASESVSSHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWSDPLTFGQGTKLEIK

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CL-30637		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASHLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWHDPL TFGQGTKLEIK
CL-30638		EIVLTQSPATLSLSPGERATLSC RASESVSNH MHWYQQKPG QAPRLLIY AASKLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWIDPIT FGQGTKLEIK
CL-30639		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASKLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWTDPL TFGQGTKLEIK
CL-30640		EIVLTQSPATLSLSPGERATLSC RASESVRSH LAWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSIE PED FAVYFC QQSWNAPFT FGQGTKLEIK
CL-30641		EIVLTQSPATLSLSPGERATLSC RASQSVSNH MHWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWSDPL TFGQGTKLEIK
CL-30642		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASILESG IPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWDDPIT FGQGTKLEIK
CL-30643		EIVLTQSPATLSLSPGERATLSC RASESVSNH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNEPL TFGQGTKLEIK
CL-30644		EIVLTQSPATLSLSPGERATLSC RASESVSTH MPWYQQKPG QAPRLLIY GASILESG VPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNDPL TFGQGTKLEIK
CL-30645		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWSDPL TFGQGTKLEIK

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CL-30647		EIVLTQSPATLSLSPGERATLSCRASQSVSTAMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWFDPLTFGQGTKLEIK
CL-30648		EIVLTQSPATLSLSPGERATLSCRASESVSNMHMWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWSDPITFGQGTKLEIK
CL-30649		EIVLTQSPATLSLSPGERATLSCRASESVNSDMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-30650		EIVLTQSPATLSLSPGERATLSCRASESVSNMHMWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNVPITFGQGTKLEIK
CL-30651		EIVLTQSPATLSLSPGERATLSCRASESVSTNLAWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWNDPITFGQGTKLEIK
CL-30653		EIVLTQSPATLSLSPGERATLSCRASESVSNMHMWYQQKPG QAPRLLIYAASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWTDPITFGQGTKLEIK
CL-30654		EIVLTQSPATLSLSPGERATLSCRASESVSTHMNHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWTDPITFGQGTKLEIK
CL-30655		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHMWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWDVPFTFGQGTKLEIK
CL-30657		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHMWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWSDPITFGQGTKLEIK

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CL-30658		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQCRNDPFTFGQGTKLEIK
CL-30659		EIVLTQSPATLSLSPGERATLSCRASESVSKHMNHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWTDPFTFGQGTKLEIK
CL-30660		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASRLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPFTFGQGTKLEIK
CL-30662		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWDDPFTFGQGTKLEIK
CL-30663		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNEPYTFTFGQGTKLEIK
CL-30664		EIVLTQSPATLSLSPGERATLSCRASESVGMHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPFTFGQGTKLEIK
CL-30665		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMNHWYQQKPG QAPRLLIYAASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSFNNPFTFGQGTKLEIK
CL-30666		EIVLTQSPATLSLSPGERATLSCRASQSVNTHLHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWFDPFTFGQGTKLEIK
CL-30667		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPFTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-30669		EIVLTQSPATLSLSPGERATLSC RASESVSN HMHWYQQKPG QAPRLLIY GASNLE SGV PAR FSGSGSGTDFTLT ISSLE PED FAVYFC QQSWYDPL TFGQGTKLEIK
CL-30670		EIVLTQSPATLSLSPGERATLSC RASQSVSN HMHWYQQKPG QAPRLLIY GASNLE SGI PAR FSGSGSGTDFTLT ISSLE PED FAVYYC QQSWLDPL TFGQGTKLEIK
CL-30671		EIVLTQSPATLSLSPGERATLSC RASESVSN HMHWYQQKPG QAPRLLIY GASILE SGVL AR FSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNDPL TFGQGTKLEIK
CL-30672		EIVLTQSPATLSLSPGERATLSC RASESVSSH MHMWYQQKPG QAPRLLIY GASNLE SGI PAR FSGSGSGTDFTLT ISSLE PED FAVYYC QQTWNYPI TFGQGTKLEIK
CL-30673		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHMWYQQKPG QAPRLLIY GASNLE SGI PAR FSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPI TFGQGTKLEIK
CL-30674		EIVLTQSPATLSLSPGERATLSC RASESVGN HMHWYQQKPG QAPRLLIY GASNLE SGI PAR FSGSGSGTDFTLT ISSLE PED FAVYYC QQSWIDPL TFGQGTKLEIK
CL-30675		EIVLTQSPATLSLSPGERATLSC RASESVSN HMHWYQQKPG QAPRLLIY AASKLE SGI PAR FSGSGSGTDFTLT ISSLE PED FAVYFC QQSWVEPF TFGQGTKLEIK
CL-30676		EIVLTQSPATLSLSPGERATLSC RASQSVETH MHMWYQQKPG QAPRLLIY GASHLE SGV PAR FSGSGSGTDFTLT ISSLE PED FAVYYC QQSWRDPL TFGQGTKLEIK
CL-30677		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MNHWYQQKPG QAPRLLIY GASHLE SGI PAR FSGSGSGTDFTLT ISSLE PED FAVYFC QQSWDDPL TFGQGTKLEIK

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CL-30678		EIVLTQSPATLSLSPGERATLSCRASQSVGSSMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWNDPLTFGQGTKLEIK
CL-30679		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK
CL-30681		EIVLTQSPATLSLSPGERATLSCRASQSVTNMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWHDPLTFGQGTKLEIK
CL-30682		EIVLTQSPATLSLSPGERATLSCRASESVSSHAWYQQKPG QAPRLLIYGASTLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWGDPFTFGQGTKLEIK
CL-30683		EIVLTQSPATLSLSPGERATLSCRASQSVSNMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWSDPLTFGQGTKLEIK
CL-30684		EIVLTQSPATLSLSPGERATLSCRASESVHDHMHWYQQKPG QAPRLLIYAASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPLTFGQGTKLEIK
CL-30685		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWADPLTFGQGTKLEIK
CL-34444		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34445		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPFTFGQGTKLEIK

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CL-34446		EIVLTQSPATLSLSPGERATLSC RASESVSNHMHWYQQKPG QAPRLLIY GASNLESGV PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSFYDPLTFGQGTKLEIK
CL-34447		EIVLTQSPATLSLSPGERATLSC RASESVGTHMHHWYQQKPG QAPRLLIY GASNLESGI PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSWYDPLTFGQGTKLEIK
CL-34448		EIVLTQSPATLSLSPGERATLSC RASQSVSTHMHWYQQKPG QAPRLLIY GASMLESGI PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSWMDPITFGQGTKLEIK
CL-34450		EIVLTQSPATLSLSPGERATLSC RASESVSTHMHWYQQKPG QAPRLLIY GASNLESGV PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSWMDPLTFGQGTKLEIK
CL-34451		EIVLTQSPATLSLSPGERATLSC RASESVSNHMHWYQQKPG QAPRLLIY GASILESGI PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSWYDPLTFGQGTKLEIK
CL-34452		EIVLTQSPATLSLSPGERATLSC RASESVGTHMHHWYQQKPG QAPRLLIY GASNLESGI PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSWHDPLTFGQGTKLEIK
CL-34453		EIVLTQSPATLSLSPGERATLSC RASESVSTHMHWYQQKPG QAPRLLIY GASNLESGV PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSFTNPLTFGQGTKLEIK
CL-34454		EIVLTQSPATLSLSPGERATLSC RASQSVSTHMHWYQQKPG QAPRLLIY GASILESGV PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSWYDPLTFGQGTKLEIK
CL-34457		EIVLTQSPATLSLSPGERATLSC RASXSVNTHMHHWYQQKPG QAPRLLIY GASXLESGV PARFSGSGSGTDFTLT ISSLEPED FAVYFC QQXWYDPITFGQGTKLEIK

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CL-34458		EIVLTQSPATLSLSPGERATLSC RASESVRTH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGTKLEIK
CL-34459		EIVLTQSPATLSLSPGERATLSC RASQSVGTH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPLT FGQGTKLEIK
CL-34460		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASHLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGTKLEIK
CL-34461		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASHLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGTKLEIK
CL-34462		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASVLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGTKLEIK
CL-34464		EIVLTQSPATLSLSPGERATLSC RASQSVSRH MHWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPIT FGQGTKLEIK
CL-34465		EIVLTQSPATLSLSPGERATLSC RASQSVSSH MHWYQQKPG QAPRLLIY GASILE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWDDPIT FGQGTKLEIK
CL-34467		EIVLTQSPATLSLSPGERATLSC RASESVSTSM HWHYQQKPG QAPRLLIY GASQLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWNVFFT FGQGTKLEIK
CL-34468		EIVLTQSPATLSLSPGERATLSC RASESVGTH MHWYQQKPG QAPRLLIY GASRLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWTVPLT FGQGTKLEIK

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CL-34472		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-34473		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASVLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-34474		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASTLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-34478		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASYLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLEIK
CL-34479		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASTLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-34480		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34481		EIVLTQSPATLSLSPGERATLSCRASQSVNNHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34482		EIVLTQSPATLSLSPGERATLSCRASQSVGEHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPIITFGQGTKLEIK
CL-34485		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK

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CL-34487		EIVLTQSPATLSLSPGERATLSCRASQSVSTNMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPITFGQGTKLEIK
CL-34488		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASTLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34490		EIVLTQSPATLSLSPGERATLSCRASQSVSNMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-34494		EIVLTQSPATLSLSPGERATLSCRASQSVGSHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPITFGQGTKLEIK
CL-34496		EIVLTQSPATLSLSPGERATLSCRASQSVGNMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-34498		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-34499		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPITFGQGTKLEIK
CL-34500		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPITFGQGTKLEIK
CL-34502		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK

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CL-34504		EIVLTQSPATLSLSPGERATLSC RASESVSRHM NWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQTWYDPIT FGQGT NLEIK
CL-34505		EIVLTQSPATLSLSPGERATLSC RASQSVGTHM HWYQQKPG QAPRLLIY GASYLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPIT FGQGT KLEIK
CL-34506		EIVLTQSPATLSLSPGERATLSC RASQSVGTHM HWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWYDPIT FGQGT KLEIK
CL-34508		EIVLTQSPATLSLSPGERATLSC RASESVDTHM HWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGT KLEIK
CL-34509		EIVLTQSPATLSLSPGERATLSC RASQSVSNHM HWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPIT FGQGT KLEIK
CL-34511		EIVLTQSPATLSLSPGERATLSC RASESVSTHM HWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGT KLEIK
CL-34512		EIVLTQSPATLSLSPGERATLSC RASQSVGTHM HWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGT KLEIK
CL-34514		EIVLTQSPATLSLSPGERATLSC RASQSVSTHM HWYQQKPG QAPRLLIY GASILE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGT KLEIK
CL-34515		EIVLTQSPATLSLSPGERATLSC RASQSVSTHM HWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQTWYDPIT FGQGT KLEIK

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CL-34517		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34520		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-34521		EIVLTQSPATLSLSPGERATLSCRASESVDRMHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-34523		EIVLTQSPATLSLSPGERATLSCRASQSVTNMHMHWYQQKPG QAPRLLIYGASVLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34524		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPITFGQGTKLEIK
CL-34525		EIVLTQSPATLSLSPGERATLSCRASESVSNMHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPITFGQGTKLEIK
CL-34526		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-34529		EIVLTQSPATLYLXPGERATLSCRASQSVSTHMHWYQQKPG QAARLVMYGASNLEFGVPARFSGSGSGTEFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34533		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPITFGQGTKLEIK

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CL-34534		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34536		EIVLTQSPATLSLSPGERATLSCRASQSVGAHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-34539		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWS DPLTFGQGTKLEIK
CL-34541		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPITFGQGTKLEIK
CL-34548		EIVLTQSPATLSLSPGERATLSCRASQSVSNHMHWYQQKPG QAPRLLIYGASHLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34556		EIVLTQSPATLSLSPGERATLSCRASESVSXHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34558		EIVLTQSPATLSLSPGERATLSCRASESVSTAMHWYQQKPG QAPRLLIYAASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34561		EIVLTQSPATLSLSPGERATLSCRASESVGTHMHWYQQKPG QAPRLLIYGASYLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPITFGQGTKLEIK
CL-34562		EIVLTQSPATLSLSPGERATLSCRASQSVGSHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK

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CL-34563		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWYDPL TFGQGTKLEIK
CL-34566		EIVLTQSPATLSLSPGERATLSC RASQSVGTN MHWYQQKPG QAPRLLIY GASVLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQTWYDPI TFGQGTKLEIK
CL-34568		EIVLTQSPATLSLSPGERATLSC RASESVGKH MHWYQQKPG QAPRLLIY GASHLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWMDPL TFGQGTKLEIK
CL-34573		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASFLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPL TFGQGTKLEIK
CL-34574		EIVLTQSPATLSLSPGERATLSC RASESVGTH MHWYQQKPG QAPRLLIY GASNLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWGDP LTFGQGTKLEIK
CL-34577		EIVLTQSPATLSLSPGERATLSC RASESVSKH MHWYQQKPG QAPRLLIY GASHLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPL TFGQGTKLEIK
CL-34580		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASMLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWDDPL TFGQGTKLEIK
CL-34582		EIVLTQSPATLSLSPGERATLSC RASQSVGTH MHWYQQKPG QAPRLLIY GASNLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPL TFGQGTKLEIK
CL-34585		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASNLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWYDPL TFGQGTKLEIK

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CL-34586		EIVLTQSPATLSLSPGERATLSCRASQSVXXHMHWYQQKPG QAPRLLIYGASTLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWTDPTFGQGTKLEIK
CL-34587		EIVLTQSPATLSLSPGERATLSCRASESVSTHLHWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34590		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34591		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPITFGQGTKLEIK
CL-34592		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPITFGQGTKLEIK
CL-34593		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASMLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34594		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPITFGQGTKLEIK
CL-34598		EIVLTQSPATLSLSPGERATLSCRASQSVSNHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWIEPYTFGQGTKLEIK
CL-34599		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPITFGQGTKLEIK

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CL-34600		EIVLTQSPATLSLSPGERATLSCRASESVNTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWNDPFTFGQGTKLEIK
CL-34601		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-34602		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPGTFGQGTKLEIK
CL-34604		EIVLTQSPATLSLSPGERATLSCRASQSVNNMHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-34610		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-34612		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMQWYQQKPG QAPRLLIYGASILESGIPARFSGSGSGTDFTLTISSLEHED FAVYXCQQSWYDPLTFGQGTKLEIK
CL-34613		EIVLTQSPATLSLSPGERATLSCRASESVGRHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPITFGQGTKLEIK
CL-34614		EIVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASYLESVGPARGSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-34617		EIVLTQSPATLSLSPGERATLSCRASEVDSSMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK

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CL-34618		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPI TFGQGTKLEIK
CL-40245		EIVLTQSPATLSLSPGERAALSC RASQSVSTH MHWYQQKPG QAPRLLIY GASNLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPL TFGQGTKLEIK
CL-40250		EIVLTQSPATLSLSPGERATLSY RASQSVGTH MHWYQQKPG QAPRLLIY GASHLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPL TFGQGTKLEIK
CL-40251		EIVLTQSPGTL SLSPGERATL SC RASQSVGTH MHWYQQKPG QAPRLLIY GASKLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPL TFGQGTKLEIK
CL-40253		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASNLE SGVPARFSGSGSGADFTLT ISSLE PED FAVYYC QQSWYDPL TFGQGTKLEIK
CL-40255		EIVLTQSPGTL SLSPGERATL SC RASESVSTH MHWYQQKPG QAPRLLIY GASNLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPL TFGQGTKLEIK
CL-40258		EIVLTQSPATLSLSPGERATLSC RASQSVGTH MHWYQQKPG QAPRLLIY GASHPE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPL TFGQGTKLEIK
CL-40266		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASNLE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWYDPM TFGQGTKLEIK
CL-40271		EIVLTQSPATLSLSPGERATLSC RASQSVGTH MHWYQQKPG QAPRLLIY GASHLE SGIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPL TFGQGTKLGSN

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CL-40272		EIVLTQSPATLSLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASKLESVGPARGSGSGSGTDFTLTISSELEPED FAVYYCQQSWYDPLTFGQGTKLRSN
CL-40283		EIVLTQSPGTLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSELEPED FAVYFCQQSWYDPMFTFGQGTKLEIK
CL-40284		EIVLTQSPATLSLSLSPGERAILS CRASQSVGTHMHWYQQKPG QAPRLLIYGASKLESVGPARGSGSGSGTDFTLTISSELEPED FAVYYCQQSWYDPLAFGQGTKLEIK
CL-40286		EIVLPQSPATLSLSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLEPGVARGSGSGSGTDFTLTISSELEPED FAVYFCQQSWNDPFTFGQGTKLEIK
CL-40287		EIVLTQSPGTLSSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASNLESGVARGSGSGSGTDFTLTISSELEPED FAVYFCQQSWNDPFTFGQGTKLEIK
CL-40288		EIVLTQSPGTLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVARGSGSGSGTDFTLTISSELEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40299		RNCVTQSPATLSLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGTDFTLTISSELEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-40302		EIVLTQSPATLSLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASKLESVGPARGSGSGSGTDFTLTISSELEPED FAVYYCQQSWCDPLTFGQGTKLEIK
CL-40303		EIVLTQSPATLSLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLPIYGASNLESGVARGSGSGSGTDFTLTISSELEPED FAVYYCQQSWYDPLTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-40317		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISLGPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40324		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGTDFTLTISLLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-40327		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISLLEPED FAVYFCQQSWYDPMTFGQGTKLEIK
CL-40328		EIVLTQSPGTLSSLSPGERATLSCRASESVSTHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISLLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40331		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISLLEPED FAVYYCQQSWYDPLTFGQRTKLEIK
CL-40332		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISLLEPED FAVYFCQQSWYDPMAFGQGTKLEIK
CL-40335		RNCVDKSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASHLESGIPARFSGSGSGTDFTLTISLLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-40336		EIVLTQSPATLSLSPGERATLSCRASQSVGTHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISLLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40337		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISLLEPED FAVYYCQRSWYDPLTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-40338		EIVLTQSPATLSLSPGERATLSC RASESVSTH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQSWNDPFT FGQGTKLEIK
CL-40339		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASNLES GVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSWYDPLT FGQGTKLEIK
CL-40341		EIVLTQSPATLSLSPGERATL FCRASQSVSNH MHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FVVYYC QQSWYDPIT FGQGTKLEIK
CL-40342		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQTCYDPLT FGQGTKLEIK
CL-40350		EIVLTQSPATLSLSPGERATLSC RASQSVSTH MHWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGADFTLT ISSLE PED FAVYFC QQSWYDPLT FGQGTKLEIK
CL-40356		EIVLTQSPATLSLSPGERATLSC RASESVGKHM HWHYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQTWYDPIT FGQGTKLEIK
CL-40357		EIVLTQSPATLSLSPGERATL FCRASQSVSNH MHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQTWYDPLT FGQGTKLEIK
CL-40364		EIVLTQSPGTL SLSPGERATLSCRASQSVSTH MHWYQQKPG QAPRLLIY GASNLES GIPARFSGSGSGTDFTLT ISSLE PED FAVYYC QQSFYDPLT FGQGTKLEIK
CL-40367		EIVLTQSPGTL SLSPGERATLSCRASQSVSTH MHWYQQKPG QAPRLLIY GASILE SGVPARFSGSGSGTDFTLT ISSLE PED FAVYFC QQTWYDPLT FGQGTKLEIK

純系	SEQ ID NO:	VL
CL-40370		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFILTISSELEPED FAVYYCQQSFYDPLTFGQGTKLEIK
CL-40373		EIVLTQSPGTLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSELEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-40381		EIVLTQSPGTLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSELEPED FAIYFCQQTWYDPLTFGQGTKLEIK
CL-40382		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGIDFTLTISSELEPED FAVYFCQQTWYDPLTFGQGTKLEIK
CL-40390		EIVLTQSPATLSLSPGERATLSCRASGSVSKHMHWYQQKPG QAPRLLIYAASNLESGVPARFSGSGSGTDFTLTISSELEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40394		EIVLTQSPGTLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSELEPEE FAVYFCQQTWYDPLTFGQGTKLEIK
CL-40399		EIVLTQSPATLSLSPGERATLSCRASQSVSKHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDSLTISSELEPED FAVYFCQQTWYDPITFGQGTKLEIK
CL-40408		EIVLTQSPATLSLPPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSELEPED FAVYYCQQSFYDPLTFGQGTKLEIK
CL-40414		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFGSGSGTDFTLTISSELEPED FAVYYCQQSFYDPLTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-40426		EIVSTQSPATLSLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTIGSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-40440		EIVLTQSPATLSLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTNLEIK
CL-40441		EIVLTQSPATLSLSLSPGERATFSCRASQSVSTHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40443		EIVLTQSPATLSLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAAYFCQQTWYDPLTFGQGTKLEIK
CL-40445		EIVLTQSPSTLSLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLEIK
CL-40447		EIVLTQSPATLSLSLSPGERATLSCRASQSVNNHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIX
CL-40453		EIVLTQSPATLSLSLSPGERATLSCRASQSVSTHMHWCQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLEIK
CL-40463		EIVLTQSPGTLSSLSLSPGERATLSCRASQSVNNHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-40466		EIVLTQSPATLSLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-40470		EIVLTQSPGTLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-40472		EIVLTQSPATLSSLSPGERATLSCRASQSVNNHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40476		EIVLTQSPATLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLRNS
CL-40479		EIVLTQSPATLSSLSPGERATLSCRASQSVATHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLRNS
CL-40480		EIVLTQSPGTLSSLSPGERATLSCRASQSVSTHMHWYQQEPPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40484		EIVLTQSPGTLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40485		RNLLTQSPATLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLEIK
CL-40489		EIVLTQSPATLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLVIK
CL-40494		EIVLTQSPATLSSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGADFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-40498		EIVLTQSPATLSLSLSPGERATLSCRASQSVNNMHWHYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSRYDPLTFGQGTKLEIK
CL-40503		EIVLTQSPGTLSSLSPGERATLSCRASQSVSTHMHWHYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLEIK
CL-40505		EIVLTQSPGTLSSLSPGERATLSCRASQSVATHMHWHYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40511		AIVLTQSPATLSLSLSPGERATLSCRASQSVATHMHWHYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-40526		EIVLTQSPAALSLSLSPGERATLSCRASQSVSTHMHWHYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLEIK
CL-40531		EIVLTQSPATLSLSLSPGERATLSCRASQSVNNMHWHYQQKPG QAPRLLIYGASIPESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-41836		AIVLTQSPGTLSSLSPGERATLSCRASQSVATHMHWHYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-41845		EIVLTQSPATLSLSLSPGERATLSCRASQSVNNMHWHYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-41849		EIVLTQSPATLSLSLSPGERATLSCRASQSVSTHMHWHYQQKPG QAPRLLIYGASKLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK

純系	SEQ ID NO:	VL
CL-41850		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIK
CL-41852		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-41854		EIVLTQSPATLSLSPGERATLSCRASQSVATHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPLTFGQGTKLEIK
CL-41855		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEPED FAVYFCQQTWYDPLTFGQGTKLEIK
CL-41885		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTITTSLEPED FAVYFCXQTWYDPLTFGQGTKLEIK
CL-41886		EIVLTQSPATLSLSPGERATLFCRASQSVSNMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSWYDPITFGQGTKLRN
CL-41888		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASILESGVPARFSGSGSGTDFTLTISSLEPED FAVYYCQQTWYDPLTFGQGTKLEIK
CL-41920		EIVLTQSPGTLSSLSPGERASLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYYCQQSFYDPLTFGRGTKLEIK
CL-41923		EIVLTQSPATLSLSPGERATLSCRASQSVSTHMHWYQQKPG QAPRLLIYGASNLESGIPARFSGSGSGTDFTLTISSLEPED FAVYFCQQSWYDPLTFGQGTKLEIN

純系	SEQ ID NO:	VL
CL-41928		EIVLTQSPATLSLSPGERATLSC RTSESVGKHMHWYQQKPG QAPRLLIY AASNLESGV PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSWYDPLTFGQGTKLEIK
CL-41938		EIVLTQSPATLSLSPGERATLSC RASESVGKHMHWYQQKPG QAPRLLIY AASNLESGV PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSWYDPLTFGQGTKLEIK
CL-41940		EIVLTQSPATLSLSPGERATL FCRASQSVSNHMHWYQQKPG QAPRLLIY GASILESGV PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSWYDPITFGQGTKLEIK
CL-41941		EIVLTQSPATLSLSPGERATLSC RASQSVSTHMHWYQQKPG QAPRLLIY GASILESGV PARFSGSGSGTDFTLT ISSLEPED FAVYFC QQTWYDPLTFGQGTKLEIK
CL-41947		EIVLTQSPATLSLSPGERATLSC RASQSVSTHMHWYQQKPG QAPRLLIY GASNLESGI PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSFYDPLTFGQGTKLEIQ
CL-41949		EIVLTQSPATLSLSPGERATLSC RASQSVSKHMHWYQQKPG QAPRLLIY GASNLESGI PARFSGSGSGTDFTLT ISSLEPED FAVYFC QQTWYDPITFGQGTKLEIK
CL-41950		EIVLTQSPATLSLSPGERATLSC RASQSVSTHMHWYQQKPG QAPRLLIY GASNLESGV PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQTWYDPLTFGQGTKLEIK
CL-41951		EIVLTQSPATLSLSPGERATLSC RASQSVSTHMHWYQQKPG QAPRLLIY GASNLESGI PARFSGSGSGTDFTLT ISSLEPED FAVYYC QQSFYDPLTFGQGTKLEIK
CL-41952		EIVLTQSPATLSLSPGERATLSC RASQSVSTHMHWYQQKPG QAPRLLIY GASNLESGI PARFSGSGSGTDFTLT ISSLEPED FAVYFC QQSWYDPLTFGQGTKLEIK

表 40. 在人類化抗人類 VEGF 抗體 Hbdb-4G8.3 之親和力成熟

期間在重鏈可變區之每一位置發現之胺基酸殘基

hBDB-4G8 重鏈可變區												
SEQ ID NO	序列											
XX	1	2	3	4	5	6						
	123456789012345678901234567890123456789012345678901234567890											
	EVQLVQSGSELKKPGASVKV	SCKASGYTFTNYGMYWVRQAPGQGLEWMGWINTETGKPTY										
	R	S	S S				Y N I					
		N	QK D				L D M					
			DY K				V T K					
			ET C				W P A					
			NM V				A W N					
			AG E				Q Y P					
			GA L				H V L					
			HI W				G S V					
			KL P				K M W					
			ME Y				N A D					
			LP M				M I Y					
			RQ N				T G G					
			IF T				P R E					
			Y				L					
			V									
	7	8	9	10	11	12						
	123456789012345678901234567890123456789012345678901234567890											
	ADDFKGRFVFLDTSVSTAYLQISLKAEDTAVYYCARTNYYSYIFDYWGQGMVT											
	Y N	T	D	H	N L							
	H		T	YI	ST N							
				GT	NK T							
				ID	EM V							

表 42. 轉化至 IgG 之 hBDB-4G8.3 親和力成熟純系之可變區序

列

SEQ ID NO.	純系	蛋白質區域	殘基	V 區
				123456789012345678901234567890
	CL-32416 VH			EVQLVQSGSELKKPGASVKVSKASGYT FTDYGMWVRQAPGQGLEWMGWIDTETG EPTYADDFKGRFVFLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYSYMFYFDY WGQGTMTVSS
	CL-32416	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTDYGM
	CL-32416	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-32416	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYSYMFYFDY
	CL-32416 VL			EIVLTQSPATLSLSPGERATLSCRASES VSTHMHWYQOKPGQAPRLLIYGASNLES GVPARFSGSGSDFTLTISLPEDEFA VYFCQQSWNDPFTFGQGTKLEIK
	CL-32416	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVSTHMH
	CL-32416	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-32416	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWNDPFT

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	CL-34449 VH			EVQLVQSGSELKKPGASVKVSCKASGYT FTDYGMYWVRQAPGQGLEWMGWIDTETG EPTYADDFKGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYSYMFYFDY WGQGTMTVTVSS
	CL-34449	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTDYGMY
	CL-34449	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-34449	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYSYMFYFDY
	CL-34449 VL			EIVLTQSPATLSLSPGERATLSCRASQS VGTHMHWYQOKPGQAPRLLIYGASHLES GIPARFSGSGSGTDFTLTISSLEPEDFA VYYCQQTWYDPLTFGQGTKLEIK
	CL-34449	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVGTHMH
	CL-34449	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASHLES
	CL-34449	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQTWYDPLT
	CL-34455 VH			EVQLVQSGSELKKPGASVKVSCKASGYT FTNYGMYWVRQAPGQGLEWMGWIDTETG EPTYAQGFTGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYPSYMFYFDY WGQGTMTVTVSS
	CL-34455	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	CL-34455	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYAQGFTG
	CL-34455	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYPSYMFYFDY
	CL-34455 VL			EIVLTQSPATLSLSPGERATLSCRASQS VGTHMHWYQQKPGQAPRLLIYGASKLES GVPARFSGSGGTDFLTITISLEPEDFA VYYCQQSWYDPLTFGQGTKLEIK
	CL-34455	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVGTHMH
	CL-34455	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASKLES
	CL-34455	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPLT
	CL-34463 VH			EVQLVQSGSELKKGASVKVSKASGYT FTDYGMWVRQAPGQGLEWMGWIDTETG NPTYADDFKGRFVFLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYPSYMFYFDY WGQTMVTVSS
	CL-34463	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTDYGMY
	CL-34463	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGNPTYADDFKG
	CL-34463	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYPSYMFYFDY

SEQ ID NO.:	純系	蛋白質區域	殘基	V 區
	CL-34463 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSKHMHWYQQKPGQAPRLLIYGASNLES GIPARFSGSGSGTDFTLTISSELPEDFA VYFCQQTWYDPITFGQGTKLEIK
	CL-34463	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSKHMH
	CL-34463	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34463	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQTWYDPIT
	CL-34469 VH			EVQLVQSGSELKKGASVKVSKASGYT FTNYGMYWVRQAPGGLEWGWIDTETG EPTYADDFKGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYSYMFYFDY WGQGTMTVTVSS
	CL-34469	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTNYGMY
	CL-34469	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-34469	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYSYMFYFDY
	CL-34469 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSTHMHWYQQKPGQAPRLLIYGASNLES GVPARFSGSGSGTDFTLTISSELPEDFA VYYCQQSWYDPLTFGQGTKLEIK
	CL-34469	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSTHMH

SEQ ID NO:	純系	蛋白質區域	殘基	V區
	CL-34469	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34469	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPLT
	CL-34475 VH			EVQLVQSGSELKKPGASVKVSKASGYT FTDYGMWVRQAPGQGLEWMGWIDTETG EPTYADDFKGRFVFLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYSSYMFYFDY WGQGTMTVSS
	CL-34475	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFDYGM
	CL-34475	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-34475	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYSSYMFYFDY
	CL-34475 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSTHMHWYQQKPGQAPRLLIYGASNLES GIPARFSGSGSGTDFTLTISSLEPEDFA VYYCQQSWYDPLTFGQGTKLEIK
	CL-34475	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSTHMH
	CL-34475	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34475	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPLT

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	CL-34483 VH			EVQLVQSGSELKKPGASVKVSCKASGYT FPNYGMYWVRQAPGQGLEWMGWIDTETG EPTYADDFKGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYSYMFYFDY WGQGTMTVTVSS
	CL-34483	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFPNYGMY
	CL-34483	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-34483	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYSYMFYFDY
	CL-34483 VL			EIVLTQSPATLSLSPGERATLSCRASQS VATHMHWYQQKPGQAPRLLIYGASNLES GVPARFSGSGSGTDFTLTISSELPEDFA VYYCQQSWYDPLTFTGQGTKLEIK
	CL-34483	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVATHMH
	CL-34483	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34483	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPLT
	CL-34489 VH			EVQLVQSGSELKKPGASVKVSCKASGYT FSNYGMYWVRQAPGQGLEWMGWIDTETG EPTYADDFKGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYSYMFYFDY WGQGTMTVTVSS
	CL-34489	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFSNYGMY

SEQ ID NO.	純系	蛋白質區域	殘基	V 區
	CL-34489	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-34489	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYSSYMFYFDY
	CL-34489 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSTHMHWYQQKPGQAPRLLIYGASNLES GIPARFSGSGSGTDFTLTISLLEPEDFA VYFCQQSWYDPLTFGQGTKLEIK
	CL-34489	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSTHMH
	CL-34489	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34489	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPLT
	CL-34501 VH			EVQLVQSGSELKPKGASVKVCSKASGYT FSDYGMYWVRQAPGQGLEWMGWIDTETG DPTYADDFKGRFVFLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYPSYMFYFDY WGQGTMTVTVSS
	CL-34501	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFSDYGMY
	CL-34501	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGDPTYADDFKG
	CL-34501	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYPSYMFYFDY

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	CL-34522 VH			EVQLVQSGSELKKPGASVKVSCKASGYT FENYGMYWVRQAPGQGLEWMGWIDTETG EPTYADDFKGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYSSYMFYFDY WGQGMVTVSS
	CL-34522	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFENYGM
	CL-34522	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-34522	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYSSYMFYFDY
	CL-34522 VL			EIVLTQSPATLSLSPGERATLSCRASQS VGTHMHWYQKPGQAPRLLIYGASKLES GVPARFSGSGGTDFTLTISSLEPEDFA VYYCQOSWYDPLTFGQGTKLEIK
	CL-34522	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVGTHMH
	CL-34522	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASKLES
	CL-34522	CDR-L3	SEQ ID NO.:之 殘基 89-97	QOSWYDPLT
	CL-34537 VH			EVQLVQSGSELKKPGASVKVSCKASGYT FSDYGMYWVRQAPGQGLEWMGWIDTETG DPTYADDFKGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARANYYYRSYMFYFDY WGQGMVTVSS
	CL-34537	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFSDYGM

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	CL-34537	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGDPTYADDFKG
	CL-34537	CDR-H3	SEQ ID NO.:之 殘基 99-112	ANYYRSYMFYFDY
	CL-34537 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSTHMHWYQQKPGQAPRLLIYGASNLES GIPARFSGSGSGTDFTLTISLPEDEFA VYFCQQSWYDPMTFGQGTKLEIK
	CL-34537	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSTHMH
	CL-34537	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34537	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPMT
	CL-34538 VH			EVQLVQSGSELKPKGASVKVSKASGYT FTDYGMWVRQAPGQGLEWMGWIDTETG EPTYADDFKGRFVFLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYPSYMFYFDY WGQGMVTVSS
	CL-34538	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTDYGM
	CL-34538	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-34538	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYPSYMFYFDY

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	CL-34538 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSTHMHWYQQKPGQAPRLLIYGASNLES GVPARFSGSGSGTDFTLTISSLEPEDFA VYFCQQTWYDPLTFGQGTKLEIK
	CL-34538	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSTHMH
	CL-34538	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34538	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQTWYDPLT
	CL-34540 VH			EVQLVQSGSELKKPGASVKVCSKASGYT FTDYGMWVRQAPGQGLEWMGWIDTETG QPTYADDFKGRFVFLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYSYMFYFDY WGQGTMTVTVSS
	CL-34540	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTDYGMW
	CL-34540	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGQPTYADDFKG
	CL-34540	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYSYMFYFDY
	CL-34540 VL			EIVLTQSPATLSLSPGERATLSCRASES VGKHMHWYQQKPGQAPRLLIYAASNLES GVPARFSGSGSGTDFTLTISSLEPEDFA VYYCQQSWYDPLTFGQGTKLEIK
	CL-34540	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASESVGKHMW

SEQ ID NO.	純系	蛋白質區域	殘基	V區
	CL-34540	CDR-L2	SEQ ID NO.:之 殘基 50-56	AASNLES
	CL-34540	CDR-L3	SEQ ID NO.:之 殘基 89-97	QOSWYDPLT
	CL-34565 VH			EVQLVQSGSELKKPGASVKVSCKASGYT FTDYGMWVRQAPGQGLEWMGWIDTETG DPTYADDFKGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYRNYMFYFDY WGQGMVTVSS
	CL-34565	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYFTDYGM
	CL-34565	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGDPTYADDFKG
	CL-34565	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYRNYMFYFDY
	CL-34565 VL			EIVLTQSPATLSLSPGERATLFCRASQS VSNMHMWYQKPGQAPRLLIYGASILES GVPARFSGSGSGTDFTLTISSLEPEDFA VYYCQOSWYDPITFGQGTKLEIK
	CL-34565	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSNMH
	CL-34565	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASILES
	CL-34565	CDR-L3	SEQ ID NO.:之 殘基 89-97	QOSWYDPIT

SEQ ID NO.:	純系	蛋白質區域	殘基	V 區
	CL-34570 VH			EVQLVQSGSELKKPGASVKVSCKASGYT FDDYGMWVRQAPGQGLEWMGWIDTETG TPTYADDFKGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYSSYMFYFDY WGQGTMTVSS
	CL-34570	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFDDYGMW
	CL-34570	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGTPTYADDFKG
	CL-34570	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYSSYMFYFDY
	CL-34570 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSTHMHYQQKPGQAPRLLIYGASNLES GIPARFSGSGGTDFLTITISLEPEDFA VYYCQOSWYDPLTFGQGTKLEIK
	CL-34570	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSTHMH
	CL-34570	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34570	CDR-L3	SEQ ID NO.:之 殘基 89-97	QOSWYDPLT
	CL-34603 VH			EVQLVQSGSELKKPGASVKVSCKASGYT FTDYGMWVRQAPGQGLEWMGWIDTETG EPTYAQGFTGRFVFSLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYRSYMFYFDY WGQGTMTVSS
	CL-34603	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFDYGMW

SEQ ID NO.	純系	蛋白質區域	殘基	V 區
	CL-34603	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYAQGFTG
	CL-34603	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRSYMFYFDY
	CL-34603 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSTHMHYQQKPGQAPRLLIYGASNLES GVPARFSGSGGTDFTLTISLPEDEFA VYYCQQTWYDPLTFGQGTKLEIK
	CL-34603	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSTHMH
	CL-34603	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34603	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQTWYDPLT
	CL-34605 VH			EVQLVQSGSELKPKGASVKVSKASGYT FTHYGMWVRQAPGQGLEWMGWIDTETG EPTYADDFKGRFVFLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYRSYMFYFDY WGQGMVTVSS
	CL-34605	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFTHYGMW
	CL-34605	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-34605	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYRSYMFYFDY

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	CL-34605 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSTHMHWYQQKPGQAPRLLIYGASNLES GIPARFSGSGSGTDFTLTISSLEPEDFA VYYCQQSFYDPLTFGQGTKLEIK
	CL-34605	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSTHMH
	CL-34605	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34605	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSFYDPLT
	CL-34633 VH			EVQLVQSGSELKKPGASVKVCSKASGYT FSDYGMWVRQAPGQGLEWMGWIDTETG EPTYADDFKGRFVFLDTSVSTAYLQIS SLKAEDTAVYYCARTNYYYSYMFYFDY WGQGTMTVTVSS
	CL-34633	CDR-H1	SEQ ID NO.:之 殘基 26-35	GYTFSDYGM
	CL-34633	CDR-H2	SEQ ID NO.:之 殘基 50-66	WIDTETGEPTYADDFKG
	CL-34633	CDR-H3	SEQ ID NO.:之 殘基 99-112	TNYYYSYMFYFDY
	CL-34633 VL			EIVLTQSPATLSLSPGERATLSCRASQS VSTHMHWYQQKPGQAPRLLIYGASNLES GVPARFSGSGSGTDFTLTISSLEPEDFA VYFCQQSWYDPLTFGQGTKLEIK
	CL-34633	CDR-L1	SEQ ID NO.:之 殘基 24-34	RASQSVSTHMH

SEQ ID NO:	純系	蛋白質區域	殘基	V 區
	CL-34633	CDR-L2	SEQ ID NO.:之 殘基 50-56	GASNLES
	CL-34633	CDR-L3	SEQ ID NO.:之 殘基 89-97	QQSWYDPLT

表 43. 親和力成熟之人類化抗人類 VEGF-A 抗體之蛋白質表現

及 純 化 之 概 述

名稱	產量 (mg/L) ¹	SEC (單體%) ²
CL-32416-IgG	28.5	100.0
CL-34449-IgG	16.1	100.0
CL-34455-IgG	34.1	100.0
CL-34469-IgG	21.3	100.0
CL-34475-IgG	33.6	100.0
CL-34522-IgG	18.4	100.0
CL-34538-IgG	40.8	100.0
CL-34540-IgG	80.0	100.0
CL-34565-IgG	133.6	100.0
CL-34570-IgG	28.3	100.0
CL-34633-IgG	49.9	100.0

¹產量係用經純化蛋白質之總量(mg)除以總細胞培養物體積(升)來確定。

²SEC 單體%係使用 HPLC 粒徑篩析層析來測定。

表 44. 親和力成熟之人類化抗 VEGF 抗體之 Biacore 結合

抗體	k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)
CL-28815-IgG (親代 mAb 之 EI 形式)	9.2 E+06	1.1 E-04	1.2 E-11
CL-32416-IgG	2.0 E+07	1.1 E-05	5.4 E-13
CL-34449-IgG	1.1 E+07	9.1 E-06	8.5 E-13
CL-34455-IgG	2.2 E+07	1.0 E-05	4.6 E-13
CL-34469-IgG	1.5 E+07	9.5 E-06	6.2 E-13
CL-34475-IgG	2.7 E+07	1.4 E-05	5.2 E-13
CL-34522-IgG	2.0 E+07	1.0 E-05	5.3 E-13
CL-34538-IgG	3.3 E+07	8.1 E-06	2.4 E-13
CL-34540-IgG	8.4 E+06	7.1 E-06	8.5 E-13
CL-34565-IgG	2.0 E+07	7.8 E-06	4.0 E-13
CL-34570-IgG	1.9 E+07	5.5 E-06	2.9 E-13
CL-34633-IgG	1.7 E+07	4.1 E-06	2.4 E-13

表徵親和力成熟之人類化抗 VEGF 抗體之 hVEGF₁₆₅ 結合及功效。藉由 Biacore 分析測定該等分子對 hVEGF₁₆₅ 之結合親和力(實例 1.1)。在基於細胞及 ELISA 格式二者中評估功效。在競爭 ELISA 中評估阻斷 hVEGF₁₆₅ 與 hVEGFR2 之結合之能力(實例 1.4)。使用 HMVEC-d 細胞評估 hVEGF₁₆₅ 誘導之細胞增殖之抑制(實例 1.10)。數據概述於下表 45 中。

表 45. 親和力成熟之人類化抗人類 VEGF-A 抗體之表徵之概述

親和力成熟之人類化 IgG	hVEGF ₁₆₅ IC50 (nM)		
	VEGFR2 競爭	功效 HMVEC-d	功效 VEGFR2-3T3
CL-32416-IgG	<0.1	0.117	NT
CL-34449-IgG	<0.1	0.077	NT
CL-34455-IgG	<0.1	0.105	NT
CL-34469-IgG	<0.1	0.094	NT
CL-34475-IgG	<0.1	0.106	NT

CL-34522-IgG	<0.1	0.116	NT
CL-34540-IgG	<0.1	0.139	NT
CL-34633-IgG	<0.1	0.138	NT
CL-34538-IgG	<0.1	0.127	NT
CL-34570-IgG	<0.1	0.11	NT
CL-34565-IgG	<0.1	0.126	NT

實例 8：抗人類 PDGF-BB 抗體 hBDI-9E8 之親和力成熟

PDGF- β 抗體 hBDI-9E8.4 係自 Aldevron 產生之大鼠雜交瘤獲得且在 AbbVie 生物研究中心(100 Research Drive, Worcester, MA 01605) 經人類化。用於此純系之人類種系係 VH2-70 及 IGKV3-20。為改良 hBDI-9E8.4 之親和力，鑑別超突變 CDR 殘基與 IgBLAST 數據庫中亦與種系 VHVH2-70 及 IGKV3-20 共用高一致性之其他人類抗體序列。然後藉由使用在該等位置具有低簡併性之引子之 PCR 使相應 h9E8.4 CDR 殘基經受有限誘變，以產生三個呈適於表面展示之 scFv 格式之抗體文庫。為改良 hBDI-9E8.4 對 PDGF β 之親和力，產生三個呈適於表面展示之 scFv 格式之抗體文庫。在第一個文庫中，藉由引子使 VH CDR1 中之殘基 30、32、34、35 及 35b 及 VH CDR2 中之殘基 50、52、54、56、57、58、60、61 及 65 (Kabat 編號)經受有限誘變。在第二個文庫中，藉由引子使 VH CDR3 中之殘基 95-100a、100c 及 102 (Kabat 編號)經受有限誘變。在第三個文庫中，藉由引子使 VL CDR1 中之殘基 24、25、27b 及 29-32、VL CDR2 中之殘基 47、50、51、53、55 及 56 以及 VL CDR3 中之殘基 90、93-95a、96 及 97 (Kabat 編號)經受有限誘變。

該等 hBDI-9E8.4 文庫經展示以藉由磁力、然後藉由螢光活化細胞分選針對低濃度之生物素化 PDGF β 進行選擇。針對經改良之締合速率、離解速率或二者以及親和力調節之 hBDI-9E8.4 純系之抗體蛋

白質序列實施選擇。

表 46 提供源自 hBDI-9E8.4 之親和力成熟之人類化 PDGF 抗體之 VH 區的胺基酸序列之列表。每一 VH 序列之個別 CDR 之胺基酸殘基以粗體指示。

表 46. 親和力成熟之 hBDI-9E8.4 VH 變體之胺基酸序列之列表

純系	SEQ ID NO:	VH
CL-22556		EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGVGV GWIRQPPGKALEWLA NIWW VEIFYSTSLK TRLTISKDTSKNQVVL TMTNMDPVD TATYYC ARIES IGTTYSFDYWGQGM TVSS
CL-22557		EVTLRESGPALVKPTQTLTLTCTFSG FSLWTS GMGVVWIRQPPGKALEWLA LIDWADVKS YNPSLKN RLTISEDTSKNQVVL TMTNMDPVD TATYYC ARIES IGTTYSFDYWGQGM TVSS
CL-22558		EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGV SVGWIRQPPGKALEWLA LIDWYDDMY YSTSLK TRLTISKDTSKNQVVL TMTNMDPVD TATYYC ARIES IGTTYSFDYWGQGM TVSS
CL-22559		EVTLRESGPALVKPTQTLTLTCTFSG FSLSTSG VRVWIRQPPGKALEWLA NIWWDDYLD YSTSLK TRLTISKDTSKNQVVL TMTNMDPVD TATYYC ARIES IGTTYSFDYWGQGM TVSS
CL-22560		EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGM SVGWIRQPPGKALEWLA LIDWADDT YYNPSLNN RLTISKDTSKNQVVL TMTNMDPVD TATYYC ARIES IGTTYSFDYWGQGM TVSS
CL-22561		EVTLRESGPALVKPTQTLTLTCTFSG FSLATYGM SVAWIRQPPGKALEWLA LIDWYDDE YYSTSLK TRLTISKDTSKNQVVL TMTNMDPVD TATYYC ARIES IGTTYSFDYWGQGM TVSS
CL-22562		EVTLRESGPALVKPTQTLTLTCTFSG FSLXTYGV GVGWIRQPPGKALEWLA NIWWVDDKY YSTSLK TRLTISKDTSKNQVVL TMTNMDPVD TATYYC ARIES IGTTYSFDYWGQGM TVSS

純系	SEQ ID NO:	VH
CL-22563		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLA LIDWADDKYYNPSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS
CL-22564		EVTLRESGPALVKPTQTLTLTCTFSGFSLCTSGVRVRWIRQPPGKALEWLA LIDWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS
CL-22565		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLA NIWDDNXYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS
CL-22567		EVTLRESGPALVKPTQTLTLTCTFSGFSLATSGVSVGWIRQPPGKALEWLA LIDWEDDKGYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS
CL-22569		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMRVGWIRQPPGKALEWLA LIDWDDHKYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS
CL-22570		EVTLRESGPALVKPTQTLTLTCTFSGFSLCTSGVGVGWIRQPPGKALEWLA LIDWDDDNYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS
CL-22571		EVTLRESGPALVKPTQTLTLTCTFSGFSLFTYGMGVGWIRQPPGKALEWLA LIDWDDKFYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS
CL-22572		EVTLRESGPALVKPTQTLTLTCTFSGFSLCTSGVGVGWIRQPPGKALEWLA NIWDDDRYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS
CL-22573		EVTLRESGPALVKPTQTLTLTCTFSGFSLCTSGMSVGWIRQPPGKALEWLA LICWDDDRYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22575		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMRVGVIRQPPGKALEWLA LIDWGDDMSYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22576		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVGVIRQPPGKALEWLA LIDWEDDKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22578		EVTLRESGPALVKPTQTLTLTCTFSGFSLTYGVGVCWIRQPPGKALEGWL NIWWADGKCYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22581		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVRVSWIRQPPGKALEWLA LIDWDDEECYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22582		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMSVSWIRQPPGKALEWLA LIDWVDDMGYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22583		EVTLRESGPALVKPTQTLTLTCTFSGFSLXTYGMGVGVIRQPPGKALEWLA LIDWADYRSYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22584		EVTLRESGPALVKPTQTLTLTCTFSGFSLATYGVGVCWIRQPPGKALEWLA LIDWEDAVNYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22585		EVTLRESGPALVKPTQTLTLTCTFSGFSLCTYGMGVCWIRQPPGKALEWLA LIGWDDENYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22586		EVTLRESGPALVKPTQTLTLTCTFSGFSLTTYGVRVGVIRQPPGKALEWLA LIDWDDDKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22587		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMSVCWIRQPPGKALEWLA NIWDDGCCYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22588		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMRVWIRQPPGKALEWLA LIDWCDDKYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22589		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVSWIRQPPGKALEWLA LIDWDDHXHYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22591		EVTLRESGPALVKPTQTLTLTCTFSGFSLWTSGVGVWIRQPPGKALEWLA LIDWEDNKDYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22593		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVRVWIRQPPGKALEWLA LIDWVDDMYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22595		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVEWIRQPPGKALEWLA LIDWDDDKDYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22596		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVWIRQPPGKALEWLA LIDWCDNRYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22597		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMRVWIRQPPGKALEWLA LIDWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22598		EVTLRESGPALVKPTQTLTLTCTFSGFSLRITYGVSVMWIRQPPGKALEWLA LIDWYDGKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22599		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVDWIRQPPGKALEWLA LIDWEDDKSYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22600		EVTLRESGPALVKPTQTLTLTCTFSGFSLWTYGVSVRWIRQPPGKALEWLA LIDWDDVKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22601		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVGVGWIRQPPGKALEWLA LIDWDDDKFYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22602		EVTLRESGPALVKPTQTLTLTCTFSGFSLPTYGVRVWIRQPPGKALEWLA NIWVDNKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22603		EVTLRESGPALVKPTQTLTLTCTFSGFSLXTSGVRVWIRQPPGKALEWLA LIDWDDYQYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22604		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGVSVGWIRQPPGKALEWLA NIWYDLKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22605		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGVGVGWIRQPPGKALEWLA LIDWDDDKCYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22606		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVSVGWIRQPPGKALEWLA NIWVDEKAYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22607		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVGSWIRQPPGKALEWLA LIDWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22608		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA LIDWDDDKYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22609		EVTLRESGPALVKPTQTLTLTCTFSGFSLPTSGVSVGWIRQPPGKALEWLA NIWWADSKFYSTSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22610		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGVSDWIRQPPGKALEWLA LIDWGDQTNYNPSLKNRLTISKDTSKNQVVXTMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22611		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGVGVEWIRQPPGKALEWLA LIDWYDDKYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22612		EVTLRESGPALVKPTQTLTLTCTFSGFSLPTSGVGVGWIRQPPGKALEWLA LIDWEDHMDYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22614		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMRVGWIRQPPGKALEWLA LIDWXDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22615		EVTLRESGPALVKPTQTLTLTCTFSGFSLTTSVGVGWIRQPPGKALEWLA LIDWYDERFYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22617		EVTLRESGPALVKPTQTLTLTXTFSGFSLSTYGMRVGWIRQPPGKALEWLA NIWWADNXSYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22618		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMSVGWIRQPPGKALEWLA LIDWADDNYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22619		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTSGVSVGWIRQPPGKALEWLA LIDWEDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22620		EVTLRESGPALVKPTQTLTTLCTFSGFSLWTSGMGVGVWIRQPPGKALEWLA LIDWDEKAYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22621		EVTLRESGPALVKPTQTLTTLCTFSGFSLWTSGMRVGVWIRQPPGKALEWLA NIWDDDKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22622		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGVSVGWIRQPPGKALEWLA LIDWHDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22624		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMSVGVWIRQPPGKALEWLA LIDWNDNKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22625		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTSGVGVGWIRQPPGKALEWLA LIDWDDDKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22626		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTSGVRVCWIRQPPGKALEWLA LIDWDDDKSYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22627		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGVSVTWIRQPPGKALEWLA LIDWNDDNHYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22628		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTSGVSVVWIRQPPGKALEWLA NIWDDDEKCYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGTTYSF DYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22629		EVTLRESGPALVKPTQTLTLTCTFTGFSLYTSGMGVWIRQPPGKALEWLA LIDWDDDKNYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22630		EVTLRESGPALVKPTQTLTLTCTFSGFSLFTYGVGVWIRQPPGKALEWLA NIWWPDDNYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22631		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVGVWIRQPPGKALEWLA LIDWDDDXCYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22633		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGVSVGWIRQPPGKALEWLA LIDWDEKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22634		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVGVWIRQPPGKALEWLA LIDWIDDEDYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22635		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVSVRWIRQPPGKALEWLA NIWWDDNKYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22636		EVTLRESGPALVKPTQTLTLTCTFSGFSLCTSGMGVWIRQPPGKALEWLA NIWWDDDNYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22637		EVTLRESGPALVKPTQTLTLTCTFSGFSLTYGMGVWIRQPPGKALEWLA NIWWHDDKYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-22638		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVSVAWIRQPPGKALEWLA NIWWDDDKYYSTSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22639		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVRVWIRQPPGKALEWLA LIDWEDYLCYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGTTY SFDYWGQGMVTVSS
CL-22640		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVGVWIRQPPGKALEWLA LIDWDDDDYYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGTTY SFDYWGQGMVTVSS
CL-22641		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWDDDDKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGTTY SFDYWGQGMVTVSS
CL-22642		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVWIRQPPGKALEWLA NIWVDDNYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGTTY SFDYWGQGMVTVSS
CL-22643		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVYWIRQPPGKALEWLA LIDWDDDDNYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGTTY SFDYWGQGMVTVSS
CL-22644		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVSVWIRQPPGKALEWLA LIDWDDGKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGTTY SFDYWGQGMVTVSS
CL-22645		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVRVWIRQPPGKALEWLA LIDWNDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGTTY SFDYWGQGMVTVSS
CL-22646		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGVSVWIRQPPGKALEWLA NIWWHDDKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGTTY SFDYWGQGMVTVSS
CL-22648		EVTLRESGPALVKPTQTLTLTCTFSGFSLMTSGMSVCWIRQPPGKALEWLA NIWYDCHKYYSTSLKTRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGTTY SFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22649		EVTLRESGPALVKPTQTLTLTCTFSGFSLRITYGVSVGWIRQPPGKALEWLA NIWWDDAKYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQYWGQGMVTVSS
CL-22650		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGVRVAWIRQPPGKALEWLA NIWWDDVKYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQYWGQGMVTVSS
CL-22651		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IAASYSFQYWGQGMVTVSS
CL-22652		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARFEY LGAMYXFQYWGQGMVTVSS
CL-22653		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARXDS FRKPYSFQYWGQGMVTVSS
CL-22654		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIXS IGSTYWFQYWGQGMVTVSS
CL-22655		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARLVS IVTKYSFQYWGQGMVTVSS
CL-22656		XVTLXESGPALXKPTXTLTLTCTFSGFXLSTXGMVGWIRQPPRKALXWLA NXWWDDDKYYNPSLXNRLXISKDTSKNQVVLMTNMDPVDATAXYYCARXXX XXMXYSFQYWGQGMVTVSX
CL-22658		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARLEP IPMTYSFQYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22659		EVTLRESGPALVKPTQTLTLTCTFSGFSLSSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI EW SAITYSFDYWGQGMVTVSS
CL-22660		EVTLRESGPALVKPTQTLTLTCTFSGFSLSSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI EC TXNRYXFDYWGQGMVTVSS
CL-22661		EVTLRESGPALVKPTQTLTLTCTFSGFSLSSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI EC NSTTYSFDYWGQGMVTVSS
CL-22664		EVTLRESGPALVKPTQTLTLTCTFSGFSLSSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCAR IAS LCATYYFDYWGQGMVTVSS
CL-22665		EVTLRESGPALVKPTQTLTLTCTFSGFSLSSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI GW RLRMYSFDYWGQGMVTVSS
CL-22666		EVTLRESGPALVKPTQTLTLTCTFSGFSLSSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI VS IGGTYSFDYWGQGMVTVSS
CL-22668		EVTLRESGPALVKPTQTLTLTCTFSGFSLSSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCAR VES IGTTYFDYWGQGMVTVSS
CL-22669		EVTLRESGPALVKPTQTLTLTCTFSGFSLSSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI YAP IGTTYWFDYWGQGMVTVSS
CL-22670		EVTLRESGPALVKPTQTLTLTCTFSGFSLSSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI ES TRTTYLFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22671		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES TGTAYSFDYWGQGMVTVSS
CL-22672		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIAS VGTSYSFDYWGQGMVTVSS
CL-22673		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCAREES TCPTYFSDYWGQGMVTVSS
CL-22675		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARTES IDRAYSFDYWGQGMVTVSS
CL-22677		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIGS TGISYSFDYWGQGMVTVSS
CL-22678		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARRES IGTTYFSDYWGQGMVTVSS
CL-22679		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARKVT IETAYFSDYWGQGMVTVSS
CL-22680		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATXYCARFAS IGTTYFSDYWGQGMVTVSS
CL-22681		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARMKS IATTYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22682		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES RRATYSFDYWGQGMVTVSS
CL-22683		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIGX IGSAYTFDYWGQGMVTVSS
CL-22685		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARTGS GVTTYSFYWGQGMVTVSS
CL-22688		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIGS IESAYSFDYWGQGMVTVSS
CL-22689		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARVYS KGTTFYFDYWGQGMVTVSS
CL-22691		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARFEA LGLSYSFDYWGQGMVTVSS
CL-22692		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATXYCARRGT IRTTYSFYWGQGMVTVSS
CL-22694		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYW IGPTYCFDYWGQGMVTVSS
CL-22695		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES MRTTYSFYWGQGMVTVSS

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CL-22696		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIRS IVTTYSFDYWGQGMVTVSS
CL-22698		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARTQS SAMTYSFDYWGQGMVTVSS
CL-22702		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARNES MGTSYSFDYWGQGMVTVSS
CL-22703		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI EF VRAIYSFDYWGQGMVTVSS
CL-22704		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARFES LGETYSFDYWGQGMVTVSS
CL-22705		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI EA IGNQYSFDYWGQGMVTVSS
CL-22706		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARKDS MVTTYLFDYWGQGMVTVSS
CL-22707		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARVEW QGSTYSFDYWGQGMVTVSS
CL-22708		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARI ES IGTTYMFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-22709		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARCAS VSTTYCFDYWGQGMVTVSS
CL-22710		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARILS IGNTYSFDYWGQGMVTVSS
CL-22711		EVTLRESGPALVKPTQTLTLTCTFFGFSLSTYGMGVGWIRQPPGKALEWLA NIWCDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES NGNTYSFDYWGQGMVTVSS
CL-22712		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARRDS TGTPYSFDYWGQGMVTVSS
CL-22713		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARVES IVTTYFDYWGQGMVTVSS
CL-22714		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARLEK FGRTYPFDYWGQGMVTVSS
CL-22715		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARFKS NRPSYSFDYWGQGMVTVSS
CL-22716		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSXKNRLXISKDTSKNQVVL TMTNMDPVD TATYYCARIES LDTTYXFDXXGQGMXTVSS
CL-22717		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIXA TGMLYSFDYWGQGMVTVSS

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CL-22718		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IETTYXFDYWGQGMVTVSS
CL-22719		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIEX MAPMYSFDYWGQGMVTVSS
CL-22720		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARVRP LVTIYSFDYWGQGMVTVSS
CL-22721		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIDS VWTTYSFYWGQGMVTVSS
CL-22722		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARVEE IGNTYNFDYWGQGMVTVSS
CL-22723		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARRGL FRIRYSFDYWGQGMVTVSS
CL-22724		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRXTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFYWGQGMVTVSS
CL-22725		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIEV IGTAYSFDYWGQGMVTVSS
CL-22726		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARLDV IGMLYAFDYWGQGMVTVSS

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CL-22728		EVTLRESGPALVKPTKTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIMS IGSSYXFDYWGQGMVTVSS
CL-22729		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIDW IGTTYSFYWGQGMVTVSS
CL-22730		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARNSS IGSTYSFDYWGQGMVTVSS
CL-22731		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES PGTWYSFDYWGQGMVTVSS
CL-22732		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI EW IGITYCFDYWGQGMVTVSS
CL-22733		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI EX LGTYSFDYWGQGMVTVSS
CL-22734		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARKEL TCSTYSFDYWGQGMVTVSS
CL-22736		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI EX IRMYSFDYWGQGMVTVSS
CL-22737		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARKAA IATLYLFDYWGQGMVTVSS

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CL-22738		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARRRP IVTTYSFQYWGQGMVTVSS
CL-22740		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTVYSFQYWGQGMVTVSS
CL-22741		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIAS IGSMYSFQYWGQGMVTVSS
CL-22742		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES RATTYSFQYWGQGMVTVSS
CL-22743		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARNVW LGTTYSFQYWGQGMVTVSS
CL-22744		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIMS IGTAYSFQYWGQGMVTVSS
CL-22745		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIKW IWTTYSFQYWGQGMVTVSS
CL-22746		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIEX RGSTYIFQYWGQGMVTVSS
CL-22759		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCXRIES IGTTYSFQYWGQGMVTVSS

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CL-22763		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNXDPVDTATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-22806		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVDTATYYCARIES IGTTYXFX YWGQGMVTVSS
CL-22812		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVDTATXYCARIES IGTTYSF DYXGQGMVTVSS
CL-22819		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVDTATYYCAXIES IGTTYSF DYWGQGMVTVSS
CL-22833		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVDTATYXCARIES IGTTYX D YWGQGTXTVTVSS
CL-25629		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRKPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVDTATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-25633		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNVDPVDTATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-25645		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKELEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVDTATYYCARIES IGTTYSF DYWGQGMVTVSS
CL-25649		EVTLRESGPALVKPTQTLTTLCTFSGFSLATSGMGVWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVDTATYYCARIES IGTTYSF DYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-25656		EVTLRESGPALVKPTQTLTLTCTFSGFRLSTYGMGVGWIRKPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQDYWGQGMVTVSS
CL-25657		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATANYCARIAS IPTMYAFDYWGQGMVTVSS
CL-25676		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWMA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQDYWGQGMVTVSS
CL-25679		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQDYWGQGMVTVSS
CL-25684		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVWIRQPPGKALEWLA NIWDDDDKYYNPSLKTRRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQDYWGQGMVTVSS
CL-25696		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGVGVGWIRQPPGKALEWLA NIWDDDDKYYSTSLKTRRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQDYWGQGMVTVSS
CL-25697		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRKPPGKALEWLA NIWDDDDKYYNPSLKTRRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQDYWGQGMVTVSS
CL-25699		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVWIRQPPGKALEWLA NIWDDDDRYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQDYWGQGMVTVSS
CL-25700		EVTLRESGPALVKPTQTLTLTCTFSGFSLMITYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFQDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-25702		EVTTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNTSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25710		EVTTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLE NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25738		EVTLLKSGPALVKPXQTLTLTCTFSGFSLSTYGMGVGWIRXPPGKGLEWLA NIWWDDDKYYNPSLKNRLTIXKDTSKNQVVLMTNMDPVDATATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25739		EVTLLKESGPALVKPTXTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25745		EVTTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTTYSFDYWGQGMVTVSX
CL-25749		EVTTLRESGPALVKPTXTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25755		EVTTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARMKS IGSTYSFDYWGQGMVTVSS
CL-25763		EVTLLKESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25765		EVTTLRESGPALVKPTXTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTTYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-25769		EVTLKESGPALVKPTXLTTLTCTFSGFSLSTYGMGVGWIRHPPGKALEWLA NIWWNNDNYYNPSLKNRLTINKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25773		EVTLKESGPALVKPTQTLTTLTCTFSGFSLSTYGMGVGWIRQPPGKALEGLA NIWWDDDKYYNPSLKNRLTINKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25789		EVTLRESGPALVKPTHLTTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25791		EVTLKESGPALVKPTQTLTTLTCTFSGFRLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25797		EVTLXESGPALVKPTXLTTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-25815		EVTLKESGPALVKPTQTLTTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTINKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSFDYWGQGMVTVSS
CL-28144		EVTLRESGPALVKPTQTLTTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES GWTTYSFDYWGQGMVTVSS
CL-28145		EVTLRESGPALVKPTQTLTTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IWTSYSFDYWGQGMVTVSS
CL-28146		EVTLRESGPALVKPTQTLTTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIVS SWTIYSFDYWGQGMVTVSS

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CL-28147		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYS SGTVYSFDYWGQGMVTVSS
CL-28148		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYS LGISYSFDYWGQGMVTVSS
CL-28149		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYS TGTSYSFDYWGQGMVTVSS
CL-28151		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYS LGPSYSFDYWGQGMVTVSS
CL-28152		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYS IGSSYSFDYWGQGMVTVSS
CL-28155		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYS IGWSYSFDYWGQGMVTVSS
CL-28156		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYS DWTIYSFDYWGQGMVTVSS
CL-28157		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYS SWITYSFDYWGQGMVTVSS
CL-28160		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIYS EWTYNYFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-28161		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SPTTYSFDYWGQGMVTVSS
CL-28162		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGISYSFDYWGQGMVTVSS
CL-28163		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SATIYSFDYWGQGMVTVSS
CL-28164		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES TGTIYSFDYWGQGMVTVSS
CL-28167		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTSYSFDYWGQGMVTVSS
CL-28169		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIVS TWTIYSFDYWGQGMVTVSS
CL-28170		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES LGTSYNFDYWGQGMVTVSS
CL-28173		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES TWWIYSFDYWGQGMVTVSS
CL-28175		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SGWSYAFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-28177		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGYSYSFDYWGQGMVTVSS
CL-28180		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWMA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIET LGISYSFDYWGQGMVTVSS
CL-28181		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MWSSYSFDYWGQGMVTVSS
CL-28182		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIET IGTSYSFDYWGQGMVTVSS
CL-28186		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIVS DVTTYSDYWGQGMVTVSS
CL-28187		EVTLRESGPALVKPTKTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES FGTSYSFDYWGQGMVTVSS
CL-28189		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIKS IGWTYSFDYWGQGMVTVSS
CL-28190		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES NFWSYSFDYWGQGMVTVSS
CL-28195		EVTLRESGPALVKPTHTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIMS LETRYDFYYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-28196		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES VETSYNFDYWGQGMVTVSS
CL-28198		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES FWTTYSDYWGQGMVTVSS
CL-28204		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MGTSYSFDYWGQGMVTVSS
CL-28205		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IWSSYSFDYWGQGMVTVSS
CL-28208		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGFSYSFDYWGQGMVTVSS
CL-28212		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES VGPSYSFDYWGQGMVTVSS
CL-28213		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES LGWTYSFDYWGQGMVTVSS
CL-28215		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES DWTYSFDYWGQGMVTVSS
CL-28219		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGPSYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-28233		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES LVTSYDFDYWGQGMVTVSS
CL-28235		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES VGTSYNFDYWGQGMVTVSS
CL-29595		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES TEASYSFDYWGQGMVTVSS
CL-29596		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES NGASYSFDYWGQGMVTVSS
CL-29597		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SVTTYSFYWGQGMVTVSS
CL-29598		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDNYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARXES XWTSYSFDYWGQGMVTVSS
CL-29600		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGASYSFDYWGQGMVTVSS
CL-29601		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES TGRSYGFDYWGQGMVTVSS
CL-29607		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIET LGTSYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29608		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYICARIES LGTYSFDYWGQGMVTVSS
CL-29611		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYICARIES IPTAYSFDYWGQGMVTVSS
CL-29612		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKRRLTISKDTSKNQVVLMTNMDPVDATATYICARIES LGTYSFDYWGQGMVTVSS
CL-29613		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYICARLES IATYSFDYWGQGMVTVSS
CL-29614		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYICARIES IGPSYSFDYWGHGMVTVSS
CL-29617		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYICARIES SYTSYSFDYWGQGMVTVSS
CL-29618		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYICARIES TWTSYSFDYWGQGMVTVSS
CL-29620		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYICARIES SVTNYQFDYWGQGMVTVSS
CL-29621		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYICARIES IGTSYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29625		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES LGPAYSFDYWGQGMVTVSS
CL-29627		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSNNQVVLMTNMDPVDATATYYCARIES FGSSYSFDYWGQGMVTVSS
CL-29629		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SETTYTFDYWGQGMVTVSS
CL-29630		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IWTYSFDYWGQGMVTVSS
CL-29631		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNLLTISKDTSKNQVVLMTNMDPVDATATYYCARIES FGTSYSFDYWGQGMVTVSS
CL-29632		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIAS XGTSYSFDYWGQGMVTVSS
CL-29634		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNSTSLKRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTSYSFDYWGQGMVTVSS
CL-29635		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SPTSYSFDYWGQGMVTVSS
CL-29636		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGWSYAFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29637		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGWTYSFDYWGQGMVTVSS
CL-29638		EVTLRESGPALVKPTQTLTLTCTFSGFSLATSGVSVLWIRQPPGKALEWLA NIWWDDGXYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES FGTSYSFDYWGQGMVTVSS
CL-29639		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES LWTTYSFYWGQGMVTVSS
CL-29643		EVTLRESGPALVKPTQTLTLTCTFSGFSLDTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SGYTYSFYWGQGMVTVSS
CL-29644		EVTLRESGPALVKPTQTLTLTCTFSGFSLTTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SGSSYSFDYWGQGMVTVSS
CL-29645		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARVAS SWVEYSFDYWGQGMVTVSS
CL-29647		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES FGTSYSFDYWGQGMVTVSS
CL-29648		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SGTTYSFYWGQGMVTVSS
CL-29649		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRKPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MGISYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29651		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGIAYSFDYWGQGMVTVSS
CL-29654		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIXWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IVTTYSFYWGQGMVTVSS
CL-29658		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES GWTIYSFDYWGQGMVTVSS
CL-29662		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES LGPTYSFYWGQGMVTVSS
CL-29663		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES VGTSYSFDYWGQGMVTVSS
CL-29665		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTSGMGVWIRQPPGKALEWLA NIWDDDDQYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SWTTYSFYWGQGMVTVSS
CL-29667		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES FGPSYSFDYWGQGMVTVSS
CL-29668		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SGTSYSFDYWGQGMVTVSS
CL-29673		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARXXS IVTTYSFYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29674		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYSTSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTSYSFDYWGQGMVTVSS
CL-29676		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGLIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES VGTSYSFDYWGQGMVTVSS
CL-29678		EVTLKESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARI GS SGTTY SFDYWGQGMVTVSS
CL-29679		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP TSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIDS FGAIYSFDYWGQGMVTVSS
CL-29680		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKELEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDP VETATYYCARIES IGTAYNFDYWGQGMVTVSS
CL-29683		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES LGTSYSFDYWGQGMFTVSS
CL-29688		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTSGMGVWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES LGTSYSFDYWGQGMVTVSS
CL-29689		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARI EA KGTTY SFDYWGQGMVTVSS
CL-29699		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES RGTSYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29706		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MGPTYSFDYWGQGMVTVSS
CL-29707		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IETSYSFDYWGQGMVTVSS
CL-29709		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYRARIES LGTTYSFDYWGQGMVTVSS
CL-29711		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRHPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MGTSYSFDYWGQGMVTVSS
CL-29713		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MGTTYSFDYWGQGMVTVSS
CL-29714		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCALIES SGTTYSFDYWGQGMVTVSS
CL-29720		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES KGVSYSFDYWGQGMVTVSS
CL-29721		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IPTTYSFDYWGQGMVTVSS
CL-29727		EVTLRESXPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKELEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES LGTTYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29728		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES LGITYSFDYWGQGMVTVSS
CL-29730		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MGRSYSFDYWGQGMVTVSS
CL-29731		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IATSYSFDYWGQGMVTVSS
CL-29732		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYNFDYWGQGMVTVSS
CL-29735		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MGPMYSFDYWGQGMVTVSS
CL-29736		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTAYSFDYWGQGMVTVSS
CL-29738		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARMES SWTTY SFDYWGQGMVTVSS
CL-29739		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES TGATYSFDYWGQGMVTVSS
CL-29740		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MGPKYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29742		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDKDYKYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES MGMSYSFDYWGQGMVTVSS
CL-29744		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDKDYKYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGLSYSFDYWGQGMVTVSS
CL-29745		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDKDYKYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYRARIES LGMSYSFDYWGQGMVTVSS
CL-29746		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDKDYKYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARLXS TGTNYSFDYWGQGMVTVSS
CL-29748		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDKDYKYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SDTIYSFDYWGQGMVTVSS
CL-29749		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTSGMGVDWIRQPPGKALEWLA LIDWDDDIHYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTTYSDYWGQGMVTVSS
CL-29751		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDKDYKYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES VGTTYSDYWGQGMVTVSS
CL-29753		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDKDYKYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES TGTTYSDYWGQGMVTVSS
CL-29756		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDKDYKYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARNES FGRMYXFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-29757		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARXES IGTTYSF DYWGQGMVTVSS
CL-29758		EVTLRESGPSLVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES FGTTYSF DYWGQGMVTVSS
CL-29759		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIET LGTAYSF DYWGQGMVTVSS
CL-29761		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES FGSSYSF DYWGQGMVTVSS
CL-29763		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES GPTTYSF DYWGQGMVTVSS
CL-29765		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGTMYSF DYWGQGMVTVSS
CL-29771		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES TXTTYSX DYWGQGMVTVSS
CL-29772		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGITYSF DYWGQGMVTVSS
CL-29773		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES METTYSF DYWGQGMVTVSS

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CL-29776		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES NAITYSFDYWGQGMVTVSS
CL-29777		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES SETTYMFDYWGQGMVTVSS
CL-29780		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLT NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES MGTSYSFDYWGQGMVTVSS
CL-29786		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI YS IGTSYSFDYWGQGMVTVSS
CL-33292		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES SPWTYSFDYWGQGMVTVSS
CL-33332		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES RPDTYSFDYWGQGMVTVSS
CL-33361		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI QS SASNIEFDYWGQGMVTVSS
CL-33368		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI QS GWTNXEFDYWGQGMVTVSS
CL-33583		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI QS IWTRYDFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-33588		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIQS FATNYEFDYWGQGMVTVSS
CL-33591		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES VPWSYSFDYWGQGMVTVSS
CL-33592		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES TPFSYSFDYWGQGMVTVSS
CL-33599		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SWTSYDFDYWGQGMVTVSS
CL-33601		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIQS SSTNYEFDYWGQGMVTVSS
CL-33612		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIQS SWRRYEFDYWGQGMVTVSS
CL-33616		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIKT SATNYDFDYWGQGMVTVSS
CL-33618		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SAFSYNFDYWGQGMVTVSS
CL-33626		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVFLMTNMDPVDATATYYCARIVS SLTEYNFDYWGQGMVTVSS

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CL-33627		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES RVDSYSFDYWGQGMVTVSS
CL-33628		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES TWTSYDFDYWGQGMVTVSS
CL-33654		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES VAWRYDFDYWGQGMVTVSS
CL-33657		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES LPTSYNFDYWGQGMVTVSS
CL-33663		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SPFTYSFDYWGQGMVTVSS
CL-33665		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES DYTKYDFDYWGQGMVTVSS
CL-33667		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES LPTRYDFDYWGQGMVTVSS
CL-33674		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWMA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IPTSYSFDYWGQGMVTVSS
CL-33679		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES KPTSYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-33680		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SWTTYSFQYWGQGMVTVSS
CL-33687		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNPSLKTRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTSYSFQYWGQGMVTVSS
CL-33688		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTFKNQVVLMTNMDPVDATYYCARIES IPTSYSFQYWGQGMVTVSS
CL-33690		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDETYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES DFTSYMFDYWGQGMVTVSS
CL-33693		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES NWSYSFQYWGQGMVTVSS
CL-33696		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SFTTYSFQYWGQGMVTVSS
CL-33698		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES XGXSYSFQYWGQGMVTVSS
CL-33705		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES RLDTYSFQYWGQGMVTVSS
CL-33707		EVTLRESGPALVKPTQTLTLTCTFSGFSLDTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES IGTSYSFQYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-33709		EVTLRESGPALVKPTQTLTTLCTFSGFSLATSGMGVWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IPWSYSFDYWGQGMVTVSS
CL-33711		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES TGYSYSFDYWGQGMVTVSS
CL-33712		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVWIRKPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES SWTSYSFDYWGQGMVTVSS
CL-33722		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES SFFSYSFDYWGQGMVTVSS
CL-33725		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWDDDEYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES LGTSYSFDYWGQGMVTVSS
CL-33734		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES LPGSYDFDYWGQGMVTVSS
CL-33735		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVWIRQPPGKELEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES NPLTYSFDYWGQGMVTVSS
CL-33741		EVTLRESGPALVKPTKTLTTLCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES IGISYSFDYWGQGMVTVSS
CL-33743		EVTLRESGPALVKPTQTLTTLCTFSGFSLATYGMGVWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARIES LPTSYSFDYWGQGMVTVSS

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CL-33745		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SPFAYSFDYWGQGMVTVSS
CL-33746		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SWFTYAFDYWGQGMVTVSS
CL-33747		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIET IXPKYSFDYWGQGMVTVSS
CL-33754		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SWTTYAFDYWGQGMVTVSS
CL-33755		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SEWTYSFDYWGQGMVTVSS
CL-33756		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIQS SWTTYEFDYWGQGMVTVSS
CL-33760		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIET LGSSYSFDYWGQGMVTVSS
CL-33766		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRKPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SFTSYSFDYWGQGMVTVSS
CL-33770		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES GGISYSFDYWGQGMVTVSS

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CL-33773		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES LPTTYSFDYWGQGMVTVSS
CL-33777		EVTLRESGPALVKPTQTLTLTCTFSGFSLYTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES VGTSYSFDYWGQGMVTVSS
CL-33781		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SWYSYNFDYWGQGMVTVSS
CL-33782		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SWRSYCFDYWGQGMVTVSS
CL-33784		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SPMSYSFDYWGQGMVTVSS
CL-33789		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES LPTS YCFDYWGQGMVTVSS
CL-33791		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SWWTYSFDYWGQGMVTVSS
CL-33794		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES RPTS YCFDYWGQGMVTVSS
CL-33795		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES VPTS YCFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-33798		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVD TATYYCARIQS DGPMYSFDYWGQGMVTVSS
CL-33802		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVD TATYYCARIES TGASYSFDYWGQGMVTVSS
CL-33813		EVTLRESGPALVKPTQTLTLTCTFSGFSLYTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVD TATYYCARIES LPTSYSFDYWGQGMVTVSS
CL-33814		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDTVDTATYYCARIES TPWSYSFDYWGQGMVTVSS
CL-33816		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVD TATYYCARIES SWTSYAFDYWGQGMVTVSS
CL-33823		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKELEWLA NIWWDDDKYYNP SLNNRLTISKDTSKNQVVLMTNMDPVD TATYYCARIES SGPKYSFDYWGQGMVTVSS
CL-33833		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVD TATYYCARIES IGWSYSFDYWGQGMVTVSS
CL-33840		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVD TATYYCARIES SAWTYSFDYWGQGMVTVSS
CL-33842		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVLMTNMDPVD TATYYCARIES YGPKYSFDYWGQGMVTVSS

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CL-33844		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIET SWWKYSFDYWGQGMVTVSS
CL-33847		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNLSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SPTSYSFDYWGQGMVTVSS
CL-33849		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIVS SYFTYSFDYWGQGMVTVSS
CL-33858		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDEYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGISYSFDYWGQGMVTVSS
CL-33861		EVTLRESGPALVKPTQTLTLTCTFSGFSLYTSGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SWTTYSDYWGQGMVTVSS
CL-33862		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IPTRYDFDYWGQGMVTVSS
CL-41180		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNRVVLMTNMDPVDATATYYCARIVS DWTYSFDYWGQGMVTVSS
CL-41185		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTDMDPVDATATYYCARIES SWTTYSDYWGQGMVTVSS
CL-41193		RXHWRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIET FGPKYSFDYWGQGMVTVSS

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CL-41204		RGNTEESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDTTTTYYCARIES LPTSYSFDYWGQGMVTVSS
CL-41213		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES LXTNYSFDYWGQGMVTVSS
CL-41224		EVTLREGGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES HWWSYAFDYWGQGMVTVSS
CL-41229		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SFTSYSFDYWGQGMVTEXC
CL-41232		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES HWWSYAFDYWGQGMVTVSS
CL-41233		RXHXGESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SWTTYSFYWGQGMVTVSS
CL-41246		EVTLRESGPALAKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES HWWSYAFDYWGQGMVTVSS
CL-41252		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SWTTYSFYWGQGMVTVSS
CL-41255		EVTLRESGPALVEPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES NPWKYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-41257		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES NWR TYSFDYWGQGT MVTVSS
CL-41260		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES SFTSYSFDYWGQGT MVTVSS
CL-41261		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES HWWSYAFDYWGQGT MVTVSI
CL-41262		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI VS DWT TYSFDYWGQGT MVTVSS
CL-41268		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES LGWSYSFDYWGQGT MVTVSS
CL-41269		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES LPTSYSFDYWGQGT MVTVSS
CL-41270		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES SWT TYSFDYWGQGT MVTVSS
CL-41272		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES NPWKYSFDYWGQGT MVTVSS
CL-41273		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ET FGPKYSFDYWGQGT MVTVSS

純系	SEQ ID NO:	VH
CL-41276		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGIGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES MGPKYAFDYWGQGMVTVSS
CL-41283		EVTLRESGPALVKPTQTLTLTRTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IPTSYSFDYWGQGMVTVSS
CL-41325		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRKPPGKALEWLA NIWWGDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES SGPKYSFDYWGQGMVTVSS
CL-41342		EVTLRESGPALVKPTQTLTLACTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES VWTKYYFDXGGQGMVTVSS
CL-41348		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYEMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTPKNQVVLMTNMDPVDATATYYCARIES VWTRYDFDYWGQGMVXV
CL-41353		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES LGTSYSFDYWGQGMVTVSS
CL-41358		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES IGPKYSFDYWGQGMVTVSS
CL-41361		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIES VWTRYDFDYWGQGMVTVSS
CL-41362		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCARIET MGPKYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-41365		RGNTRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALKWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGPKYSFDYWGQGMVTVSS
CL-41366		EVTLRESGPAQVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IPTSYSFDYWGQGMVTVSS
CL-41367		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRKPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES SGPKYSFDYWGQGMVTVSS
CL-41368		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IGPKYSFDXGGQGMVTVSS
CL-41369		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES IPTSYSFDYWGQGMVTVSS
CL-41376		EVKLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI QT IGTNYSFDYWGQGMVTVSS
CL-41377		EGQLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES SWTSYSFDYWGQGMVTVSS
CL-41381		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES SWTSYSFDYWGQSTMVTVSS
CL-41385		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWWDDDKYYNP SLKNRLTISKDTSKNQVVL TMTNMDPVD TATYYCARI ES SWTSYSFDYWGQGTIVTVSS

純系	SEQ ID NO:	VH
CL-41399		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKSRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SWTSYSFDYWGQGMVTVSS
CL-41405		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDTAAYYCARIET IGPKYSFDYWGQGMVTVSS
CL-41411		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIQS GWTNYEFDYWGQGMVTVVV
CL-41420		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIQS MWTRYDFDYWGQGMVTVSS
CL-41425		RXHXRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SGPKYSFDYWGQGMVTVSS
CL-41427		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDAATYYCARIQS GWTNYEFDYWGQGMVTVSS
CL-41436		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SWTSYSFDYWSQGMVTVSS
CL-41439		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIET IGPKYSFDYWGQGMVTVSS
CL-41443		EVTLRESGPALVKPTQTLTTLCTFSGFSLSTYGMGVGWIRQPPGKALEWLA NIWDDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCARIES SGPKYSFDYWGQGMVTVSS

純系	SEQ ID NO:	VH
CL-41446		EVTLRRESGPALVKPTQTLTLTCTFSGF SLSTYGMGV GWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQV VLMTNMDPVD TATYYCARI ES SWTSYSFDYWGQGM TVSS
CL-41447		EVTLRRESGPALVKPTQTLTLTCTFSGF SLSTYGMGV GWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQAV LTMTNMDPVD TATYYCARI QS GWTNYEFDYWGQGM TVSS
CL-41448		RGNTEKSGPALVKPTQTLTLTCTFSGF SLSTYGMGV GWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQV VLMTNMDPVD TATYYCARI ES SWTSYSFDYWGQGM TVSS
CL-41449		EVTLRRESGPALVKPTQTLTLTCTFSGF SLSTYGMGV GWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQV VLMTNMDPVD TATYYCARI QS GWTNYEFDYWGQGM TVSS
CL-41452		EVTLRRESGPALVKPTQTLTLTCTFSGF SLSTYGMGV GWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQV VLMTNMDPVD TATYYCARI ES IGTTYSFDYWGQGM EXVVR
CL-41459		EVTLRRESGPALVKPTQTLTLTCTFSGF ILSTYGMGV GWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQV VLMTNMDPVD TATYYCARI ES IGTTYSFDYWGQGM TVSS
CL-41463		EVTLRRESGPALVKSTQTLTLTCTFSGF SLSTYGMGV GWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQV VLMTNMDPVD TATYYCARI ES IGTTYSFDYWGQGM TVSS
CL-41465		EVTLRRESGPALVKPTQTLTLTCTFSGF SLSTYGMGV GWIRQPPGKALEWLA NIWDDDKYYNP SLKNRLTISKDTSKNQV VLMTNMDPVD TATYYCARI ES IGTTYSFDYWGQGM TVSS

表 47 提供源自 hBDI-9E8.4 之親和力成熟之人類化 PDGF 抗體之 VL 區的胺基酸序列之列表。每一 VL 序列之個別 CDR 之胺基酸殘基以粗體指示。

表 47. 親和力成熟之 hBDI-9E8.4 VL 變體之胺基酸序列之列表

純系	SEQ ID NO:	VL
CL-22656		EIVLTQ SXG T L S L S P G X R X T L S C E R S S G D I G D S Y V S W Y Q Q K P G Q A P R L V I Y A D D Q R P S G I P D R F S G S G S G T D F T L T I S R L E P E D F A V Y Y C Q S Y D I N I D I V F G G G T K V E I K
CL-22715		EIVLXQ SPG T L S L S P G E R A T L S C E R S S G D I G D S Y V S W Y Q Q K P G Q A P R L V I Y A D D Q R P S G I P D R F S G S G S G T D F T L T I S R L E P E D F A V Y Y C Q S Y D I N I D I V F G G G T K V E I K
CL-22747		EIVLTQ SPG T L S L S P G E R A T L S C E R S S G S I W Y S Y V S W Y Q Q K P G Q A P R L V I Y A D D Q R P T G I P D R F S G S G S G T D F T L T I S R L E P E D F A V Y Y C Q S Y D I N K D L T F G G G T K V E I K
CL-22748		EIVLTQ SPG T L S L S P G E R A T L S C E R S S G S I G Y S Y V S W Y Q Q K P G Q A P R L V I Y A A D Q R A S G I P D R F S G S G S G T D F T L T I S R L E P E D F A V Y Y C Q Q Y G I I I D I T F G G G T K V E I K
CL-22749		EIVLTQ SPG T L S L S P G E R A T L S C E R S S G S I E H A Y V S W Y Q Q K P G Q A P R L L I Y G A D H R A T G I P D R F S G S G S G T D F T L T I S R L E P E D F A V Y Y C Q S Y D F N N T I T F G G G T K V E I K
CL-22750		EIVLTQ SPG T L S L S P G E R A T L S C E R S S G D I G H C Y V S W Y Q Q K P G Q A P R L V I Y A A D H R P S G I P D R F S G S G S G T D F T L T I S R L E P E D F A V Y Y C Q Q Y G K N I D G T F G G G T K V E I K
CL-22752		EIVLTQ SPG T L S L S P G E R A T L S C R A S S G D I G D F C V S W Y Q Q K P G Q A P R L L I Y V D D Q R A T G I P D R F S G S G S G T D F T L T I S R L E P E D F A V Y Y C Q S Y G R R L D I T F G G G T K V E I K
CL-22753		EIVLTQ SPG T L S L S P G E R A T L S C E R S S G D I V L P Y V S W Y Q Q K P G Q A P R L V I Y A A D W R P T G I P D R F S G S G S G T D F T L T I S R L E P E D F A V Y Y C Q Q Y D I T I D T V F G G G T K V E I K

純系	SEQ ID NO:	VL
CL-22754		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGYECVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDRQIVFGGG TKVEIK
CL-22755		EIVLTQSPGTLSSLSPGERATLSCRASSGSIVGSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGVHIDITFGGG TKVEIK
CL-22756		EIVLTQSPGTLSSLSPGERATLSCERSGDIHSDVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIGQVFGGG TKVEIK
CL-22758		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGHPYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGCHIYNVFGGG TKVEIK
CL-22759		EIVLTQSPGTLSSLSPGERATLSCERSSGSICDTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIYIHIVFGGG TKVEIK
CL-22760		EIVLTQSPGTLSSLSPGERATLSCERSGDIGYSCVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGIDIVIVFGGG TKVEIK
CL-22761		EIVLTQSPGTLSSLSPGERATLSCERSSGSIGYSDVSWYQQKPGQAPRLLIYA DDKRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDKYIVFGGG TKVEIK
CL-22763		EIVLTQSPGTLSSLSPGERATLSCERSGDIWHFYVSWYQQKPGQAPRLVIYA ADHRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGTNIEIVFGGG TKVEIK
CL-22764		EIVLTQSPGTLSSLSPGERATLSCERSGDIGXADVSWYQQKPGQAPRLVIYV DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGEYIDRTFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-22765		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGGSYVSWYQQKPGQAPRLLIYA DDHRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQYGINIGTVFGGG TKVEIK
CL-22766		EIVLTQSPGTLSSLSPGERATLSCERSSGDIECFVSWYQQKPGQAPRLVIYA DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQYGINNDITFGGG TKVEIK
CL-22767		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGCSYVSWYQQKPGQAPRLVIYG DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINKEITFGGG TKVEIK
CL-22768		EIVLTQSPGTLSSLSPGERATLSCERSSGSIGHSRVSWYQQKPGQAPRLVIYV DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDNNIATVFGGG TKVEIK
CL-22769		EIVLTQSPGTLSSLSPGERATLSCERSSGSINHCHVSWYQQKPGQAPRLVIYA ADXRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIILDITFGGG TKVEIK
CL-22770		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDHRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQYDFDIDITFGGG TKVEIK
CL-22771		EIVLTQSPGTLSSLSPGERATLSCRASSGSIRYTYVSWYQQKPGQAPRLVIYA ADEPPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINRNIVFGGG TKVEIK
CL-22772		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGCTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGISTVLVFGGG TKVEIK
CL-22773		EIVLTQSPGTLSSLSPGERATLSCERSSGDIRYCYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-22774		EIVLTQSPGTLSSLSPGERATLSCRASSGSISQSYVSWYQQKPGQAPRLVIYA DDLRLATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGINIDITFGGG TKVEIK
CL-22775		EIVLTQSPGTLSSLSPGERATLSCERSSSGSIFYGCVSWYQQKPGQAPRLLIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDINIVITFGGG TKVEIK
CL-22776		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSYVSWYQQKPGQAPRLVIYA ADQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINKYAVFGGG TKVEIK
CL-22777		EIVLTQSPGTLSSLSPGERATLSCRASSGDISYSYVSWYQQKPGQAPRLVIYV DDERASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDIYKDLTFGGG TKVEIK
CL-22778		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDXRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDSNIDIVFGGG TKVEIK
CL-22779		EIVLTQSPGTLSSLSPGERATLSCERSSSGSICYXYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDVNLEHTFGGG TKVEIK
CL-22780		EIVLTQSPGTLSSLSPGERATLSCRASSGDIRHCYVSWYQQKPGQAPRLLIYP DDLRLPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-22781		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYV DDHRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGTSLDNTFGGG TKVEIK
CL-22782		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGHSYVSWYQQKPGQAPRLVIYA ADHRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGVNIYITFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-22783		EIVLTQSPGTLSSLSPGERATLSCRASSGSIRYSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDINKVIVFGGG TKVEIK
CL-22784		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGKPTSPWYQQKPGQAPRLVIYS ADERPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGVNRDIVFGGG TKVEIK
CL-22785		EIVLTQSPGTLSSLSPGERATLSCERSSGSIGPCYVSWYQQKPGQAPRLVIYA DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDINLVITFGGG TKVEIK
CL-22786		EIVLTQSPGTLSSLSPGERATLSCERSSGSIHYSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGISIDITFGGG TKVEIK
CL-22787		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDPYVSWYQQKPGQAPRLVIYA ADPRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDISIYIVFGGG TKVEIK
CL-22788		EIVLTQSPGTLSSLSPGERATLSCERSSGDIKHCCVSWYQQKPGQAPRLVIYL DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDISIDITFGGG TKVEIK
CL-22789		EIVLTQSPGTLSSLSPGERATLSCRASSGSIVQSYVSWYQQKPGQAPRLLIYS DDPRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGLYRDITFGGG TKVEIK
CL-22790		EIVLTQSPGTLSSLSPGERATLSCRASSGSISYSYVSWYQQKPGQAPRLLIYA DDXRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQHYDIHINITFGGG TKVEIK
CL-22791		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGYAHVSWYQQKPGQAPRLLIYG DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGKNSEITFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-22792		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGHSVSWYQQKPGQAPRLLIYD DDPRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGINVDIVFGGG TKVEIK
CL-22794		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGHSCVSWYQQKPGQAPRLVIYS ADERASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDLNITLFFVFGGG TKVEIK
CL-22795		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGHXYVSWYQQKPGQAPRLVIYA ADHRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGISIAVVFVFGGG TKVEIK
CL-22796		EIVLTQSPGTLSSLSPGERATLSCERSGSIGLSYVSWYQQKPGQAPRLVIYA ADQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDRHLDATFVFGGG TKVEIK
CL-22797		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGCSYVSWYQQKPGQAPRLLIYG ADHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGIDIDITFVFGGG TKVEIK
CL-22798		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDASVSWYQQKPGQAPRLLIYA ADQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDITIGVVFVFGGG TKVEIK
CL-22799		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGYCFVSWYQQKPGQAPRLVIYA ADLRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIKIGITFVFGGG TKVEIK
CL-22800		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGYWDVSWYQQKPGQAPRLLIYA DDERASGIPDRFSGSGSGTDFTLTISRLEPEDFSVYYCQSYGINKDFVFGGG TKVEIK
CL-22801		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGHTYVSWYQQKPGQAPRLVIYT DDLRRASGIPDRFSGSGSGTDFTLTISRDPEDFAVYYCQQYDLNIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-22802		EIVLTQSPGTLSSLSPGERATLSCERSSSGSI GXSHVSWYQQKPGQAPRLLIYV DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIKKGXTFGGG TKVEIK
CL-22803		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGH SFVSWYQQKPGQAPRLVIYA DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGVNIDITFGGG TKVEIK
CL-22804		EIVLTQSPGTLSSLSPGERATLSCRASSGSIFQSDVSWYQQKPGQAPRLVIYA DDHRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQOYGKNIYIVFGGG TKVEIK
CL-22805		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGYSAVSWYQQKPGQAPRLVXYV DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIKLDFVFGGG TKVEIK
CL-22806		EIVLTQSPGTLSSLSPGERATLSCRASSGSIVYSSVSWYQQKPGQAPRLVIYV XDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQOYDIHIDITFGGG TKVEIK
CL-22807		EIVLTQSPGTLSSLSPGERATLSCRASSGSIRDFYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQOYGINLDNTFGGG TKVEIK
CL-22808		EIVLTQSPGTLSSLSPGERATLSCERSSGDISDSHVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDITFGGG TKVEIK
CL-22811		EIVLTQSPGTLSSLSPGERATLSCERSSSGSI ALSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINLDIVFGGG TKVEIK
CL-22812		EIVLTQSPGTLSSLSPGERATLSCERSSGDMRYSDVSWYQQKPGQAPRMVIYA VDQRASGIPDRLSGSGSGTDFTLTISRLEPEDFAVYYCQOYDVGMLTFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-22813		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGHFYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGISIDLTFGGG TKVEIK
CL-22815		EIVLTQSPGTLSSLSPGERATLSCERSGGDIDHSYVSWYQQKPGQAPRLVIYA DDPRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGLNIDLTFGGG TKVEIK
CL-22816		EIVLTQSPGTLSSLSPGERATLSCERSGGSI RHSCVSWYQQKPGQAPRLVIYA DDHRASGIPDRFSDSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-22818		EIVLTQSPGTLSSLSPGERATLSCRASSGDIWHSYVSWYQQKPGQAPRLVIYT DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGCDKDITFGGG TKVEIK
CL-22819		EIVLTQSPGTLSSLSPGERATLSCRASSGSI GDFYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRLSGSGSGTDFTLTISRLEPEDFAVYYCQQYGIHIEIVFGGG TKVEIK
CL-22820		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGHSAVSWYQQKPGQAPRLLIYA DDPRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGKNKELVFGGG TKVEIK
CL-22821		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGINSYLVFGGG TKVEIK
CL-22822		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGPSYVSWYQQKPGQAPRLLIYP DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDINKELVFGGG TKVEIK
CL-22823		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWYSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGKNVDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-22824		EIVLTQSPGTLSSLSPGERATLSCRASSGSILDITYVSWYQQKPGQAPRLVIYA DDSRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDVNVDIVFGGG TKVEIK
CL-22825		EIVLTQSPGTLSSLSPGERATLSCRASSGSISQSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDXTIGIVFGGG TKVEIK
CL-22826		EIVLTQSPGTLSSLSPGERATLSCERSGSGSIGFSYVSWYQQKPGQAPRLVIYE DDPRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGANIEIVFGGG TKVEIK
CL-22827		EIVLTQSPGTLSSLSPGERATLSCRASSGYISHEYVSWYQQKPGQAPRLVIYA ADQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGIHIHVTFGGG TKVEIK
CL-22828		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGHSYVSWYQQKPGQAPRLVIYE DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGGNIGIVFGGG TKVEIK
CL-22829		EIVLTQSPGTLSSLSPGERATLSCRASSGSIDASYVSWYQQKPGQAPRLLIYT DDRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGIILDIVFGGG TKVEIK
CL-22830		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGYSYVSWYQQKPGQAPRLLIYA DDHRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGVIIYITFGGG TKVEIK
CL-22832		EIVLTQSPGTLSSLSPGERATLSCRASSGDIFYSYVSWYQQKPGQAPRLVIYA DDXRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-22833		EIVLTQSPGTLSSLSPGERATLSCERSGDIGYLYVSWYQQKPGQAPXLVIYP DDXRASGIPDRFSGSGSGXDFTLTISRLEPEDXAVYYCQQYDKTIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-22834		EIVLTQSPGTLSSLSPGERATLSCRASSGDICESCVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINKDIVFGGG TKVEIK
CL-22835		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGYSNVSWYQQKPGQAPRLLIYE DDKRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGXLPPIVFGGG TKVEIK
CL-22836		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGHSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGKVDSTFGGG TKVEIK
CL-22837		EIVLTQSPGTLSSLSPGERATLSCERSGGSIQSLHVSWSYQQKPGQAPRLLIYA DDXRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGRHIGLVFGGG TKVEIK
CL-22838		EIVLTQSPGTLSSLSPGERATLSCERSGGSIGYCVSWYQQKPGQAPRLVIYA DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDLCIYITFGGG TKVEIK
CL-22839		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDSHVSWSYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIAITFGGG TKVEIK
CL-22840		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGYTYVSWYQQKPGQAPRLLIYP DDKRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIRPTTFGGG TKVEIK
CL-22841		EIVLTQSPGTLSSLSPGERATLSCERSGGDIAHSYVSWYQQKPGQAPRLVIYA ADYRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDSHNNIVFGGG TKVEIK
CL-22842		EIVLTQSPGTLSSLSPGERATLSCRASSGSIRGLRVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGLNFDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-25631		EIVLTQSPGTLSSLSPGERATLSCRASSGSITYYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINTDIVFGGG TKVEIK
CL-25634		EFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-25648		EIVLTQSPGTLSSLSPGEXATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYV DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-25655		EIVLTQSPGTLSSLSPGERXTLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-25666		EIVLTQXPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-25690		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYS DDQRPGGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-25721		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGYGSSTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-25724		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLLIYV DDWRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDVVFSGG TKVEIK
CL-25725		EIVLTQSPGTLSSLSPGERATLSCERSSGDIDYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-25726		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINTDVVFGGG TKVEIK
CL-25727		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIYIDVTFGGG TKVEIK
CL-25728		EIVLTQSPGTLSSLSPGERATLSCERSGGSIGYSYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDIVFGGG TKVEIK
CL-25729		EIVLTQSPGTLSSLSPGERATLSCERSGGDIAGYYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDITFGGG TKVEIK
CL-25730		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGESYVSWYQQKPGQAPRLVIYA DDLRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIVIDIXFGGG TKVEIK
CL-25731		EIVLTQSPGTLSSLSPGERATLSCRASSGSIVYSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIYIDITFGGG TKVEIK
CL-25732		EIVLTQSPGTLSSLSPGERATLSCRASSGDIVYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDVTFGGG TKVEIK
CL-25733		EIVLTQSPGTLSSLSPGERATLSCRASSGDIWDAYVSWYQQKPGQAPRLLIYA DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDITFGGG TKVEIK
CL-25734		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGYAYVSWYQQKPGQAPRLVIYA DDYRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-25735		EIVLTQSPGTLSSLSPGERATLSCRASSGDILDSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDTIIDITFGGG TKVEIK
CL-25736		EIVLTQSPGTLSSLSPGERATLSCERSSGDIDDYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIYIDVTFGGG TKVEIK
CL-25737		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWDFYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVTIDVTFGGG TKVEIK
CL-25738		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGLSYVSWYQQKPGQAPRLVIYS DDLRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVIDVTFGGG TKVEIK
CL-25739		EIVLTQSPGTLSSLSPGERATLSCERSSGDIIFYTYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDITFGGG TKVEIK
CL-25740		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLLIYA DDQRAIGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIYVDVVFGGG TKVEIK
CL-25741		EIVLTQSPGTLSSLSPGERATLSCRASSGDIEGSYVSWYQQKPGQAPRLVIYS DDLRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK
CL-25742		EIVLTQSPGTLSSLSPGERATLSCRASSGDISCSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINTDIVFGGG TKVEIK
CL-25743		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGSYVSWYQQKPGQAPRLVIYS DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIYIDVVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-25745		EIVLTQSPGTLSSLSPGERATLSCRASSGDIWYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIEIDVTFGGG TKVEIK
CL-25747		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGYSYVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIISDITFGGG TKVEIK
CL-25748		EIVLTQSPGTLSSLSPGERATLSCRASSGSIDYAYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGITIDVVFGGG TKVEIK
CL-25749		EIVLTQSPGTLSSLSPGERATLSCRASSGSIYFAYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGITIDVVFGGG TKVEIK
CL-25751		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINVDIVFGGG TKVEIK
CL-25752		EIVLTQSPGTLSSLSPGERATLSCRASSGDIAHSYVSWYQQKPGQAPRLVIYT DDARASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIVDIVFGGG TKVEIK
CL-25754		EIVLTQSPGTLSSLSPGERATLSCERSGDIQYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLNIDVTFGGG TKVEIK
CL-25756		EIVLTQSPGTLSSLSPGERATLSCERSGSI GDSYVSWYQQKPGQAPRLLIYN DDDRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLTIDVTFGGG TKVEIK
CL-25758		EIVLTQSPGTLSSLSPGERATLSCERSGDIGYSYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-25759		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGHSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDIVFGGG TKVEIK
CL-25760		EIVLTQSPGTLSSLSPGERATLSCERSSGSIWDMYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIEIDITFGGG TKVEIK
CL-25761		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYG DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDITFGGG TKVEIK
CL-25763		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWESYVSWYQQKPGQAPRLVIYA DDERATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDIVFGGG TKVEIK
CL-25765		EIVLTQSPGTLSSLSPGERATLSCRASSGDIAYSVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-25767		EIVLTQSPGTLSSLSPGERATLSCRASSGSIFGAYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIITDIVFGGG TKVEIK
CL-25769		EIVLTQSPGTLSSLSPGERATLSCRASSGSIADSLVSWYQQKPGQAPRLVIYT DDWRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFGGG TKVEIK
CL-25770		EIVLTQSPGTLSSLSPGERATLSCERSSGSIGDSYVSWYQQKPGQAPRLLIYT DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDITIDIVFGGG TKVEIK
CL-25771		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDYVSWYQQKPGQAPRLVIYS DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDITFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-25772		EIVLTQSPGTLSSLSPGERATLSCERSGSI VHSYVSWYQQKPGQAPRLVXYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIXVDIVFGGG TKVEIK
CL-25773		EIVLTQSPGTLSSLSPGERATLSCRASSGDIWYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGITVDIVFGGG TKVEIK
CL-25775		EIVLTQSPGTLSSLSPGERATLSCERSGDI FYSYVSWYQQKPGQAPRLVIYA DDERASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIEIDIVFGGG TKVEIK
CL-25776		EIVLTQSPGTLSSLSPGERATLSCERSGDI GDSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDIVFGGG TKVEIK
CL-25778		EIVLTQSPGTLSSLSPGERATLSCERSGDI GLSYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIIDIVFGGG TKVEIK
CL-25779		EIVLTQSPGTLSSLSPGERATLSCERSGDI GYSYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDIVFGGG TKVEIK
CL-25780		EIVLTQSPGTLSSLSPGERATLSCRASSGDI GYSYVSWYQQKPGQAPRLVIYA DDERASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIEIDITFGGG TKVEIK
CL-25782		EIVLTQSPGTLSSLSPGERATLSCRASSGDI GYSYVSWYQQKPGQAPRLLIYF DDYRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIEIDIVFGGG TKVEIK
CL-25783		EIVLTQSPGTLSSLSPGERATLSCERSGDI GYYYVSWYQQKPGQAPRLVIYA DDERATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIYIDVVFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-25784		EIVLTQSPGTLSSLSPGERATLSCRASSGDISDSYVSWYQQKPGQAPRLVIYTD DDHRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDIVFGGG TKVEIK
CL-25785		EIVLTQSPGTLSSLSPGERATLSCERSSGSIGDSYVSWYQQKPGQAPRLVIYV DDWRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDVDIVFGGG TKVEIK
CL-25786		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGHSYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK
CL-25787		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWYSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDIIDDIVFGGG TKVEIK
CL-25788		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGYSYVSWYQQKPGQAPRLLIYA DDFRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIITDITFGGG TKVEIK
CL-25789		EIVLTQSPGTLSSLSPGERATLSCERSSGDIYYSYVSWYQQKPGQAPRLVIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDVTFGGG TKVEIK
CL-25790		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGYSYVSWYQQKPGQAPRLLIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGTYVDIVFGGG TKVEIK
CL-25791		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRXSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDXVFGGG TKVEIK
CL-25792		EIVLTQSPGTLSSLSPGERATLSCERSSGSIWQYYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-25793		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDSYVSWYQQKPGQAPRLVIYA DDWRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIYIDIVFGGG TKVEIK
CL-25794		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGHSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDTIIDIVFGGG TKVEIK
CL-25795		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFSGG TKVEIK
CL-25796		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDTIIDIVFGGG TKVEIK
CL-25797		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQYYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLNIDITFGGG TKVEIK
CL-25798		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGESYVSWYQQKPGQAPRLVIYS DDSRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK
CL-25799		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGYSYVSWYQQKPGQAPRLVIYA DDL RPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDIVFGGG TKVEIK
CL-25800		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDYVSWYQQKPGQAPRLVIYW DDYRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVILDITFGGG TKVEIK
CL-25801		EIVLTQSPGTLSSLSPGERATLSCERSGGDISYTYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIITDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-25802		EIVLTQSPGTLSSLSPGERATLSCERS SGDIGES YVSWYQQKPGQAPRLVIYTD DDWRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGSNIDVVFGGG TKVEIK
CL-25803		EIVLTQSPGTLSSLSPGERATLSCERS SGDIWD YVSWYQQKPGQAPRLVIYA DDQ RAT GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGILTDITFGGG TKVEIK
CL-25804		EIVLTQSPGTLSSLSPGERATLSC RASSGS IAHSYVSWYQQKPGQAPRLVIYS DDQ RPS GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIVDIVFGGG TKVEIK
CL-25805		EIVLTQSPGTLSSLSPGERATLSC RASSGS IVSYVSWYQQKPGQAPRLVIYA DDQ RAS GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIITDIVFGGG TKVEIK
CL-25806		EIVLTQSPGTLSSLSPGERATLSCERS SGDIS YSYVSWYQQKPGQAPRLVIYA DDQ RAS GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDITFGGG TKVEIK
CL-25807		EIVLTQSPGTLSSLSPGERATLSC RASSGS IGDTYVSWYQQKPGQAPRLLIYA DDW RPS GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIEIDIVFGGG TKVEIK
CL-25808		EIVLTQSPGTLSSLSPGERATLSCERS SGDIWD TYVSWYQQKPGQAPRLVIYS DDQ RAS GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDIVFGGG TKVEIK
CL-25809		EIVLTQSPGTLSSLSPGERATLSCERS SGSIG ETYVSWYQQKPGQAPRLVIYA DDQ RAS GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGTIIDIVFGGG TKVEIK
CL-25810		EIVLTQSPGTLSSLSPGERATLSCERS SGDIWD TYVSWYQQKPGQAPRLVIYA DDQ RAT GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-25812		EIVLTQSPGTLSSLSPGERATLSCERS S GD I WYSYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK
CL-25813		EIVLTQSPGTLSSLSPGERATLSCERS S GD I GDSYVSWYQQKPGQAPRLLIYA DDYRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIVDITFGGG TKVEIK
CL-25814		EIVLTQSPGTLSSLSPGERATLSCERS S GD I GQSYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK
CL-25815		EIVLTQSPGTLSSLSPGERATLSCRE S SGD I LTYTVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIEIDITFGGG TKVEIK
CL-25816		EIVLTQSPGTLSSLSPGERATLSCRAS S GD I GHSYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDVTFGGG TKVEIK
CL-25818		EIVLTQSPGTLSSLSPGERATLSCRAS S GD I S D SYVSWYQQKPGQAPRLLIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDIVFGGG TKVEIK
CL-25819		EIVLTQSPGTLSSLSPGERATLSCRAS S GS I GHSYVSWYQQKPGQAPRLVIYG DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVIDVDFGGG TKVEIK
CL-28175		EIVLTQSPGTLSSLSPGERATLSCERS S GD I GDSYVSWYQQKPGQAPRLVIYV DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-28178		EIVLTQSPGTLSSLSPGERATLSCERS S GD I GDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVCGGG TKVEIK

純系	SEQ ID NO:	VL
CL-28195		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPGRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-28212		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDFYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-28215		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTINRMEPEDFAVYYCQSYDINMDIVFGGG TKVEIK
CL-28233		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDSYVSWYQQKPGQAPRLVIYG DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-29595		EIVLTQSPGTLSSLSPGERATLSCRASSGSISYSYVSWYQQKPGQAPRLVIYA DDLRTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFVGGG TKVEIK
CL-29596		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWYSYVSWYQQKPGQAPRLLIYA DDQRASGIPYRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINVDTVFGGG TKVEIK
CL-29597		EIVLTQSPGTLSSLSPGERATLSCERSGGSIGDAYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIVDVVFVGGG TKVEIK
CL-29598		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGDSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIAIDIVFGGG TKVEIK
CL-29599		EIVLTQSPGTLSSLSPGERATLSCRASSGSIEYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIVDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-29600		EIVLTQSPGTLSSLSPGERATLSCRASSGSIEGAYVSWYQQKPGQAPRLVIYS DDERATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIITDIVFGGG TKVEIK
CL-29601		EIVLTQSPGTLSSLSPGERATLSCERSSSSIGGTYVSWYQQKPGQAPRLVIYA DDLRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIEIDITFGGG TKVEIK
CL-29602		EIVLTQSPGTLSSLSPGERATLSCERSSSDIGSCYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFSGG TKVEIK
CL-29603		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGYTYVSWYQQKPGQAPRLVIYA DDVRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDVDIVFGGG TKVEIK
CL-29604		EIVLTQSPGTLSSLSPGERATLSCERSSSGIWGYVSWYQQKPGQAPRLVIYA DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDITFGGG TKVEIK
CL-29605		EIVLTQSPGTLSSLSPGERATLSCERSSSDIGEAYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDITFGGG TKVEIK
CL-29606		EIVLTQSPGTLSSLSPGERATLSCERSSSDIGYSYVSWYQQKPGQAPRLLIYS DDNRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGTIIDITFGGG TKVEIK
CL-29607		EIVLTQSPGTLSSLSPGERATLSCERSSSDIGYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDITIDIVFGGG TKVEIK
CL-29608		EIVLTQSPGTLSSLSPGERATLSCERSSSDIWYSYVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIIDVVFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-29609		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWHSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDITFGGG TKVEIK
CL-29610		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGDSYVSWYQQKPGQAPRLVIYA DDDRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDVDVTFGGG TKVEIK
CL-29611		EIVLTQSPGTLSSLSPGERATLSCRASSGDIAHSYVSWYQQKPGQAPRLLIYV DDLRTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDITIDIVFGGG TKVEIK
CL-29612		EIVLTQSPGTLSSLSPGERATLSCERSGGDIYSYVSWYQQKPGQAPRLLIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLNIDVVFGGG TKVEIK
CL-29613		EIVLTQSPGTLSSLSPGERATLSCRASSGDISESYVSWYQQKPGQAPRLLIYT DDLRTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDTDIVFGGG TKVEIK
CL-29614		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDSLVSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGVIVDIVFGGG TKVEIK
CL-29615		EIVLTQSPGTLSSLSPGERATLSCRASSGDIYESYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVTIDIVFGGG TKVEIK
CL-29617		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGFAYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDIVFGGG TKVEIK
CL-29618		EIVLTQSPGTLSSLSPGERAPLSCERSGGSIWDSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVDIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-29620		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIWDSYVSWYQQKPGQAPRLVIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDITFGGG TKVEIK
CL-29621		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGYSYVSWYQQKPGQAPRLVIYA DDRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIRDIVFGGG TKVEIK
CL-29622		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIWDSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIVDIVFGGG TKVEIK
CL-29623		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVTFGGG TKVEIK
CL-29624		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIWDSYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDIVFGGG TKVEIK
CL-29625		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIWDSYVSWYQQKPGQAPRLVIYV DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFGGG TKVEIK
CL-29626		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGDTYVSWYQQKPGQAPRLLIYS DDHRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-29627		EIVLTQSPGTLSSLSPGERATLSCRASSGDIWYSFVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDIVFGGG TKVEIK
CL-29628		EIVLTQSPGTLSSLSPGERATLSCERSSSGSIGETYVSWYQQKPGQAPRLVIYA DDL RATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIVDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-29629		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGDCFVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK
CL-29630		EIVLTQSPGTLSSLSPGERATLSCRASSGDIRHSFVSWYQQKPGQAPRLVIYW DDYRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVTFSGG TKVEIK
CL-29631		EIVLTQSPGTLSSLSPGERATLSCERSGSGSIDECYVSWYQQKPGQAPRLVIYA DDDRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFSGG TKVEIK
CL-29632		EIVLTQSPGTLSSLSPGERATLSCERSGSDIGESYVSWYQQKPGQAPRLVIYT DDRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGSNIDVVFSGG TKVEIK
CL-29634		EIVLTQSPGTLSSLSPGERATLSCERSGSDIGYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYDIDTDIVFSGG TKVEIK
CL-29635		EIVLTQSPGTLSSLSPGERATLSCERSGSDIGHYSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDITFSGG TKVEIK
CL-29636		EIVLTQSPGTLSSLSPGERATLSCRASSGDICHYSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIVDIVFSGG TKVEIK
CL-29637		EIVLTQSPGTLSSLSPGERATLSCERSGSGINESYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDIVFSGG TKVEIK
CL-29638		EIVLTQSPGTLSSLSPGERATLSCERSGSGSIWYSYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVTFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-29639		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDTYVSWYQQKPGQAPRLLIYA DDERASRIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDVVFGGG TKVEIK
CL-29640		EIVLTQSPGTLSSLSPGERATLSCRASSGGDIWYSYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDITFGGG TKVEIK
CL-29641		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQSYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIVIDITFGGG TKVEIK
CL-29642		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWYSYVSWYQQKPGQAPRLLIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK
CL-29643		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDYVSWYQQKPGQAPRLVIYS DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIIDITFGGG TKVEIK
CL-29644		EIVLTQSPGTLSSLSPGERATLSCRASSGGDIGYTYVSWYQQKPGQAPRLVIYS DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIVDIVFGGG TKVEIK
CL-29645		EIVLTQSPGTLSSLSPGERATLSCERSGGDISGAYVSWYQQKPGQAPRLVIYG DDERASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDVTFGGG TKVEIK
CL-29646		EIVLTQSPGTLSSLSPGERATLSCRASSGGDIGRSYVSWYQQKPGQAPRLVIYA DDLRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVNTDIVFGGG TKVEIK
CL-29647		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWHTYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGLIIDITFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-29648		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGYAYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIILDVTFGGG TKVEIK
CL-29649		EIVLTQSPGTLSSLSPGERATLSCRASSGDI EHSYVSWYQQKPGQAPRLLIYV DDQRPTGIPDRFSGSGSGTDFTLTISR LXPEDFAVYYCQSYGIREDIVFGGG TKVEIK
CL-29650		EIVLTQSPGTLSSLSPGERATLSCERSGGSIGFSYVSWYQQKPGQAPRLVIYA DDL RATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGTYVDVVF TKVEIK
CL-29651		EIVLTQSPGTLSSLSPGERATLSCRASSGDIWYSYVSWYQQKPGQAPRLVIYS DDERPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGVDVVDVVF TKVEIK
CL-29652		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK
CL-29653		EIVLTQSPGTLSSLSPGERATLSCRASSGDI EHSYVSWYQQKPGQAPRLLIYA DDYRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDPDITFGGG TKVEIK
CL-29654		EIVLTQSPGTLSSLSPGERATLSCRASSGDI SHSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDITFGGG TKVEIK
CL-29655		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDAYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIFIDIVFGGG TKVEIK
CL-29656		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGEYYVSWYQQKPGQAPRLVIYA DDRRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVTFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-29657		EIVLTQSPGTLSSLSPGERATLSCERSSSGSIDYAYVSWYQQKPGQAPRLVIYS DDYRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDITFGGG TKVEIK
CL-29658		EIVLTQSPGTLSSLSPGERATLSCRASSGDIWYSYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIVIDIVFGGG TKVEIK
CL-29659		EIVLTQSPGTLSSLSPGERATLSCERSSSGSIGYSYVSWYQQKPGQAPRLVMYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVIIDVVFSGG TKVEIK
CL-29660		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGYSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDVTFGGG TKVEIK
CL-29661		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWHSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCKSYGINIDVTFGGG TKVEIK
CL-29662		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGYSYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDVVFSGG TKVEIK
CL-29663		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDITFGGG TKVEIK
CL-29664		EIVLTQSPGTLSSLSPGERATLSCRASSGDIRHSYVSWYQQKPGQAPRLVIYA DDDRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINTDIVFGGG TKVEIK
CL-29665		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGGSYVSWYQQKPGQAPRLVIYT DDWRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-29666		EIVLTQSPGTLSSLSPGERATLSCRASSGDISYSYVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDVVFSGG TKVEIK
CL-29667		EIVLTQSPGTLSSLSPGERATLSCERSGDI GDMYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFSGG TKVEIK
CL-29668		EIVLTQSPGTLSSLSPGERATLSCERSGDI DYTYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLTLDITFSGG TKVEIK
CL-29669		EIVLTQSPGTLSSLSPGERATLSCERSSSSIWHSYVSWYQQKPGQAPRLVIYA DDYRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFSGG TKVEIK
CL-29670		EIVLTQSPGTLSSLSPGERATLSCRASSGSI DYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIYIDVVFSGG TKVEIK
CL-29671		EIVLTQSPGTLSSLSPGERATLSCRASSGSI WYSFVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGQYIDVVFSGG TKVEIK
CL-29672		EIVLTQSPGTLSSLSPGERATLSCRASSGDI DESYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDIVFSGG TKVEIK
CL-29673		EIVLTQSPGTLSSLSPGERATLSCRASSGDI XYSYVSWYQQKPGQAPRLVIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDSIIDVTFSGG TKVEIK
CL-29674		EIVLTQSPGTLSSLSPGERATLSCRASSGDI WYSYVSWYQQKPGQAPRLLIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINVDIVFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-29675		EIVLTQSPGTLSSLSPGERATLSCERSSSGSIMYAYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIIDVTFGGG TKVEIK
CL-29676		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIGDTYVSWYQQKPGQAPRLVIYA DDARATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDIDITFGGG TKVEIK
CL-29677		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIWHSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDISIDVTFGGG TKVEIK
CL-29678		EIVLTQSPGTLSSLSPGERATLSCERSSSGSIGETYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDIVFGGG TKVEIK
CL-29679		EIVLTQSPGTLSSLSPGERATLSCRASSGSIGDSYVSWYQQKPGQAPRLLIYS DDDRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGISIDVTFGGG TKVEIK
CL-29681		EIVLTQSPGTLSSLSPGERATLSCRASSGDIGHSYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDITFGGG TKVEIK
CL-29682		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIGDTYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDIVFGGG TKVEIK
CL-29683		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIYSYVSWYQQKPGQAPRLLIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVTFGGG TKVEIK
CL-29684		EIVLTQSPGTLSSLSPGERATLSCERSSSGSIWHSYVSWYQQKPGQAPRLVIYS DDQQASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-29685		EIVLTQSPGTLSSLSPGERATLSCERS SG DIGYSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIVIDIVFGGG TKVEIK
CL-29686		EIVLTQSPGTLSSLSPGERATLSCERS SG DIGDTYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLTIDIVFGGG TKVEIK
CL-29687		EIVLTQSPGTLSSLSPGERATLSCERS SG DIGDSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDICIDVTFGGG TKVEIK
CL-29688		EIVLTQSPGTLSSLSPGERATLSCERS SG DIGDSYVSWYQQKPGQAPRLLIYS DDHRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDIVFGGG TKVEIK
CL-29689		EIVLTQSPGTLSSLSPGERATLSCERS SG SIGGYVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDIVFGGG TKVEIK
CL-29690		EIVLTQSPGTLSSLSPGERATLSCERS SG DIGYSYVSWYQQKPGQAPRLVIYG ADLRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDIVFGGG TKVEIK
CL-29722		EIVLTQSPGTLSSLSPGERATLSCERS SG XDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-29732		EIVLTQSPGTLSSLSPGERATLSCERS SG VDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-29741		EIVLTQSPGTLSSLSPGERATLSCERS SG DIGDSYVSWYQQKPGQAPRLVIHA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-29746		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPVQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-29756		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQATRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-29759		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA YDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-29765		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-29771		EXXLTQSPGTLSSLSPGERATXSCERSSGDIGDSYVSWYQQKPGQAPRLVIYX DDQRPSGIPDRFSGSGSGTDFTLTISGLEPEDFAVYYCQSDINMDIVFGGG TKVEIK
CL-29780		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGVG TKVEIK
CL-29781		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFVVYYCQSYDINIDIVFGGG TKVEIK
CL-33580		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYX DDQRPSGIPDRFSGSGSGGDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-33673		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWEYYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLEVDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-33674		EIVLTQSPGTLSSLSPGERATLSCERSSGSIWDTYVSWYQQKPGQAPRLVIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINVDIVFGGG TKVEIK
CL-33676		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWGYYVSWYQQKPGQAPRLLIYA DDLRSAGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDVVFVFGGG TKVEIK
CL-33677		EIVLTQSPGTLSSLSPGERATLSCERSSGSIYYTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDVVFVFGGG TKVEIK
CL-33678		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWGYYVSWYQQKPGQAPRLLIYA DDLRSAGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDITVFGGG TKVEIK
CL-33679		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWDTYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGLNVDVVFVFGGG TKVEIK
CL-33680		EIVLTQSPGTLSSLSPGERATLSCERSSGDIYETYVSWYQQKPGQAPRLVIYS DDHRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFVFGGG TKVEIK
CL-33681		EIVLTQSPGTLSSLSPGERATLSCERSSGSIWYSYVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIITDVTVFGGG TKVEIK
CL-33684		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWGYYVSWYQQKPGQAPRLLIYA DDLRSAGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDVVFVFGGG TEVEIK
CL-33685		EIVLTQSPGTLSSLSPGERATLSCERSSGDIYYTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-33687		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDVVFSGG TKVEIK
CL-33688		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWQSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFSGG TKVEIK
CL-33690		EIVLTQSPGTLSSLSPGERATLSCKRSSGSIYDTYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVDSDIVFSGG TKVEIK
CL-33691		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDVTFSGG TKVEIK
CL-33692		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDVTFSGG TKVEIK
CL-33693		EIVLTQSPGTLSSLSPGERATLSCERSGGSIYESYVSWYQQKPGQAPRLLIYS DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDVVFSGG TKVEIK
CL-33694		EIVLTQSPGTLSSLSPGERATLSCERSGGSIYHTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDVTFSGG TKVEIK
CL-33695		EIVLTQSPGTLSSLSPGERATLSCERSGGSIYDTYVSWYQQKPGQAPRLVIYS DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDIVFSGG TKVEIK
CL-33697		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDIVFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-33698		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWXYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLFIDVTFGGG TKVEIK
CL-33700		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWHYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLEIDVTFGGG TKVEIK
CL-33704		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLTVDVVFGGG TKVEIK
CL-33707		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDVTFGGG TKVEIK
CL-33708		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVTFGGG TKVEIK
CL-33709		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVTFGGG TKVEIK
CL-33710		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWEYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDVVFGGG TKVEIK
CL-33712		EIVLTQSPGTLSSLSPGERATLSCRASSGSIYYSVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFGGG TKVEIK
CL-33713		EIVLTQSPGTLSSLSPGERATLSCERYSGDIWYTYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDVVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-33716		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWEYYVSWYQQKPGQAPRLVIYA DDL RATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDL DIDVTFGGG TKVEIK
CL-33718		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWEYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLNIDVVFGGG TKVEIK
CL-33719		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWEYYVSWYQQKPGQAPRLVIYA DDL RASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDL DIDVTFGGG TKVEIK
CL-33720		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWEYYVSWYQQKPGQAPRLVIYT DDL RASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIETDIVFGGG TKVEIK
CL-33721		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWYSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDVTFGGG TKVEIK
CL-33722		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWYSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIYIDVVFGGG TKVEIK
CL-33723		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWEYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVCIDVVFGGG TKVEIK
CL-33725		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWEYYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDL DIDVVFGGG TKVEIK
CL-33726		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWYSYVSWYQQKPGQAPRLVIYS DDL RASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDVVFGGG TKVEIK

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CL-33727		EIVLTQSPGTLSSLSPGERATLSCERS SG DIGDSYVSWYQQKPGQAPRLVIYW DDYRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDVDIVFGGG TKVEIK
CL-33729		EIVLTQSPGTLSSLSPGERATLSCERS SG DIWSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDITFGGG TKVEIK
CL-33730		EIVLTQSPGTLSSLSPGERATLSCERS SG DIWSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLNIDTVFGGG TKVEIK
CL-33732		EIVLTQSPGTLSSLSPGERATLSCERS SG CDIWQYYVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTIISRLEPEDFAVYYCQSYDLIDIVVFGGG TKVEIK
CL-33733		EIVLTQSPGTLSSLSPGERATLSCERS SG DIWEYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIITDVVFGGG TKVEIK
CL-33734		EIVLTQSPGTLSSLSPGERATLSCERS SG DIWHTYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVNIDVVFGGG TKVEIK
CL-33740		EIVLTQSPGTLSSLSPGERATLSCERS SG SIWSTYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVVIDIVFGGG TKVEIK
CL-33741		EIVLTQSPGTLSSLSPGERATLSCERS SG DIWEYVSWYQQKPGQAPRLLIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIIDIVFGGG TKVEIK
CL-33742		EIVLTQSPGTLSSLSPGERATLSCERS SG DIWHYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDIVTFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-33743		EIVLTQSPGTLSSLSPGERATLSCERSSSGSIWGYVSWYQQKPGQAPRLVIYA DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDETIDIVFGGG TKVEIK
CL-33745		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIYYTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDITFGGG TKVEIK
CL-33746		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIWQSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDIVFGGG TKVEIK
CL-33747		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK
CL-33755		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIGDSYVSWYQQKPGQAPRLVIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGTNIDVVFSGG TKVEIK
CL-33756		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIWESYVSWYQQKPGQAPRLVIYA DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIDDIVFGGG TKVEIK
CL-33757		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIWETYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVTFGGG TKVEIK
CL-33758		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIWQTYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFSGG TKVEIK
CL-33760		EIVLTQSPGTLSSLSPGERATLSCERSSSGDIGDSYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGLNIDVVFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-33761		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWSYYVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDICIDVTFGGG TKVEIK
CL-33763		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWEYYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDIVFGGG TKVEIK
CL-33766		EIVLTQSPGTLSSLSPGERATLSCERSSGDIYDAYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDVVFGGG TKVEIK
CL-33768		EIVLTQSPGTLSSLSPGERATLSCERSSGSIWDTYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFGGG TKVEIK
CL-33771		EIVLTQSPGTLSSLSPGERATLSCERSSGSIWQYYVSWYQQKPGQAPRLLIYA DDKRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDEDIDITFGGG TKVEIK
CL-33773		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWSYYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLNIDVTFGGG TKVEIK
CL-33774		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWSYYVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLYIDIVFGGG TKVEIK
CL-33775		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWQTYVSWYQQKPGQAPRLVIYA DDMRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLNIDVTFGGG TKVEIK
CL-33776		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-33777		EIVLTQSPGTLSSLSPGERATLSCERSGGDIYETYVSWYQQKPGQAPRLLIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVF TKVEIK
CL-33778		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWEYYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGLITDVT TKVEIK
CL-33779		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWETYVSWYQQKPGQAPRLVIYA DDRRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDVVF TKVEIK
CL-33781		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWEYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDTDIV TKVEIK
CL-33782		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDTYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVF TKVEIK
CL-33785		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWQTYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIVIDVVF TKVEIK
CL-33787		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQYYVSWYQQKPGQAPRLVIYA DDHRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDVTF TKVEIK
CL-33790		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWHTYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDVIDIDIT TKVEIK
CL-33791		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQAYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIEDIT TKVEIK

純系	SEQ ID NO:	VL
CL-33792		EIVLTQSPGTLSSLSPGERATLSCERSGDIYETYVSWYQQKPGQAPRLVIYS DDHRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIITDIVFGGG TKVEIK
CL-33794		EIVLTQSPGTLSSLSPGERATLSCERSGSIWDYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLITDIVFGGG TKVEIK
CL-33795		EIVLTQSPGTLSSLSPGERATLSCERSGDIWQTYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK
CL-33796		EIVLTQSPGTLSSLSPGERATLSCERSGDIWEYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIRDIVFGGG TKVEIK
CL-33799		EIVLTQSPGTLSSLSPGERATLSCERSGSIYETYVSWYQQKPGQAPRLLIYA DDWRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDITVDVVFSGG TKVEIK
CL-33801		EIVLTQSPGTLSSLSPGERATLSCERSGDIWESYVSWYQQKPGQAPRLVIYS DDQRPTGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIIDDIVFGGG TKVEIK
CL-33802		EIVLTQSPGTLSSLSPGERATLSCERSGDIWEYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDIDITFGGG TKVEIK
CL-33813		EIVLTQSPGTLSSLSPGERATLSCERSGDIWQTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDVVFSGG TKVEIK
CL-33814		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-33815		EIVLTQSPGTLSSLSPGERATLSCERSGGDIYETYVSWYQQKPGQAPRLVIYS DDHRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDVDVVFEGG TKVEIK
CL-33816		EIVLTQSPGTLSSLSPGERATLSCERSGGDIYETYVSWYQQKPGQAPRLVIYS DDHRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINVDVVFEGG TKVEIK
CL-33817		EIVLTQSPGTLSSLSPGERATLSCRASSGDISDKYVSWYQQKPGQAPRLVIYA DDYRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLCIDVTFEGG TKVEIK
CL-33819		EIVLTQSPGTLSSLSPGERATLSCRASSGDISDKYVSWYQQKPGQAPRLLIYA DDWRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDVDVVFEGG TKVEIK
CL-33825		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWQYYVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIDVTFEGG TKVEIK
CL-33826		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLEIDVVFEGG TKVEIK
CL-33828		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDTYVSWYQQKPGQAPRLLIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDITVDVVFEGG TKVEIK
CL-33829		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWYSYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVTFEGG TKVEIK
CL-33832		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLIIDVTFEGG TKVEIK

純系	SEQ ID NO:	VL
CL-33833		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWETYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDVDIVFGGG TKVEIK
CL-33834		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWYSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDSIVFGGG TKVEIK
CL-33836		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINVDIVFGGG TKVEIK
CL-33837		EIVLTQSPGTLSSLSPGERATLSCERSGGDIYQTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDVVFSGG TKVEIK
CL-33839		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWETYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGVDIDVVFSGG TKVEIK
CL-33840		EIVLTQSPGTLSSLSPGERATLSCERSGGDIYETYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFSGG TKVEIK
CL-33841		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWQYYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLFIDVTFSGG TKVEIK
CL-33844		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDTYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIYVDIVFGGG TKVEIK
CL-33847		EIVLTQSPGTLSSLSPGERATLSCERSGGSIYYTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIEIDITFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-33848		EIVLTQSPGTLSSLSPGERATLSCERSSGDIYETYVSWYQQKPGQAPRLVIYS DDHRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDTDIVFGGG TKVEIK
CL-33849		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWYSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFGGG TKVEIK
CL-33854		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWHTYVSWYQQKPGQAPRLLIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINVDVVFGGG TKVEIK
CL-33857		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWESYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFGGG TKVEIK
CL-33858		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGHTYVSWYQQKPGQAPRLVIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIISDVVFGGG TKVEIK
CL-33862		EIVLTQSPGTLSSLSPGERATLSCERSSGSIWGTYSVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVTFGGG TKVEIK
CL-41468		EIVLTQSPGTLSSLPPGERATLSCKRSSGSIYDTYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLTIDITFGGG TKVEIK
CL-41469		EIVLTQSPGTLSSLSPGERATLSCERSSGSIWHSYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIYIDVVFGGG TRSKLS
CL-41472		EIVLTQSPGTLSSLSPGERATLSCERSSGDIWDYVSWYQQKPGQAPRLLIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLTIDITFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-41477		EIVLTQSPGTLSSLSPGERATPSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFVGGG TKVEIK
CL-41479		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQPYDLFIDVTFVGGG TKVEIK
CL-41480		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAGYYCQSYGINIDVVFVGGG TKVEIK
CL-41486		EIVLTQSPGTLSSLSPGERATLSCERSGGDIGDYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLFIDVTFVGGG TKVEIK
CL-41505		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWHSYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIETDIVFVGGG TKVEIK
CL-41509		EIVLTQSPGTWSSLSPGERATLSCERSGGSNYDTYVSWYQQKPGQAPRLLIYA DDLRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIETDIVFVGGG TKVEIK
CL-41528		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWHSYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIYIDVVFVGGD TKVEIK
CL-41529		EIVLTQSPGTLSSLSSGERATLSCERSGGSNYDTYVSWYQQKPGQAPRLLIYA DDLRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIETDIVFVGGG TKVEIK
CL-41532		EIVLTQSPGTLSSLSPGERATLSCRASSGSTWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFVGGG TKVEIK

純系	SEQ ID NO:	VL
CL-41535		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLTIDITFGGG TKVEIK
CL-41536		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLFIDXTFGGG TKVEIK
CL-41539		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDTYVSWYQQKPGQAPRLLIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEGFAVYYCQSYDIIIDIVFGGG TKVEIK
CL-41543		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDTYVSWYQQKPGQASRLLIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK
CL-41547		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWHSYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIYIDVVFEGGG TNVEIK
CL-41550		EIVLTQSPGTLSSLSPGERATLSCKRSSGSIYDTYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLTIDITFGGG TKVEIK
CL-41554		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFEGGG TKVEIK
CL-41556		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWHSYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIYIDVVFEGGG TKVEIK
CL-41557		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDTYVSWYQQKPGQAPRLLIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-41560		EIFLTQSPGTLSSLSPGKKATLSGKRSSGSIYNTYFSGYQQKPGQAPKRVIYS DDRRPSGIPDRFSGSGXGTDFTLTISXLEPKDFAVYYCQSYDLTINLXFGGG TKVXIX
CL-41561		EIVLTQSPGTLSSLSPGERATLSCERSGSGSNYDTYVSWYQQKPGQAPRLLIYA DDLRRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIETDIVFGGG TKVEIK
CL-41562		EIVLTQSPGTLSSLSPGERATLSCERSGSDIGDSYVSWYQQKPGQSPRLVIYA DDQRPSPGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-41569		EIVLTQSPGTLSSLSPGERATLSCERSGSDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSPGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
CL-41577		EIVLTQSPGTLSSLSPGERATLSCERSGSIWQSYVSWYQQKPGQAPRLVIYA DDQQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFSGG TKVEIS
CL-41581		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK
CL-41591		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGIDIDVVFSGG TKVEIK
CL-41599		KSSLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK
CL-41600		EIVLTQSLGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-41615		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQMYVSWYQQKPGQAPRLVIYG DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDITFGGG TKVEIK
CL-41616		EIVLTQSPGTLSSLPPGERATLSCERSGGDIWQTYVSWYQQKPGQAPRLVIYG DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDITFGGG HKGRNX
CL-41639		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDSAVYYCQSYDLFIDVTFGGG TKVEIK
CL-41642		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQRKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFGGG TKVEIK
CL-41645		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQTYVSWYQQKPGQAPRLVIYG DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDITFGGG TKVEIK
CL-41646		EIVLTQSPGTLSSLSPGERATLSCERSGGSIWQSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDIDIDVVFGGG TKVEIK
CL-41649		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWDYYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDLFIDVTFGGG TKVEIK
CL-41654		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVHYCQSYGINIDVVFGGG TKVEIK
CL-41655		EIVLTQSPGTLSSLSPGERATLSCERSGGDIWQTYVSWYQQKPGQAPRLVIYG DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFGGG TKVEIK

純系	SEQ ID NO:	VL
CL-41668		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVCYCQSYGINIDVVFSGG TKVEIK
CL-41673		EIVLTQSPGTLSSLSPGERAPLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFSGG TKVEIX
CL-41685		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTINRLEPEDFAVYYCQSYDINIDIVFSGG TKVEIK
CL-41705		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRLSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK
CL-41707		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DGQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFSGG TKVEIK
CL-41710		EIVLTQSPSTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFSGG TKVEIK
CL-41713		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIN
CL-41714		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFSGG TKVELS
CL-41720		EIVLTQIPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFSGG TKVEIK

純系	SEQ ID NO:	VL
CL-41725		EIVLTQSPGTLSSLSPGERATLSCERSSSGSNYDTYVSWYQQKPGQAPRLLIYA DDLRLASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK
CL-41727		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYRQSYGINIDVVFSGG TKVEIK
CL-41729		EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK
CL-41732		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPIGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFSGG TKVEIK
CL-41735		EIVLTQSPGTLSSLSPVERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFSGG TKVEIK
CL-41737		EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFSGG TKVEIK
CL-41738		EIVLTQSPATLSSLSPGERATLSCRASQSVSTHMHWYQQKPGQAPRLLIYGAS NLESGIPARFSGSGSGTDFTLTISSELEPEDFAVYYCQOSWYDPLTFGQGTKL EIK
CL-41739		EIVLTQSPATLSSLSPGERAALSCRASQSVSTHMHWYQQKPGQAPRLLIYGAS NLESGIPARFSGSGSGTDFTLTISSELEPEDFAVYYCQOSWYDPLTFGQGTKL EIK
CL-41740		EIVLTQSPATLSSLSPGERATLSCRASQSVSTHMHWYQQKPGQAPRLLIYGAS NLESGIPARFSGSGSGTDFTLTISSELEPEDFAVYYCQOSRYDPLTFGQGTKL EIK

純系	SEQ ID NO:	VL
CL-41742		EIVLTQSPGTL S LS P GERATL S CRASQSVSTHMH W YQQKPGQAPRLLIYGAS NLESGIPARFSGSGSGTDFTLT I SSLEPEDFAVYYCQQSWYDPLTFGQGTKL EIK
CL-41751		AKLCXPVPATL S LS P GERATL S CRASQSVSTHMH W YQQKPGQAPRLLIYGAS NLESGIPARFSGSGSGTDFTLT I SSLEPEDFAVYYCQQSWYDPLTFGQGTKL EIK
CL-41752		EIVLTQSPATL S LS P GERATL S CRASQSVSTHMH W YQQKPGQAPRLLIYGAS NLESGIPARFSGSGSGTDFTLT I SSLEPEDFAVYYCQQSWYDPLTFGQGTKL RSN

表 48. 在抗 PDGF-BB 抗體 hBDI-9E8.4 之親和力成熟期間在重鏈可變區之每一位置發現之胺基酸殘基

hBDI-9E8.4-2H CL-22843 重鏈可變區						
SEQ ID NO:	序列					
XX	1	2	3	4	5	6
	123456789012345678901234567890123456789012345678901234567890					
	EVTLR E SGPALVKPTQTLLT L CTFSGFSLSTYGMGVGWIRPPGKALEWLANI W DDDKY					
			I Y SEVSI L			L DCYGE E H
			R A R L			C NNGT C
			D A			G HHVI D
			T C			V AQN
			M V			E HVS
			R Y			I YNA
			L R			P NRF
			C T			A QYG
			F E			C SL
			W S			G LM

hBDI-9E8.4-2 CL-22843 重鏈可變區												
SEQ ID NO:	序列											
	P						C					
	7	8	9	10	11	12	7	8	9	10	11	12
	12345678901234567890123456789012345678901234567890123456789012											
	YNPSLKNRLTISKDTSKNQVLTMTNMDPVDTATYYCARIESIGTTYSFDYWGQGTMTVTVSS											
	SL NS					LYQTGWPN E Y						
	T T					NVASPWS D						
						LKYMFRK Y						
						MYWVCIR A						
						VLPLYFM C						
						RDLFAAA N						
						KGVNEME M						
						FAEDLYI W						
						CMKHVSV T						
						TRFYSL L Q						
						ESCTD GW G						
						RRDP I						
						Q KQ L						
						K V P						
						E N						
						P E						

表 49. 在抗 PDGF 抗體 hBDI-9E8.4 之親和力成熟期間在輕鏈可變區之每一位置發現之胺基酸殘基

hBDI-9E8.4-2 CL-22843 輕鏈可變區												
SEQ ID NO:	序列											
XX	1	2	3	4	5	6	1	2	3	4	5	6
	123456789012345678901234567890123456789012345678901234567890											
	EIVLTQSPGTL S LSPGERATL SCERSSG DIGDSYVSWYQQKPGQAPRLVIYADDQRPSGI											
	F	RAY	CSN	WY	TF	FPR	R	MHGY	GL	Q	AIR	
		KE	VY	TY	Q	YLS	G	SA	RP	T		
		S	MS	NMR				WV	H	R		
		MHKH						T	W	G		
		HGAN						L	Y			

hBD1-9E8.4-2 CL-22843 輕鏈可變區				
SEQ ID NO:	序列			
				DECC V M
				RSFA F K
				EKLD N D
				NFES P A
				CRWT E E
				ALD D N
				LCP V
				VAG S
				FP F
				T P
				Q
				K
	7	8	9	10
	1234567890123456789012345678901234567			
	PDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKV			
				RKP GLFTNVT
				Q VDSPL
				H EEVAG
				TTDYT
				SIRGS
				QYEHN
				RCMEF
				NVLVA
				KSPLH
				GRFQR
				AANTQ
				CLK
				FG
				H
				K

表 50. 轉化至 IgG 之 h9E8.4 親和力成熟純系之可變區序列

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33578 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATYYCARIQSGW TNYEFDYWGQGMVTVSS
	CL-33578	CDR-H1	SEQ ID NO.: 之 殘基 26-37	GFSLSTYGMVG

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33578	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	CL-33578	CDR-H3	SEQ ID NO.:之 殘基 100-111	IQSGWTNYEFDY
	CL-33578 VL			EIVLTQSPGTL S LS P GERATL S CERS SGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSPGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
	CL-33578	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIGDSYVS
	CL-33578	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRPS
	CL-33578	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDINIDIV
	CL-33587 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVD T ATYYCARIQSMW TRYDFDYWGQTMVTVSS
	CL-33587	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33587	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	CL-33587	CDR-H3	SEQ ID NO.:之 殘基 100-111	IQSMWTRYDFDY

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33587 VL			EIVLTQSPGTL S LS P GERATL S CSERS SGDIGDSYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYDINIDIVFGGG TKVEIK
	CL-33587	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSDIGDSYVS
	CL-33587	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRPS
	CL-33587	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDINIDIV
	CL-33675 VH			EVTLRRESGPALVKPTQTLTLCTFSG FSLSTYGMGVGWIRPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLTMNMDPVDATATYYCARISSG PKYSFDYWGQTMVTVSS
	CL-33675	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33675	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33675	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESSGPKYSFDY
	CL-33675 VL			EIVLTQSPGTL S LS P GERATL S CRAS SGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYGINIDIVVFGGG TKVEIK

SEQ ID NO.	純系	蛋白質區 域	殘基	V區
				123456789012345678901234567890
	CL-33675	CDR-L1	SEQ ID NO.:之 殘基 24-36	RASSGSIWYSFVS
	CL-33675	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAS
	CL-33675	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV
	CL-33682 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLTMNMDPVDATYYCARISSW TSYSFDYWGQTMVTVSS
	CL-33682	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33682	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33682	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESSWTSYSFDY
	CL-33682 VL			EIVLTQSPGTLSSLSPGERATLSCERS SGSNYDTYVSWYQKPGQAPRLLIYA DDLRSAGIPDRFSGSGTDFLTITIS RLEPEDFAVYYCQSYGINIDVVFVGGG TKVEIK
	CL-33682	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGSNYDTYVS
	CL-33682	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDLRAS
	CL-33682	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33683 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARIETIG PKYSFDYWGQGMVTVSS
	CL-33683	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33683	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33683	CDR-H3	SEQ ID NO.:之 殘基 100-111	IETIGPKYSFDY
	CL-33683 VL			EIVLTQSPGTLSSLSPGERATLSCRAS SGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFLTIS RLEPEDFAVYYCQSYGINIDVVFSGG TKVEIK
	CL-33683	CDR-L1	SEQ ID NO.:之 殘基 24-36	RASSGSIWYSFVS
	CL-33683	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAS
	CL-33683	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV
	CL-33699 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGIGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARIESMG PKYAFDYWGQGMVTVSS

SEQ ID NO.	純系	蛋白質區 域	殘基	V區
				123456789012345678901234567890
	CL-33699	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGIG
	CL-33699	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	CL-33699	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESMGPKYAFDY
	CL-33699 VL			EIVLTQSPGTL SLSPGERATL SCRAS SGSIWYSFV SWYQQKPGQ APRLLIYA DDQRASGIP DRFSGSGS GTDFTLTIS RLEPEDFAV YYCQSYGIN IDVVFGGG TKVEIK
	CL-33699	CDR-L1	SEQ ID NO.:之 殘基 24-36	RASSGSIWYSFVS
	CL-33699	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAS
	CL-33699	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV
	CL-33701 VH			EVTLRESGP ALVKPTQT LTTLTCTF SFG FSLSTYGM GVGWIRQ PPGKALEW LAN IWDDDKYY NPSLKNR LTI SKDTSKN QVVLTM TNMDPVD TATYYC ARIESLG TSYSFDY WGQTM VTVSS
	CL-33701	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33701	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	CL-33701	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESLGTSYSFDY

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33701 VL			EIVLTQSPGTL SL SPGERATLSCERS SGDIWDY YV SWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYDLFIDVTFGGG TKVEIK
	CL-33701	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIWDYVVS
	CL-33701	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRPS
	CL-33701	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDLFIDVT
	CL-33706 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATYYCARIETMG PKYSFDYWGGTMVTVSS
	CL-33706	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33706	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33706	CDR-H3	SEQ ID NO.:之 殘基 100-111	IETMGPKYSFDY
	CL-33706 VL			EIVLTQSPGTL SL SPGERATLSCRAS SGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYGINIDVVFVGGG TKVEIK

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33706	CDR-L1	SEQ ID NO.:之 殘基 24-36	RASSGSIWYSFVS
	CL-33706	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAS
	CL-33706	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV
	CL-33731 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARIESIP TSYSFDYWGQGMVTVSS
	CL-33731	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33731	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33731	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIPTSY SFDY
	CL-33731 VL			EIVLTQSPGTLISLSPGERATLSCERS SGSIWQSYVSWYQQKPGQAPRLVIYA DDQRATGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYDIDIDIVVFGGG TKVEIK
	CL-33731	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGSIWQSYVS
	CL-33731	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAT
	CL-33731	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDIDIDVV

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33737 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRKPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARISSG PKYSFDYWGQTMVTVSS
	CL-33737	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33737	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33737	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESSGPKYSFDY
	CL-33737 VL			EIVLTQSPGTLSPGERATLSCRAS SGSIWYSFVSWYQQKPGQAPRLLIYA DDQQRASGIPDRFSGSGSGTDFLTIS RLEPEDFAVYYCQSYGINIDVVFVGGG TKVEIK
	CL-33737	CDR-L1	SEQ ID NO.:之 殘基 24-36	RASSGSIWYSFVS
	CL-33737	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAS
	CL-33737	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV
	CL-33759 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARISSVW TRYDFDYWGQTMVTVSS

SEQ ID NO:	純系	蛋白質區 域	殘基	V區
				123456789012345678901234567890
	CL-33759	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33759	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	CL-33759	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESVWTRYDFDY
	CL-33759 VL			EIVLTQSPGTLSSPGERATLSCERS SGDIWQTYVSWYQQKPGQAPRLVIYG DDQRASGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYDIDIDITFGGG TKVEIK
	CL-33759	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIWQTYVS
	CL-33759	CDR-L2	SEQ ID NO.:之 殘基 52-58	GDDQRAS
	CL-33759	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDIDIDIT
	CL-33767 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWDDDKYYNPSLKNRLTISKDTSKN QVVLTMNMDPVDATYYCARIESIG PKYSFDYWGQTMVTVSS
	CL-33767	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33767	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	CL-33767	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIGPKYSFDY

SEQ ID NO.	純系	蛋白質區 域	殘基	V區
				123456789012345678901234567890
	CL-33767 VL			EIVLTQSPGTL S LS P GERATL S CRAS SGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDF T LTIS RLEPEDFAVYYCQSYGINIDVVF G GGG TKVEIK
	CL-33767	CDR-L1	SEQ ID NO.:之 殘基 24-36	RASSGSIWYSFVS
	CL-33767	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAS
	CL-33767	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV
	CL-33769 VH			EVTLR E SGPALVKPTQTLL T CTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVL T M T NMDPVD T ATYYCARI E SIG PKYSFDYWGGQTMVTVSS
	CL-33769	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33769	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33769	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESIGPKYSFDY
	CL-33769 VL			EIVLTQSPGTL S LS P GERATL S CRAS SGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDF T LTIS RLEPEDFAVYYCQSYGINIDVVF G GGG TKVEIK

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33769	CDR-L1	SEQ ID NO.:之 殘基 24-36	RASSGSIWYSFVS
	CL-33769	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAS
	CL-33769	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV
	CL-33797 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARIESLG WSYSFDYWGQTMVTVSS
	CL-33797	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33797	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33797	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESLGWSYSFDY
	CL-33797 VL			EIVLTQSPGTLISLSPGERATLSCERS SGDIWDYYVSWYQQKPGQAPRLVIYA DDQRPSGIPDRFSGSGSGTDFLTIS RLEPEDFAVYYCQSYDLFIDVTFGGG TKVEIK
	CL-33797	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIWDYYVS
	CL-33797	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRPS
	CL-33797	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDLFIDVT

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33803 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARIESLP TSYSFDYWGQGMVTVSS
	CL-33803	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33803	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33803	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESLPTSYSFDY
	CL-33803 VL			EIVLTQSPGTLSSLSPGERATLSCERS SGDIWDTYVSWYQQKPGQAPRLLIYA DDQRPSGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYDIIIDIVFGGG TKVEIK
	CL-33803	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIWDTYVS
	CL-33803	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRPS
	CL-33803	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDIIIDIV
	CL-33805 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARIESHW WSYAFDYWGQGMVTVSS

SEQ ID NO.:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33805	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33805	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	CL-33805	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESHWWSYAFDY
	CL-33805 VL			EIVLTQSPGTLISLSPGERATLSCERS SGSNYDITYVSWYQQKPGQAPRLLIYA DDLRAAGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYGIETDIVFGGG TKVEIK
	CL-33805	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGSNYDITYVS
	CL-33805	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDLRAS
	CL-33805	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGIETDIV
	CL-33811 VH			EVTLRRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWDDDKYYNPSLKNRLTISKDTSKN QVVLTMNMDPVDATYYCARISSW TTYSFYWGQGMVTVSS
	CL-33811	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33811	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	CL-33811	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESSWTTYSFYD

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33811 VL			EIVLTQSPGTL SL SPGERATLSCERS SGSIWHSYVSWYQQKPGQAPRLLIYS DDQRATGIPDRFSGSGSGTDF TL TIS RLEPEDFAVYYCQSYGIYIDVVF GG G TKVEIK
	CL-33811	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGSIWHSYVS
	CL-33811	CDR-L2	SEQ ID NO.:之 殘基 52-58	SDDQRAT
	CL-33811	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGIYIDVV
	CL-33812 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVL TMTNMDPVD TATYYCARI ES NP WKYSFDYWGQGMVTVSS
	CL-33812	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33812	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33812	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESNPWKYSFDY
	CL-33812 VL			EIVLTQSPGTL SL SPGERATLSCERS SGDIWQSYVSWYQQKPGQAPRLVIYS DDQRASGIPDRFSGSGSGTDF TL TIS RLEPEDFAVYYCQSYGINIDVVF GG G TKVEIK

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33812	CDR-L1	SEQ ID NO.:之 殘基 24-36	ERSSGDIWQSYVS
	CL-33812	CDR-L2	SEQ ID NO.:之 殘基 52-58	SDDQRAS
	CL-33812	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV
	CL-33820 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLTMNMDPVDATATYYCARISSF TSYSFDYWGQTMVTVSS
	CL-33820	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33820	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33820	CDR-H3	SEQ ID NO.:之 殘基 100-111	IESSFTSYSFDY
	CL-33820 VL			EIVLTQSPGTLISLSPGERATLSCKRS SGSIYDITYVSWYQQKPGQAPRLVIYS DDQRPSGIPDRFSGSGSGTDFTLTIS RLEPEDFAVYYCQSYDLTIDITFGGG TKVEIK
	CL-33820	CDR-L1	SEQ ID NO.:之 殘基 24-36	KRSSGSIYDITYVS
	CL-33820	CDR-L2	SEQ ID NO.:之 殘基 52-58	SDDQRPS
	CL-33820	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYDLTIDIT

SEQ ID NO:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33845 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARIVSDW TTYSFDYWGQGMVTVSS
	CL-33845	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33845	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWWDDDKYYNPSLKN
	CL-33845	CDR-H3	SEQ ID NO.:之 殘基 100-111	IVSDWTTYSFDY
	CL-33845 VL			EIVLTQSPGTLSPGERATLSCRAS SGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGGTDFLTIS RLEPEDFAVYYCQSYGINIDVVFVGGG TKVEIK
	CL-33845	CDR-L1	SEQ ID NO.:之 殘基 24-36	RASSGSIWYSFVS
	CL-33845	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAS
	CL-33845	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV
	CL-33855 VH			EVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKN QVVLMTNMDPVDATATYYCARIETFG PKYSFDYWGQGMVTVSS

SEQ ID NO.:	純系	蛋白質區 域	殘基	V 區
				123456789012345678901234567890
	CL-33855	CDR-H1	SEQ ID NO.:之 殘基 26-37	GFSLSTYGMGVG
	CL-33855	CDR-H2	SEQ ID NO.:之 殘基 52-67	NIWDDDKYYNPSLKN
	CL-33855	CDR-H3	SEQ ID NO.:之 殘基 100-111	IETFGPKYSFDY
	CL-33855 VL			EIVLTQSPGTLSSLSPGERATLSCRAS SGSIWYSFVSWYQQKPGQAPRLLIYA DDQRASGIPDRFSGSGSGTDFLTIS RLEPEDFAVYYCQSYGINIDVVFGGG TKVEIK
	CL-33855	CDR-L1	SEQ ID NO.:之 殘基 24-36	RASSGSIWYSFVS
	CL-33855	CDR-L2	SEQ ID NO.:之 殘基 52-58	ADDQRAS
	CL-33855	CDR-L3	SEQ ID NO.:之 殘基 91-100	QSYGINIDVV

表 51. 親和力成熟之人類化抗人類 PDGF-BB 抗體之蛋白質表

現 及 純 化 之 概 述

名稱	Octet 效價 (mg/L) ¹	~產量 (mg/L) ²	SEC (單體%) ³
CL-33578-IgG	176.5	98.9	91.3
CL-33587-IgG	155.7	109.1	94.2
CL-33675-IgG	275.2	57.7	96.9
CL-33682-IgG	203.6	80.7	94.6
CL-33683-IgG	136.7	24.5	48.1
CL-33701-IgG	114.9	79.2	97.9

CL-33706-IgG	169.8	25.8	100.0
CL-33731-IgG	137.0	73.6	95.8
CL-33803-IgG	98.0	50.5	96.7
CL-33805-IgG	227.5	66.5	97.9
CL-33811-IgG	190.2	31.7	99.0
CL-33812-IgG	171.0	76.4	96.7
CL-33820-IgG	135.3	75.0	95.7
CL-33855-IgG	50.9	13.8	94.3
CL-33699-IgG	ND	10.5	81.7
CL-33737-IgG	ND	5.0	88.0
CL-33759-IgG	ND	18.5	100.0
CL-33767-IgG	ND	16.5	50.9
CL-33845-IgG	ND	0.8	60.6

ND = 未測定

¹Octet 效價係未經純化之上清液中如使用 Octet 儀器藉由與標準曲線相比之蛋白質 A 結合確定的 IgG 量。

²產量係用經純化蛋白質之總量(mg)除以總細胞培養物體積(升)來確定。

³SEC 單體%係使用 HPLC 粒徑篩析層析來測定。

表 52. 親和力成熟之人類化抗 PDGF 抗體之 Biacore 結合

抗體	k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)
CL-33578	$\geq 9.0 \text{ E}+07$	$2.70 \text{ E}-05$	$\leq 3.0 \text{ E}-13$
CL-33587	$\geq 9.0 \text{ E}+07$	$2.00 \text{ E}-05$	$\leq 2.2 \text{ E}-13$
CL-33675	$3.60 \text{ E}+07$	$2.20 \text{ E}-05$	$6.10 \text{ E}-13$
CL-33682	$\geq 9.0 \text{ E}+07$	$2.20 \text{ E}-05$	$\leq 2.4 \text{ E}-13$
CL-33683	$1.90 \text{ E}+07$	$8.20 \text{ E}-06$	$4.40 \text{ E}-13$
CL-33701	$7.30 \text{ E}+07$	$1.80 \text{ E}-05$	$2.40 \text{ E}-13$
CL-33706	$1.80 \text{ E}+07$	$1.20 \text{ E}-05$	$6.90 \text{ E}-13$
CL-33731	$8.10 \text{ E}+07$	$1.60 \text{ E}-05$	$2.00 \text{ E}-13$

CL-33803	$\geq 9.0 \text{ E}+07$	$1.40 \text{ E}-05$	$\leq 1.6 \text{ E}-13$
CL-33805	$6.80 \text{ E}+07$	$1.50 \text{ E}-05$	$2.10 \text{ E}-13$
CL-33811	$2.70 \text{ E}+07$	$1.20 \text{ E}-05$	$4.50 \text{ E}-13$
CL-33812	$6.30 \text{ E}+07$	$1.90 \text{ E}-05$	$3.00 \text{ E}-13$
CL-33820	$\geq 9.8 \text{ E}+07$	$1.60 \text{ E}-05$	$\leq 1.6 \text{ E}-13$
CL-33855	$2.00 \text{ E}+07$	$\leq 1.0 \text{ E}-06$	$\leq 5.0 \text{ E}-14$

*異質離解速率

表徵親和力成熟之人類化抗 PDGF-BB 抗體之 PDGF-BB 結合及功效。藉由 Biacore 分析測定人類 PDGF-BB 結合親和力(實例 1.1)。在基於細胞及 ELISA 格式二者中評估功效。在競爭 ELISA 格式中測試阻斷 hPDGF-BB 與 hPDGF-R β 之結合之能力(實例 1.13)。使用 NIH-3T3 細胞評估人類及食蟹猴 PDGF-BB 誘導之細胞增殖之抑制(實例 1.15 及 1.16)。數據概述於下表 53 中。

表 53. 親和力成熟之人類化抗人類 PDGF-BB 抗體之表徵之概述

親和力成熟之人類化 IgG	PDGF-BB IC ₅₀ 功效(nM)		
	hPDGF-BB NIH-3T3 增殖	食蟹猴 PDGF-BB NIH-3T3 增殖	hPDGF-BB /hPDGFR β 競爭
CL-33578-Ig	0.033	0.023	0.049
CL-33587-Ig	0.046	0.029	<0.1
CL-33675-Ig	0.04	0.024	0.054
CL-33682-Ig	0.03	0.019	0.069
CL-33683-Ig	0.029	0.028	0.126
CL-33699-Ig	0.033	0.016	0.072
CL-33706-Ig	0.035	0.019	0.081
CL-33731Ig	0.036	0.023	0.068
CL-33759-Ig	0.293	0.18	1.267
CL-33811-Ig	0.032	0.012	0.1

CL-33812-Ig	0.033	0.028	0.043
CL-33820-Ig	0.017	0.013	0.066
CL-33855-Ig	0.037	0.019	0.162
CL-33701-Ig	0.056	0.012	0.059
CL-33737-Ig	0.03	0.024	0.092
CL-33803-Ig	0.024	0.018	0.044
C-L33767-Ig	0.09	0.042	0.114
CL-33845-Ig	0.171	0.073	0.409
CL-33805-Ig	0.039	0.018	0.063

實例 9：選擇較佳人類化抗體作為 DVD-Ig 結構單元之方法

實例 9.1. 用於評估意欲納入 DVD-Ig 蛋白之親代抗體各區之穩定性之技術

可使用差示掃描量熱(DSC)技術來測定抗體之不同結構域(例如 CH2、CH3、CH1-CL 及 VH-VL)之熱穩定性。已顯示，抗體之 DSC 溫度記錄圖(繪製為熱容對溫度)中最高峰之溫度對應於該抗體 VH-VL 區的因溫度遞增所致之去摺疊轉變或過程之中點。此可解釋為 VH-VL 熱穩定性之量度。在抗體格式中具有高熱穩定性之 VH-VL 區在納入 DVD-Ig 格式中作為一個結合結構域時亦將可能具有高熱穩定性。因此，抗體可經篩選以確定具有高熱穩定性 VH-VL 區之彼等。然後可將彼等區域納入 DVD-Ig 格式中以增加產生更穩定 DVD-Ig 分子之機率。

實例 9.2. 藉由差示掃描量熱測定抗 VEGF mAb 及抗 PDGF mAb 之 VH-VL 區之熱穩定性

選擇總共 73 個 mAb (45 個抗 VEGF 及 28 個抗 PDGF)且藉由 DSC 分析(實例 2.2)，並藉由測定 DSC 溫度記錄圖中最高峰之溫度來定量其 VH-VL 區之熱穩定性，如實例 9.1 中所詳述(表 54)。

表 54. 抗 VEGF 及抗 PDGF 抗體之熱穩定性

名稱	靶抗原	DSC 溫度記錄圖中 最高峰之溫度(°C)
hBDB-4G8.1	VEGF	71.97
hBDB-4G8.2	VEGF	69.13
hBDB-4G8.3	VEGF	65.65
hBDB-4G8.4	VEGF	75.27
hBDB-4G8.5	VEGF	73.07
hBDB-4G8.6	VEGF	68.68
hBDB-4G8.7	VEGF	76.27
hBDB-4G8.8	VEGF	73.16
hBDB-4G8.9	VEGF	68.95
hBDB-4G8.10	VEGF	73.44
hBDB-4G8.11	VEGF	69.77
hBDB-4G8.12	VEGF	67.48
hBDB-4G8.13	VEGF	67.12
hBDB-4G8.14	VEGF	63.4
hBDB-4G8.15	VEGF	69.41
h4G8.3 EI	VEGF	68.31
h4G8 CL-32416	VEGF	68.95
h4G8 CL-34449	VEGF	72.7
h4G8 CL-34455	VEGF	70.69
h4G8 CL-34469	VEGF	70.23
h4G8 CL-34475	VEGF	70.69
h4G8 CL-34522	VEGF	67.49
h4G8 CL-34540	VEGF	69.87
h4G8 CL-34633	VEGF	69.22
h4G8 CL-34538	VEGF	71.15
h4G8 CL-34570	VEGF	66.84
h4G8 CL-34565	VEGF	71.15
hBEW-9A8.17	VEGF	64.56
hBEW-9A8.21	VEGF	54.25

hBEW-5C3.4	VEGF	66.94
hBEW-9E10.1	VEGF	71.88
hBEW-9E10.3	VEGF	71.24
hBEW-9E10.4	VEGF	71.77
hBEW-9E10.6	VEGF	71.24
hBEW-9A8.20	VEGF	61.85
hBEW-5C3.1	VEGF	63.15
hBEW-5C3.5	VEGF	64.83
hBEW-9E10.2	VEGF	71.37
hBEW-9E10.5	VEGF	71.24
hBEW-1B10.1	VEGF	87.95
hBEW-1B10.2	VEGF	86.38
hBEW-1E3.1	VEGF	62.74
hBEW-1E3.2	VEGF	66.29
hBEW-1E3.4	VEGF	66.11
hBEW-1E3.5	VEGF	68.83
hBDI-9E8.1	PDGF	77.6
hBDI-9E8.2	PDGF	76.28
hBDI-9E8.3	PDGF	87.4
hBDI-9E8.4	PDGF	84.2
hBDI-9E8.5	PDGF	77.69
hBDI-9E8.6	PDGF	75.91
hBDI-9E8.7	PDGF	87.4
hBDI-9E8.8	PDGF	84.29
hBDI-9E8.9	PDGF	82.09
hBDI-9E8.10	PDGF	83.37
hBDI-9E8.11	PDGF	80.9
hBDI-9E8.12	PDGF	82.64
hBDI-9E8.13	PDGF	85.39
CL-33578-IgG	PDGF	75.03

CL-33587-IgG	PDGF	76.37
CL-33675-IgG	PDGF	87.4
CL-33682-IgG	PDGF	78.52
CL-33683-IgG	PDGF	82.55
CL-33701-IgG	PDGF	73.62
CL-33706-IgG	PDGF	86.85
CL-33731-IgG	PDGF	77.33
CL-33803-IgG	PDGF	74.26
CL-33805-IgG	PDGF	80.35
CL-33811-IgG	PDGF	79.71
CL-33812-IgG	PDGF	78.15
CL-33820-IgG	PDGF	78.88
CL-33855-IgG	PDGF	82.18
hBFU-3E2.1	PDGF	68.31

實例 10：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之產生

使用人類化抗人類 VEGF-A 及抗人類 PDGF-BB mAb 之可變結構域序列來設計抗人類 VEGF-A/抗人類 PDGF-BB DVD-Ig 分子之 VH 及 VL 結構域。在一些情形下，使用兩步 PCR 來合成可變區。用選殖載體之同源側接區及每一 DVD 可變對間之連接體區域來設計引子。在一些情形下，使用基因合成來產生可變區。使用業內已知之標準方案，實施細菌轉變以鑑別陽性純系且收穫構築體並純化用於哺乳動物轉染中。

將重鏈及輕鏈之可變結構域分別框內選殖至突變體人類 IgG1 (L234、235A)重鏈或突變體人類 IgG1 (L234、235A、H435A)重鏈及 κ 輕鏈恆定區，選殖至 pHybE 載體中以產生抗人類 VEGF-A/抗人類 PDGF-BB DVD-Ig 分子。

表 55. DVD-Ig 連接體之胺基酸序列

Seq ID No	名稱	序列
	HG-短	ASTKGP
	HG-長	ASTKGPSVFPLAP
	GS-H10	GGGGSGGGGS
	LK-短	RTVAAP
	LK-長	RTVAAPSVFIFPP
	GS-L10	RGGSGGGGSG
	GS-L10(dR)	GGSGGGGSGG
	GS-L11	RGGSGGGGSGG
		AKTTPKLEEGEFSEAR
		AKTTPKLEEGEFSEARV
		AKTTPKLGG
		SAKTPKLGG
		SAKTPP
		RADAAP
		RADAAPTVS
		RADAAAAGGPGS
		RADAAAA(G ₄ S) ₄
		SAKTPKLEEGEFSEARV
		ADAAP
		ADAAPTVSIFPP
		TVAAP
		TVAAPSVFIFPP
		QPKAAP
		QPKAAPSVTLFPP
		AKTPP
		AKTPPSVTPLAP
		AKTTAP
		AKTTAPSVYPLAP
		ASTKGP

		ASTKGPSVFPLAP
		GGGGSGGGGSGGGGS
		GENKVEYAPALMALS
		GPAKELTPLKEAKVS
		GHEAAAVMQVQYPAS
		TVAAPSVFIFPPTVAAPSVFIFPP
		ASTKGPSVFPLAPASTKGPSVFPLAP
		GGGGSGGGGS
		GGSGGGGSG
		基於 G/S 之序列(例如, G4S 及 G4S 重複)

表 56. 抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之重鏈(H)及輕鏈(L)組成(第一及第二多肽鏈交替列示於表之各列中)

SEQ ID NO	公司 ID	DVD-Ig 可變結構域名稱	外部可變結構域名稱	連接體	內部可變結構域名稱	SEQ ID NO VD1 - X1 - VD2 式
	NA	AB014-GS-9E8.4 ^a	AB014 VH	GS-H10	hBDI-9E8.4 VH	
			AB014 VL	GS-L10	hBDI-9E8.4 VL	
	NA	9E8.4-GS-AB014 ^a	hBDI-9E8.4 VH	GS-H10	AB014 VH	
			hBDI-9E8.4 VL	GS-L10	AB014 VL	
	NA	AB014-SS-9E8.4 ^a	AB014 VH	HG-短	hBDI-9E8.4 VH	
			AB014 VL	LK-短	hBDI-9E8.4 VL	

	NA	9E8.4-SS-AB014 ^a	hBDI-9E8.4 VH	HG-短	AB014 VH	
			hBDI-9E8.4 VL	LK-短	AB014 VL	
	NA	AB014-SL-9E8.4 ^a	AB014 VH	HG-短	hBDI-9E8.4 VH	
			AB014 VL	LK-長	hBDI-9E8.4 VL	
	NA	9E8.4-SL-AB014 ^a	hBDI-9E8.4 VH	HG-短	AB014 VH	
			hBDI-9E8.4 VL	LK-長	AB014 VL	
	NA	AB014-LS-9E8.4 ^a	AB014 VH	HG-長	hBDI-9E8.4 VH	
			AB014 VL	LK-短	hBDI-9E8.4 VL	
	NA	9E8.4-LS-AB014 ^a	hBDI-9E8.4 VH	HG-長	AB014 VH	
			hBDI-9E8.4 VL	LK-短	AB014 VL	
	PR- 1563988	9E8.4-GS-4G8.3 ^a	hBDI-9E8.4 VH	GS-H10	hBDB- 4G8.3 VH	
			hBDI-9E8.4 VL	GS-L10	hBDB- 4G8.3 VL	
	PR- 1563990	9E8.4-SS-4G8.3 ^a	hBDI-9E8.4 VH	HG-短	hBDB- 4G8.3 VH	
			hBDI-9E8.4 VL	LK-短	hBDB- 4G8.3 VL	
	PR- 1563998	9E8.4-SL-4G8.3 ^a	hBDI-9E8.4 VH	HG-短	hBDB- 4G8.3 VH	

			hBDI-9E8.4 VL	LK-長	hBDB- 4G8.3 VL	
PR- 1564009	9E8.4-LS-4G8.3 ^a		hBDI-9E8.4 VH	HG-長	hBDB- 4G8.3 VH	
			hBDI-9E8.4 VL	LK-短	hBDB- 4G8.3 VL	
PR- 1564010	4G8.3-GS-9E8.4 ^a		hBDB- 4G8.3 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.3 VL	GS-H10	hBDI-9E8.4 VL	
PR- 1564011	4G8.3-SS-9E8.4 ^a		hBDB- 4G8.3 VH	HG-短	hBDI-9E8.4 VH	
			hBDB- 4G8.3 VL	LK-短	hBDI-9E8.4 VL	
PR- 1564012	4G8.3-SL-9E8.4 ^a		hBDB- 4G8.3 VH	HG-短	hBDI-9E8.4 VH	
			hBDB- 4G8.3 VL	LK-長	hBDI-9E8.4 VL	
PR- 1564013	4G8.3-LS-9E8.4 ^a		hBDB- 4G8.3 VH	HG-長	hBDI-9E8.4 VH	
			hBDB- 4G8.3 VL	LK-短	hBDI-9E8.4 VL	
PR- 1569574	9E8.4-GS-4G8.3		hBDI-9E8.4 VH	GS-H10	hBDB- 4G8.3 VH	
			hBDI-9E8.4 VL	GS-L10	hBDB- 4G8.3 VL	
PR- 1569579	9E8.4-SL-4G8.3		hBDI-9E8.4 VH	HG-短	hBDB- 4G8.3 VH	
			hBDI-9E8.4 VL	LK-長	hBDB- 4G8.3 VL	

	PR- 1575573	9E8.4-LS-4G8.3	hBDI-9E8.4 VH	HG-長	hBDB- 4G8.3 VH	
			hBDI-9E8.4 VL	LK-短	hBDB- 4G8.3 VL	
	PR- 1572102	4G8.3-GS-9E8.4 (g)	hBDB- 4G8.3 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.3 VL	GS-L10	hBDI-9E8.4 VL	
	PR- 1572103	4G8.3-GS(11)- 9E8.4 (g)	hBDB- 4G8.3 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.3 VL	GS-L11	hBDI-9E8.4 VL	
	PR- 1572104	4G8.3-GS(noR)- 9E8.4 (g)	hBDB- 4G8.3 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.3 VL	GS- L10(dR)	hBDI-9E8.4 VL	
	PR- 1572105	4G8.3-SL-9E8.4 (g)	hBDB- 4G8.3 VH	HG-短	hBDI-9E8.4 VH	
			hBDB- 4G8.3 VL	LK-長	hBDI-9E8.4 VL	
	PR- 1572106	4G8.3-LS-9E8.4 (g)	hBDB- 4G8.3 VH	HG-長	hBDI-9E8.4 VH	
			hBDB- 4G8.3 VL	LK-短	hBDI-9E8.4 VL	
	PR- 1575832	4G8.3-GS-9E8.4E	hBDB- 4G8.3 VH	GS-H10	hBDI- 9E8.4E VH	
			hBDB- 4G8.3 VL	GS-L10	hBDI- 9E8.4E VL	
	PR- 1575834	4G8.3-SL-9E8.4E	hBDB- 4G8.3 VH	HG-短	hBDI- 9E8.4E VH	

			hBDB- 4G8.3 VL	LK-長	hBDI- 9E8.4E VL	
PR- 1575835	4G8.3-LS-9E8.4E		hBDB- 4G8.3 VH	HG-長	hBDI- 9E8.4E VH	
			hBDB- 4G8.3 VL	LK-短	hBDI- 9E8.4E VL	
PR- 1577165	9A8.12-GS-9E8.4E		hBEW- 9A8.12 VH	GS-H10	hBDI- 9E8.4E VH	
			hBEW- 9A8.12 VL	GS-L10	hBDI- 9E8.4E VL	
PR- 1577166	9A8.12-SL-9E8.4E		hBEW- 9A8.12 VH	HG-短	hBDI- 9E8.4E VH	
			hBEW- 9A8.12 VL	LK-長	hBDI- 9E8.4E VL	
PR- 1577547	9A8.12-LS-9E8.4E		hBEW- 9A8.12 VH	HG-長	hBDI- 9E8.4E VH	
			hBEW- 9A8.12 VL	LK-短	hBDI- 9E8.4E VL	
PR- 1578137	9E8.4E-GS-9A8.12		hBDI- 9E8.4E VH	GS-H10	hBEW-9A8.12 VH	
			hBDI- 9E8.4E VL	GS-L10	hBEW- 9A8.12 VL	
PR- 1577548	9E8.4E-SL-9A8.12		hBDI- 9E8.4E VH	HG-短	hBEW-9A8.12 VH	
			hBDI- 9E8.4E VL	LK-長	hBEW-9A8.12 VL	
PR- 1577550	9E8.4E-LS-9A8.12		hBDI- 9E8.4E VH	HG-長	hBEW-9A8.12 VH	
			hBDI- 9E8.4E VL	LK-短	hBEW-9A8.12 VL	

	PR- 1598261	4G8.2-GS-9E8.4	hBDB- 4G8.2 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.2 VL	GS-L10	hBDI-9E8.4 VL	
	PR- 1598262	4G8.4-GS-9E8.4	hBDB- 4G8.4 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.4 VL	GS-L10	hBDI-9E8.4 VL	
	PR- 1598263	4G8.5-GS-9E8.4	hBDB- 4G8.5 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.5 VL	GS-L10	hBDI-9E8.4 VL	
	PR- 1598264	4G8.12-GS-9E8.4	hBDB- 4G8.12 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.12 VL	GS-L10	hBDI-9E8.4 VL	
	PR- 1598265	4G8.13-GS-9E8.4	hBDB- 4G8.13 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.13 VL	GS-L10	hBDI-9E8.4 VL	
	PR- 1598266	4G8.14-GS-9E8.4	hBDB- 4G8.14 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.14 VL	GS-L10	hBDI-9E8.4 VL	
	PR- 1613183	CL-34565_GS_CL- 33675	CL-34565 VH	GS-H10	CL-33675 VH	
			CL-34565 VL	GS- L10(dR)	CL-33675 VL	
	PR- 1613184	CL- 34565_GS_9E8.4	CL-34565 VH	GS-H10	hBDI-9E8.4 VH	

			CL-34565 VL	GS- L10(dR)	hBDI-9E8.4 VL	
PR- 1613185	CL- 34565 GS 3E2.1		CL-34565 VH	GS-H10	hBFU-3E2.1 VH	
			CL-34565 VL	GS- L10(dR)	hBFU-3E2.1 VL	
PR- 1611291	4G8.5_GS_CL- 33675		hBDB- 4G8.5 VH	GS-H10	CL-33675 VH	
			hBDB- 4G8.5 VL	GS- L10(dR)	CL-33675 VL	
PR- 1612489	4G8.5_GS_9E8.4		hBDB- 4G8.5 VH	GS-H10	hBDI-9E8.4 VH	
			hBDB- 4G8.5 VL	GS- L10(dR)	hBDI-9E8.4 VL	
PR- 1610560	4G8.5_GS_3E2.1		hBDB- 4G8.5 VH	GS-H10	hBFU-3E2.1 VH	
			hBDB- 4G8.5 VL	GS- L10(dR)	hBFU-3E2.1 VL	
PR- 1610561	9E10.1_GS_CL- 33675		hBEW- 9E10.1 VH	GS-H10	CL-33675 VH	
			hBEW- 9E10.1 VL	GS- L10(dR)	CL-33675 VL	
PR- 1612491	9E10.1_GS_9E8.4		hBEW- 9E10.1 VH	GS-H10	hBDI-9E8.4 VH	
			hBEW- 9E10.1 VL	GS- L10(dR)	hBDI-9E8.4 VL	
PR- 1610562	9E10.1_GS_3E2.1		hBEW- 9E10.1 VH	GS-H10	hBFU-3E2.1 VH	
			hBEW- 9E10.1 VL	GS- L10(dR)	hBFU-3E2.1 VL	

	PR- 1612492	9E10.6_GS_CL- 33675	hBEW- 9E10.6 VH	GS-H10	CL-33675 VH	
			hBEW- 9E10.6 VL	GS- L10(dR)	CL-33675 VL	
	PR- 1612493	9E10.6_GS_9E8.4	hBEW- 9E10.6 VH	GS-H10	hBDI-9E8.4 VH	
			hBEW- 9E10.6 VL	GS- L10(dR)	hBDI-9E8.4 VL	
	PR- 1610563	9E10.6_GS_3E2.1	hBEW- 9E10.6 VH	GS-H10	hBFU-3E2.1 VH	
			hBEW- 9E10.6 VL	GS- L10(dR)	hBFU-3E2.1 VL	
	PR- 1611292	1B10.1_GS_CL- 33675	hBEW- 1B10.1 VH	GS-H10	CL-33675 VH	
			hBEW- 1B10.1 VL	GS- L10(dR)	CL-33675 VL	
	PR- 1612494	1B10.1_GS_9E8.4	hBEW- 1B10.1 VH	GS-H10	hBDI-9E8.4 VH	
			hBEW- 1B10.1 VL	GS- L10(dR)	hBDI-9E8.4 VL	
	PR- 1610564	1B10.1_GS_3E2.1	hBEW- 1B10.1 VH	GS-H10	hBFU-3E2.1 VH	
			hBEW- 1B10.1 VL	GS- L10(dR)	hBFU-3E2.1 VL	
	PR- 1611293	1E3.4_GS_CL- 33675	hBEW- 1E3.4 VH	GS-H10	CL-33675 VH	
			hBEW- 1E3.4 VL	GS- L10(dR)	CL-33675 VL	
	PR- 1611294	1E3.4_GS_9E8.4	hBEW- 1E3.4 VH	GS-H10	hBDI-9E8.4 VH	

			hBEW- 1E3.4 VL	GS- L10(dR)	hBDI-9E8.4 VL	
PR- 1612495	1E3.4 GS 3E2.1		hBEW- 1E3.4 VH	GS-H10	hBFU-3E2.1 VH	
			hBEW- 1E3.4 VL	GS- L10(dR)	hBFU-3E2.1 VL	
PR- 1613186	CL-33675_GS_CL- 34565	CL-33675 VH		GS-H10	CL-34565 VH	
			CL-33675 VL	GS- L10(dR)	CL-34565 VL	
PR- 1612496	CL- 33675 GS 4G8.5	CL-33675 VH		GS-H10	hBDB-4G8.5 VH	
			CL-33675 VL	GS- L10(dR)	hBDB-4G8.5 VL	
PR- 1611295	CL- 33675 GS 9E10.1	CL-33675 VH		GS-H10	hBEW-9E10.1 VH	
			CL-33675 VL	GS- L10(dR)	hBEW-9E10.1 VL	
PR- 1611296	CL- 33675 GS 9E10.6	CL-33675 VH		GS-H10	hBEW-9E10.6 VH	
			CL-33675 VL	GS- L10(dR)	hBEW-9E10.6 VL	
PR- 1612498	CL- 33675 GS 1B10.1	CL-33675 VH		GS-H10	hBEW-1B10.1 VH	
			CL-33675 VL	GS- L10(dR)	hBEW-1B10.1 VL	
PR- 1611297	CL- 33675 GS 1E3.4	CL-33675 VH		GS-H10	hBEW-1E3.4 VH	
			CL-33675 VL	GS- L10(dR)	hBEW-1E3.4 VL	

	PR- 1613187	9E8.4_GS_CL- 34565	hBDI-9E8.4 VH	GS-H10	CL-34565 VH	
			hBDI-9E8.4 VL	GS- L10(dR)	CL-34565 VL	
	PR- 1613188	9E8.4_GS_4G8.5	hBDI-9E8.4 VH	GS-H10	hBDB-4G8.5 VH	
			hBDI-9E8.4 VL	GS- L10(dR)	hBDB-4G8.5 VL	
	PR- 1611298	9E8.4_GS_9E10.1	hBDI-9E8.4 VH	GS-H10	hBEW-9E10.1 VH	
			hBDI-9E8.4 VL	GS- L10(dR)	hBEW-9E10.1 VL	
	PR- 1611299	9E8.4_GS_9E10.6	hBDI-9E8.4 VH	GS-H10	hBEW-9E10.6 VH	
			hBDI-9E8.4 VL	GS- L10(dR)	hBEW-9E10.6 VL	
	PR- 1611300	9E8.4_GS_1B10.1	hBDI-9E8.4 VH	GS-H10	hBEW-1B10.1 VH	
			hBDI-9E8.4 VL	GS- L10(dR)	hBEW-1B10.1 VL	
	PR- 1611301	9E8.4_GS_1E3.4	hBDI-9E8.4 VH	GS-H10	hBEW-1E3.4 VH	
			hBDI-9E8.4 VL	GS- L10(dR)	hBEW-1E3.4 VL	
	PR- 1613189	3E2.1_GS_CL- 34565	hBFU- 3E2.1 VH	GS-H10	CL-34565 VH	
			hBFU- 3E2.1 VL	GS- L10(dR)	CL-34565 VL	
	PR- 1612499	3E2.1_GS_4G8.5	hBFU- 3E2.1 VH	GS-H10	hBDB-4G8.5 VH	

			hBFU- 3E2.1 VL	GS- L10(dR)	hBDB-4G8.5 VL	
	PR- 1612500	3E2.1 GS 9E10.1	hBFU- 3E2.1 VH	GS-H10	hBEW-9E10.1 VH	
			hBFU- 3E2.1 VL	GS- L10(dR)	hBEW-9E10.1 VL	
	PR- 1612501	3E2.1 GS 9E10.6	hBFU- 3E2.1 VH	GS-H10	hBEW-9E10.6 VH	
			hBFU- 3E2.1 VL	GS- L10(dR)	hBEW-9E10.6 VL	
	PR- 1612502	3E2.1 GS 1B10.1	hBFU- 3E2.1 VH	GS-H10	hBEW-1B10.1 VH	
			hBFU- 3E2.1 VL	GS- L10(dR)	hBEW-1B10.1 VL	
	PR- 1613190	3E2.1 GS 1E3.4	hBFU- 3E2.1 VH	GS-H10	hBEW-1E3.4 VH	
			hBFU- 3E2.1 VL	GS- L10(dR)	hBEW-1E3.4 VL	
	PR- 1629646	9E10.1_SL_CL- 33675	hBEW- 9E10.1 VH	HG-短	CL-33675 VH	
			hBEW- 9E10.1 VL	LK-長	CL-33675 VL	
	PR- 1629647	1B10.1_SL_CL- 33675	hBEW- 1B10.1 VH	HG-短	CL-33675 VH	
			hBEW- 1B10.1 VL	LK-長	CL-33675 VL	
	PR- 1629648	9E10.1_LS_CL- 33675	hBEW- 9E10.1 VH	HG-長	CL-33675 VH	
			hBEW- 9E10.1 VL	LK-短	CL-33675 VL	

	PR- 1629649	1B10.1_LS_CL- 33675	hBEW- 1B10.1 VH	HG-長	CL-33675 VH	
			hBEW- 1B10.1 VL	LK-短	CL-33675 VL	
	PR- 1564883	DVD3896 ^a	hBDI-5H1.9 VH	HG-短	hBDB-4G8.13 VH	
			hBDI-5H1.9 VL	LK-長	hBDB-4G8.13 VL	
	PR- 1564893	DVD3897 ^a	hBDI-5H1.9 VH	HG-短	hBDB-4G8.14 VH	
			hBDI-5H1.9 VL	LK-長	hBDB-4G8.14 VL	
	PR- 1564896	DVD3898 ^a	hBDI-5H1.9 VH	HG-短	hBDB-4G8.15 VH	
			hBDI-5H1.9 VL	LK-長	hBDB-4G8.15 VL	
	PR- 1564898	DVD3899 ^a	hBDI- 9E8.12 VH	HG-短	hBDB-4G8.14 VH	
			hBDI- 9E8.12 VL	LK-長	hBDB-4G8.14 VL	
	PR- 1564899	DVD3900 ^a	hBDI- 9E8.12 VH	HG-短	hBDB-4G8.15 VH	
			hBDI- 9E8.12 VL	LK-長	hBDB-4G8.15 VL	
	PR- 1565023	DVD3901 ^a	hBDI-9E8.9 VH	HG-短	hBDB-4G8.13 VH	
			hBDI-9E8.9 VL	LK-長	hBDB-4G8.13 VL	
	PR- 1565029	DVD3902 ^a	hBDI-9E8.9 VH	HG-短	hBDB-4G8.14 VH	

			hBDI-9E8.9 VL	LK-長	hBDB-4G8.14 VL	
PR- 1565030	DVD3903 ^a		hBDI-9E8.9 VH	HG-短	hBDB-4G8.15 VH	
			hBDI-9E8.9 VL	LK-長	hBDB-4G8.15 VL	
PR- 1565031	DVD3904 ^a		hBDI- 5H1.13 VH	HG-短	hBDB-4G8.14 VH	
			hBDI- 5H1.13 VL	LK-長	hBDB-4G8.14 VL	
PR- 1565032	DVD3905 ^a		hBDI- 9E8.12 VH	HG-短	hBDB-4G8.15 VH	
			hBDI- 9E8.12 VL	LK-長	hBDB-4G8.15 VL	
PR- 1565035	DVD3906 ^a		hBDI- 5H1.13 VH	HG-短	hBDB-4G8.15 VH	
			hBDI- 5H1.13 VL	LK-長	hBDB-4G8.15 VL	
PR- 1565033	DVD3907 ^a		hBDI- 9E8.13 VH	HG-短	hBDB-4G8.15 VH	
			hBDI- 9E8.13 VL	LK-長	hBDB-4G8.15 VL	

^a 該等 DVD 係用 Ig γ -1 恆定區 L234A、L235A 來製得，所有其他 DVD 係用 Ig γ -1 恆定區 L234A、L235A 及 H435A 來製得。

表 57. 一些抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之重鏈(H)及輕鏈(L)胺基酸組成

(連接體序列以斜體表示；CDR 序列以粗體表示；HC =重鏈且 LC =輕鏈)

序列標識符	DVD-Ig可變結構域 (公司ID)	序列
		12345678901234567890123456789012
SEQ ID NO:x	4G8.3-GS-9E8.4 HC (PR-1569574)	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNY GMYWVRQAPGQGLEWMGWINTETGKPTYADDF KGRFVFLDTSVSTAYLQISSLKAEDTAVYYC ARTNYYRSYIFYFDYWGQGMVTVSSGGGGS GGGSEVTLRESGPALVKPTQTLTLTCTFSGF SLSTYGMGVGWIRQPPGKALEWLANIWDDDK YYNPSLKNRLTISKDTSKNQVVLMTNMDPVD TATYYCARIESIGTTYSFDYWGQGMVTVSSA STKGPSVFPLAPSSKSTSGGTAALGCLVKDYF PEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL SSVVTVPSSSLGTQTYICNVNHKPSNTKVDKK VEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYRVVSVLTVLH QDWLNGKEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCLVKGFYP SDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSQSVMHEALHNAYTQ KSLSLSPGK</p>
	4G8.3-GS-9E8.4 LC (PR-1569574)	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTH MHWYQQKPGQAPRLLIYGASNLESGVPARFSG SGSGTDFTLTISSELEPEDFAVYFCQQSWNDPF TFGQGTKLEIKRGGSGGGSGEFVLTQSPGTL SLSPGERATLSCERSSGDIGDSYVSWYQQKPG</p> <p>QAPRLVIYADDQRPSGI PDRFSGSGSGTDFTL TISRLEPEDFAVYYCQSYDINIDIVFGGGTKV EIKGTVAAPSVFIFPPSDEQLKSGTASVVCLL NNFYPREAKVQWKVDNALQSGNSQESVTEQDS</p>

序列標識符	DVD-Ig可變結構域 (公司ID)	序列
		12345678901234567890123456789012
		KDSTYLSSTLTLSKADYEKHKVYACEVTHQG LSSPVTKSFNRGEC
	4G8.3-SL-9E8.4 HC (PR-1569579)	EVQLVQSGSELKKPGASVKVSCKASGYTFTNY GM YWVRQAPGQGLEWMGWINTETGKPTYADDF KGR FVFSLDTSVSTAYLQISSLKAEDTAVYYC ART NYYYRSYIFYFDYWGQGMVTVSSASTKG PEVTLRESGPALVKPTQTLTLTCTFS GFSLST YGM GVGWIRQPPGKALEWLANIWWDDDKYYP SL KNRLTISKDTSKNQVVLMTNMDPVDTATY YCARI ESIG TTY SFD YWGQGMVTVSSASTKG PSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV TVPSSSLGTQTYICNVNHKPSNTKVKDKKVEPK SCDKTHTCPPCPAPEAAGGPSVFLFPPKPKDT LMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWL NGKEYKCKVSNKALPAPIEKTISKAKGQPREP QVYTLPPSREEMTKNQVSLTCLVKGFYPSDIA VEWESNGQPENNYKTTPPVLDSDGSFFLYSKL TVDKSRWQQGNVFSQVMHEALHNAYTQKS LSLSPGK
	4G8.3-SL-9E8.4 LC (PR-1569579)	DTVLTQSPATLSLSPGERATLSCR ASESVSTH MHW YQQKPGQAPRLLIY GASNLES GVPARFSG SGSGTDFTLTISSELEPEDFAVYFC QQSWNDPF TFG QGTKLEIKRTVAAPSVFIFPPEFVLTQSP GTL SLSPGERATLSCERSSGDIGDSYVSWYQQ KPGQAPRLVIY ADDQRPSG IPDRFSGSGSGTD FTLTISRLEPEDFAVYYC QSYDINIDIVFGGG

序列標識符	DVD-Ig可變結構域 (公司ID)	序列
		12345678901234567890123456789012
		TKVEIKGTVAAPSVFIFPPSDEQLKSGTASVV CLLNNFYYPREAKVQWKVDNALQSGNSQESVTE QDSKDYSTYLSSTLTLSKADYEKHKVYACEVT HQGLSSPVTKSFNRGEC
	4G8.3-LS-9E8.4 HC (PR-1575573)	EVQLVQSGSELKKPGASVKVSCKASGYTFTNY GMYWVRQAPGQGLEWMGWINTETGKPTYADDF KGRFVFSLDTSVSTAYLQISSLKAEDTAVYYC ARTNYYYSYIFYFDYWGQGMVTVSSASTKG PSVFPLAPEVTLRESGPALVKPTQTLTLTCTF SGFSLSTYGMGVGWIRQPPGKALEWLANIWW DDKYNP SL KNRLTISKDTSKNQVVLMTNMD PVDTATYYCARI ESIGTTYSFDY WGQGMVTV SSASTKGPSVFPLAPSSKSTSGGTAALGCLVK DYFPEPVTVSWNSGALTSGVHTFPAVLQSSGL YSLSSVTVPSSSLGTQTYICNVNHKPSNTKV DKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLF PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKF NWYVDGVEVHNAKTKPREEQYNSTYRVVSVLT VLHQDWLNGKEYKCKVSNKALPAPIEKTISKA KGQPREPQVYTLPPSREEMTKNQVSLTCLVKG FYPSDIAVEWESNGQPENNYKTPPVLDSDGS FFLYSKLTVDKSRWQQGNVFSCSVMHEALHNA YTQKSLSLSPGK
	4G8.3-LS-9E8.4 LC (PR-1575573)	DTVLTQSPATLSLSPGERATLSCRASESV STH MHWYQQKPGQAPRLLIYGAS NLES GVPARFSG SGSGTDFTLTISSELEPEDFAVYFC QQSWNDPF TFGQGTKLEIKRTVAAP EFVLTQSPGTL SLSP GERATLSC ERS SGDIGDSYVSWYQQKPGQAPR

序列標識符	DVD-Ig可變結構域 (公司ID)	序列
		12345678901234567890123456789012
		LVIY ADDQRPS GI PDRFSGSGSGTDF TLTISR LEPEDFAVYYC QSYDINIDIV FGGGTKVEIKG TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFY PREAKVQWKVDNALQSGNSQESVTEQDSKST YSLSSTLTLSKADYEKHKVYACEVTHQGLSSP VTKSFNRGEC
	4G8.3-GS-9E8.4 (g) HC (PR-1572102)	EVQLVQSGSELKKPGASVKV SCKASGYTFTNY GMYWVRQAPGQGLEWMGWINTETGKPTYADDF KGRFVFSLDTSVSTAYLQISSLKAEDTAVYYC ART NYYYRSYIFYFDY WGQGMVTVSSGGGGG GGGGSEVTLRESGPALVKPTQTLTLTCTF SGF SLSTYGMGVG WIRQPPGKALEWLANI WDDDK YYNPSLKNRL TISKDTSKNQVVLTMTNMDPVD TATYYCARI ESIGTTY SFDYWGQGMVTVSSA STKGPSVFPLAPSSKSTSGGTAALGCLVKDYF PEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL SSVVTVPSSSLGTQTYICNVNHKPSNTKVDKK VEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYRVVSVLTVLH QDWLNGKEYKCKVSNKALPAPIEKTISKAKGQ PREPQVYTLPPSREEMTKNQVSLTCLVKGFYP SDIAVEWESNGQPENNYKTTPPVLDSDGSFFL YSKLTVDKSRWQQGNVFSVMSVHEALHNAYTQ KSLSLSPGK
	4G8.3-GS-9E8.4 (g) LC (PR-1572102)	DTVLTQSPATLSLSPGERATL SCRASESVSTH MHWYQQKPGQAPRLLIYGASNLESGV PARFSG SSGTDFTLT ISSLEPEDFAVYFCQQSWNDPF

序列標識符	DVD-Ig可變結構域 (公司ID)	序列
		12345678901234567890123456789012
	LC (PR-1572105)	<p>MHWYQQKPGQAPRLLIYGASNLESGVPARFSG SSGTDFTLTISSELEPEDFAVYFCQQSWNDPF TFGQGTKLEIKRTVAAPSVFIFPPEFVLTQSP GTLSSLSPGERATLSCERSSGDIGDSYVSWYQQ KPGQAPRLVIYADDQRPSGIPDRFSGSGSGTD FTLTISRLEPEDFAVYYCQSYDINIDIVFGGG TKVEIKrTVAAPSVFIFPPSDEQLKSGTASV CLLNNFYPREAKVQWKVDNALQSGNSQESVTE QDSKDSTYSLSSSTLTLSKADYEKHKVYACEVT HQGLSSPVTKSFNRGEC</p>
	9E10.1_GS_CL-33675 HC (PR-1610561)	<p>EQLVQSGSELKKPGASVKVSCASGYTFTNY GMYWVKQAPGQGLEYMGWIDTETGRPTYADDF KGRFVFLDTSVSTAYLQISSLKAEDTAVYFC ARWSGDTTGIRGPWFAYWGQGLVTVSSGGGG SGGGGSEVTLRESGPALVKPTQTLTLCTFSG FSLSTYGMGVGWIRQPPGKALEWLANIWDDDD KYYNPSLKNRLTISKDTSKNQVVLTMTNMDPV DTATYYCARIESSGPKYSFDYWGQTMVTVSS ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDY FPEPVTVSWNSGALTSGVHTFPAVLQSSGLYS LSSVVTVPSSSLGTQTYICNVNHKPSNTKVDK KVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPREEQYNSTYRVVSVLTVL HQDWLNGKEYKCKVSNKALPAPIEKTISKAKG QPREPQVYTLPPSREEMTKQVSLTCLVKGFY PSDIAVEWESNGQPENNYKTTPPVLDSDGSFF LYSKLTVDKSRWQQGNVFSCSVMHEALHNAYT</p>

序列標識符	DVD-Ig可變結構域 (公司ID)	序列
		12345678901234567890123456789012
		QKSLSLSPGK
	9E10.1_GS_CL-33675 LC (PR-1610561)	<p>DIRMTQSPSSLSASVGDRTTIECLASEDIYSD LAWYQQKPGKSPKLLIYNANGLQNGVPSRFSG SGSGTDYSLTISLQPEDVATYFCQQYNYFPG TFGQGTKLEIKGGSGGGSGGEIVLTQSPGTL SLSPGERATLSCRASSGSIWYSFVSWYQQKPG QAPRLLIYADDQRASGIPDRFSGSGSGTDFTL TISRLEPEDFAVYYCQSYGINIDVVFVGGGTKV EIKRTVAAPSVFIFPPSDEQLKSGTASVCLL NNFYPREAKVQWKVDNALQSGNSQESVTEQDS KDSTYLSSTLTLSKADYEEKHKVYACEVTHQG LSSPVTKSFNRGEC</p>
	1B10.1_GS_CL-33675 HC (PR-1611292)	<p>EVQLVESGGGLVQPGGSLRLSCAASGFSFSKY DMAWFRQAPGKGLEWVASITTSVGTYYRDSV KGRFTVSRDNAKSTLYLQMNLSRAEDTAVYYC ARGYGAMDAWGQGTTVTVSSGGGGSGGGGSEV TLRESGPALVKPTQTLTLTCTFSGFSLSSTYGM GVGWIRQPPGKALEWLANIWWDDDKYYNPSLK NRLTISKDTSKNQVVLMTNMDPVDATYYCA RIESSGPKYSFDYWGQ GTMVTVSSASTKGPSVFPLAPSSKSTSGGTAA LGCLVKDYFPEPVTVSWNSGALTSGVHTFPAV LQSSGLYSLSSVTVPSSSLGTQTYICNVNHK PSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGG PSVFLFPPKPKDTLMISRTPEVTCVVDVDSHE DPEVKFNWYVDGVEVHNAKTKPREEQYNSTYR VVSVELTVLHQDWLNGKEYKCKVSNKALPAPIE KTISKAKGQPREPQVY</p>

表 58. 抗人類 VEGF-A/抗人類 PDGF-BB 交叉 DVD-Ig 分子之重鏈及輕鏈胺基酸序列(連接體序列以斜體表示；CDR 序列以粗體表示)

Seq ID No	名稱(公司 ID)	序列
		1234567890123456789012345678901234567890
	CODV001 HC (PR-1565040)	EVQLVESGGGLVQPGGSLRLSCAASGYTFTNYGMNWVRQA PGKGLEWVGWINTYTGEPTYAADFKRRFTFSLDTSKSTAY LQMNSLRAEDTAVYYCAKYPHYYGSSHWYFDVWGQGLT VSSGEVTLKESGPALVKPTQTLTLTCTFSGFSLSTFGMGV GWIRQPPGKALEWLANIWWDDDKYYNP SLKNRLTISKDTS KNQAVLTITNMDPVDTATYYCAR ISTGISSYYVMD AWGQG TTVTVSSGGASTKGPSVFPLAPSSKSTSGGTAALGCLVKD YFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTV PSSSLGTQTYICNVNHKPSNTKVDKKEPKSCDKTHTCPP CPAPEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTV LHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQV YTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPE NNYKTTTPVLDSDGSFFLYSKLTVDKSRWQOGNVFSCSVM HEALHNHYTQKSLSLSPGK
	CODV001 LC (PR-1565040)	DFQLTQSPSSLSASVGDRTTITC ERS SGDIGDTYVSWYQQ KPGKAPKNVIY GNDQR PSGVPSRFSGSGSGNSATLTISL QPEDFATYFC QSYDS DIIVFGQGTKVEIKGGGSGGGDIQ MTQSPSSLSASVGDRTTITC SASQ DISNYLNWYQQKPGKA PKVLIY FTSSL HSGVPSRFSGSGSGTDFTLTISLQPEDF ATYYC QQYSTVP WTFGQGTKVEIKGGGSGRTVAAPSVFIF PPSDEQLKSGTASVCLLNRFYPREAKVQWKVDNALQSGN SQESVTEQDSKDSSTYSLSSTLTLSKADYEKHKVYACEVTH

		QGLSSPVTKSFNRGEC
	CODV002 HC (PR- 1565042)	<p>EVTLKESGPALVKPTQTLTLTCTFSGFSLSTFGMGVWIR QPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTSKNQA VLTITNMDPVDATYYCARISTGISSYYVMDAWGQTTVT VSSGEVQLVESGGGLVQPGGSLRLSCAASGYTFTNYGMNW VRQAPGKGLEWVGWINTYTGEPTYAADFKRRFTFSLDTSK STAYLQMNSLRAEDTAVYYCAKYPHYYGSSHWYFDVWGQG TLVTVSSGGASTKGPSVFPLAPSSKSTSGGTAALGCLVKD YFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTV PSSSLGTQTYICNVNHKPSNTKVDKKEPKSCDKTHTCPP CPAPEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTV LHQDWLNGKEYKCKVSNKALPAPIEKTIKAKGQPREPQV YTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPE NNYKTTTPVLDSDGSFFLYSKLTVDKSRWQOGNVFSCSVM HEALHNHYTQKSLSLSPGK</p>
	CODV002 LC (PR- 1565042)	<p>DIQMTQSPSSLSASVGRVTITCSASQDISNYLNWYQQKP GKAPKVLIIYFTSSLHSGVPSRFRSGSGSGTDFTLTISLQ EDFATYYCQQYSTVPWTFGQGTKVEIKGGGSGGGDFQLTQ SPSSLSASVGRVTITCERSSGDIGDTYVSWYQQKPGKAP KNVIYGNDQRPSGVPSRFRSGSGSGNSATLTISLQPEDFA TYFCQSYDSIDIDIVFGQGTKVEIKGGGSGRTVAAPSVFIF PPSDEQLKSGTASVCLLNNFYPREAKVQWKVDNALQSGN SQESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTH QGLSSPVTKSFNRGEC</p>
	CODV003 HC (PR- 1565044)	<p>EVQLVESGGGLVQPGGSLRLSCAASGYTFTNYGMNWVRQA PGKGLEWVGWINTYTGEPTYAADFKRRFTFSLDTSKSTAY LQMNSLRAEDTAVYYCAKYPHYYGSSHWYFDVWGQGTTLVT VSSGEVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGV GWIRQPPGKGLEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQAVLTIITNMDPVDATYYCARIESIGTTYSFDYWGQGT</p>

		<p>MVTVSSGGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDY FPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPC PAPEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHE DPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVL HQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVY TLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQEN N YKTTTPVLDSDGSFFLYSKLTVDKSRWQOGNVFSCSVMH EALHNHYTQKSLSLSPGK</p>
	CODV003 LC (PR- 1565044)	<p>DFQLTQSPSSLSASVGDRVTITCERSSGDIGDSYVSWYQQ KPGKAPKNVIYADDQRPSGVPSRFRSGSGSNGNSASLTISL QPEDFATYFCQSYDINIDIVFGQGTKVEIKGGGSGGGDIQ MTQSPSSLSASVGDRVTITCSASQDISNYLNWYQQKPGKA PKVLIYFTSSLHSGVPSRFRSGSGSGTDFTLTISLQPEDF ATYYCQQYSTVPWTFGQGTKVEIKGGGSGRTVAAPSVFIF PPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGN SQESVTEQDSKDSTYLSSTLTLSKADYEKHKVYACEVTH QGLSSPVTKSFNRGEC</p>
	CODV004 HC (PR- 1565051)	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWR QPPGKGLEWLANIWDDDKYYNPSLKNRLTISKDTSKNQA VLTITNMDPVDATYYCARIESIGTTYSEFDYWGQGTMTV SSGEVQLVESGGGLVQPGGSLRLSCAASGYTFTNYGMNWV RQAPGKGLEWVGWINTYTGEPTYAADFKRRFTFSLDTSKS TAYLQMNSLRAEDTAVYYCAKYPHYGSSHWYFDVWGQGT LVTVSSGGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDY FPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPC PAPEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHE DPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVL HQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVY</p>

		<p>TLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGOPEN NYKTTPPVLDSDGSFFLYSKLTVDKSRWQOQGNVFSVSMH EALHNHYTQKSLSLSPGK</p>
	<p>CODV004 LC (PR- 1565051)</p>	<p>DIQMTQSPSSLSASVGDRVTITCSASQDISNYLNWYQOKP GKAPKVLIIYFTSSLHSGVPSRFRSGSGSGTDFTLTISSLQP EDFATYYCQQYSTVPWTFGQGTKVEIKGGGSGGGDFQLTQ SPSSLSASVGDRVTITCERSSGDIGDSYVSWYQOKPGKAP KNVIYADDQRPSGVPSRFRSGSGSGNSASLTIISSLQPEDFA TYFCQSYDINIDIVFGQGTKVEIKGGGSGRTVAAPSVFIF PPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGN SQESVTEQDSKDYSLSSSTLTLSKADYEKHKVYACEVTH QGLSSPVTKSFNRGEC</p>
	<p>CODV005 HC (PR- 1565083)</p>	<p>EVQLVESGGGLVQPGGSLRLSCAASGYFTFTNYGMYWVKQA PGKGLEYMGWINTETGKPTYADDFKGRFTFSLDTSKSTAY LQMNSLRAEDTAVYFCARTNYYYRSYIFDYWGQGLTIVT VSSGEVTLKESGPALVKPTQTLTLTCTFSGFSLSTFGMGV GWIRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQAVLTIITNMDPVDATATYYCARISTGISSYYVMDAWGQG TTVTVSSGGASTKGPSVFPLAPSSKSTSGGTAALGCLVKD YFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTV PSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPP CPAPEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTV LHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQV YTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPE NNYKTTPPVLDSDGSFFLYSKLTVDKSRWQOQGNVFSVSM HEALHNHYTQKSLSLSPGK</p>
	<p>CODV005 LC (PR- 1565083)</p>	<p>DFQLTQSPSSLSASVGDRVTITCERSSGDIGDTYVSWYQQ KPGKAPKNVIYGNDRPSGVPSRFRSGSGSGNSATLTIISSL QPEDFATYFCQSYDSIDIDIVFGQGTKVEIKGGGSGGGDTQ LTQSPSSLSASVGDRVTISCRASESVSTHMHWYQOKPGKA</p>

		PKLLIYG ASNLES GVPSRFRSGSGSGTDFTLTISSLQPEDF ATYFC QQSWNDPFT FGQGTKVEIKGGSGRRTVAAPSVFIF PPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGN SQESVTEQDSKDYSLSSSTLTLSKADYEKHKVYACEVTH QGLSSPVTKSFNRGEC
	CODV006 HC (PR- 1565084)	EVTLKESGPALVKPTQTLTLTCTFS GFSLS T F GMGVGWIR QPPGKALEWLANI WDDDKY NP SLKN RLTISKDTSKNQA VLTITNMDPVDTATYYCAR ISTGISSY VMDAWGQTTVT VSSGEVQLVESGGGLVQPGGSLRLSCAAS G Y TFTNY GMYW VKQAPGKGLE YMGWINTETGK PTY ADDFKGR F T SLDTSK STAYLQMN SLRAEDTAVYFCAR T NY Y RSYIF YFDYWGQG TLVTVSSGGASTKGPSVFPLAPSSKSTSGGTAALGCLVKD YFPEPVTVSWNSGALTS GVHTFPAVLQSSGLY SLSSVTV PSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPP CPAPEAAGG PSVFLFPPKPKD TL MISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTK PREEQYN STYRVVSVLTV LHQDWLNGKEYKCKVSNKALPAPIEK TISKAKGQ PREPQV YTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES NGQPE NNYKTT PPVLDSDGSFFLYSKL TVDKSRWQ QGNV FSCSVM HEALHNHYTQKSLSLSPGK
	CODV006 LC (PR- 1565084)	DTQLTQSPSSLSASVGDRVTIS CRASESV ST H MHWYQ Q KP GKAPKLLIYG ASNLES GVPSRFRSGSGSGTDFTLTISSLQ EDFATYFC QQSWNDPFT FGQGTKVEIKGGSGGGDFQLTQ SPSSLSASVGDRVTIT CERS SG DIGD TYVSWYQ Q KPGKAP KNVIY GNDQR PSGVPSRFRSGSGSGNSATLT ISSLQ PEDFA TYFC QSYDS DI DI VFGQGTKVEIKGGSGRRTVAAPSVFIF PPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGN SQESVTEQDSKDYSLSSSTLTLSKADYEKHKVYACEVTH QGLSSPVTKSFNRGEC
	CODV007 HC (PR-	EVQLVESGGGLVQPGGSLRLSCAAS G Y TFTNY GM Y WVKQA PGKGLE YMGWINTETGK PTY ADDFKGR F T SLDTSKSTAY

1565085)		<p>LQMNSLRAEDTAVYFCARTTNYYYRSYIFYFDYWGQGLVT VSSGEVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGV GWIRQPPGKLEWLLANIWWDDDKYNPSLKNRLTISKDTS KNQAVLTIITNMDPVDTATYYCARIESIGTTYSFDYWGQGT MVTVSSGGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDY FPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPC PAPEAAGGPSVFLFPPKPKDTLMI SRTPEVTCVVVDVSHE DPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVL HQDWLNGKEYKCKVSNKALPAPIEKTIISKAKGQPREPQVY TLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPEN NYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMH EALHNHYTQKSLSLSPGK</p>
(PR- 1565085)	CODV007 LC	<p>DFQLTQSPSSLSASVGDRVTITCERSSGDIGDSYVSWYQQ KPGKAPKNVIYADDQRPSGVPSRFSGSGSGNSASLTISL QPEDFATYFCQSYDINIDIVFGQGTKVEIKGGSGGGDTQ LTQSPSSLSASVGDRVTISCRASESVSTHMHWYQKPGKA PKLLIYGASNLESGVPSRFSGSGSGTDFTLTISLQPEDF ATYFCQOSWNDPFTFGQGTKVEIKGGSGRTVAAPSVFIF PPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGN SQESVTEQDSKDSTYSLSSSTLTLKADYEKHKVYACEVTH QGLSSPVTKSFNRGEC</p>
(PR- 1565086)	CODV008 HC	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIR QPPGKLEWLLANIWWDDDKYNPSLKNRLTISKDTSKNQA VLTIITNMDPVDTATYYCARIESIGTTYSFDYWGQGT MVTVSSGEVQLVESGGGLVQPGGSLRLSCAASGYFTTNYGMYWV KQAPGKLELYMGWINTETGKPTYADDFKGRFTFSLDTSKS TAYLQMNSLRAEDTAVYFCARTTNYYYRSYIFYFDYWGQGT LVTVSSGGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDY FPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPC</p>

	(PR- 1571821)	KPGQAPRLVIY ADDQRPS GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYC QSYDINIDIV FGGGTKVEIKGGGSGGGDTVLTQSPATLSLSPGERATLS CRASESVSTHMH WYQOKPGQAPRLLIY GASNLE SGVPARFSGSGSGTDFTLTISSELEPEDFAVYFC QQSWNDPFT FGQGTKLEIKGGGSGRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
	CODV010 HC (PR- 1571823)	EVTTLRESGPALVKPTQTLTLTCTFS GFSLSTYGMGV GWIRQPPGKALEWLANI WDDDKYYNPSLKN RLTISKDTSKNQVVLTMNMDPVDTATYYC ARIESIGTTY SFDYWQGTMTVTVSSGEVQLVQSGSELKKPGASVKVSC KASGYTFTNYGMY WVRQAPGQGLEWMGW INTETGKPTYADDFKGR FVFSLDTSVSTAYLQISSLKAEDTAVYYC ARTNYYYRSYIFY FDYWGQGTMTVTVSSGGASTKGPSVFLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDK KVEPKSCDKTHTC PPCPAPEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSDHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEK TISKAKGQPREPQVY TLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQOQGNVFSCSVMHEALHNAYTQKSLSLSPGK
	CODV010 LC (PR- 1571823)	DTVLTQSPATLSLSPGERATLS CRASESVSTHMH WYQOKPGQAPRLLIY GASNLE SGVPARFSGSGSGTDFTLTISSELEPEDFAVYFC QQSWNDPFT FGQGTKLEIKGGGSGGGEFVLTQSPGTLSLSPGERATLS CERS SGDIGDSYVSWYQOKPGQAPRLVIY ADDQRPS GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYC QSYDINIDIV FGGGTKVEIKGGGSGRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYLSSTLTLSKADYEKHKVYACEVTH

		QGLSSPVTKSFNRGEC
CODV011 HC (PR- 1575521)		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQA PGQGLEWMGWINTETGKPTYADDFKGRFVFLDTSVSTAY LQISLKAEDTAVYYCARTNYYYRSYIFYFDYWGQGMVT VSSGGGGSGGGGSEFVLTQSPGTLSLSPGERATLSCERSS GDIGDSYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGS GSGTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKV EIKGGGSGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDY FPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP SSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPC PAPEAAGGPSVFLFPPKPKDTLMI SRTPEVTCVVVDVSHE DPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVL HQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVY TLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPEN NYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSSVMH EALHNAYTQKSLSLSPGK
CODV011 LC (PR- 1575521)		EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIR QPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTSKNQV VLTMTNMDPVDATATYYCARIESIGTTYSFYDWGQGMVTV SSGGGGSGGGGSDTVLTQSPATLSLSPGERATLSCRASES VSTHMHWYQQKPGQAPRLLIYGASNLESGVPARFSGSGS TDFTLTISLLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKG GGSGRTVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLISK ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
CODV012 HC (PR- 1571824)		EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQA PGQGLEWMGWINTETGKPTYADDFKGRFVFLDTSVSTAY LQISLKAEDTAVYYCARTNYYYRSYIFYFDYWGQGMVT VSSGGGGSGGGGEFVLTQSPGTLSLSPGERATLSCERSSGD IGDSYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGS GTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEI

		<p> KGGGSGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP EPVTVSWNSGALTSKVHTFPVAVLQSSGLYSLSSVVTVPSS SLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPA PEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQ DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTPPVLDSDGSFFLYSKLTVDKSRWQOQGNVFSCSVMHEA LHNAYTQKSLSLSPGK </p>
	<p> CODV012 LC (PR- 1571824) </p>	<p> EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIR QPPGKALEWLANIWDDDKYNPSLKNRLTISKDTSKNQV VLTMTNMDPVDATAYYCARIESIGTTYSFDYWGQTMVTV SSGGGGSGGGDTVLTQSPATLSLSPGERATLSCRASESVS THMHWYQQKPGQAPRLLIYGASNLESGVPARFSGSGSGTD F'TLTISSLEPEDFAVYFCQQSWNDPFTFGQTKLEIKGGG SGRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAK VQWKVDNALQSGNSQESVTEQDSKDSTYLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKSFNRGEC </p>
	<p> CODV013 HC (PR- 1571825) </p>	<p> EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQA PGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSVSTAY LQISSLKAEDTAVYYCARTNYYRSYIFYFDYWGQTMVT VSSGGGGSGGGEFVLTQSPGTLSLSPGERATLSCERSSGD IGDSYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGS GTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEI KGGSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEP VTVSWNSGALTSKVHTFPVAVLQSSGLYSLSSVVTVPSSSL GTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPE AAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEV KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDW LNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT </p>

		TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALH NAYTQKSLSLSPGK
	CODV013 LC (PR- 1571825)	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMVGVWIR QPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTSKNQV VLTMTNMDPVDTATYYCARI ESIGTTYSFDY WGQGMVTV SSGGGGSGGGDTVLTQSPATLSLSPGERATLS CRASESVS THMHWY QOKPGQAPRLLIY GASNLES GVPARFSGSGSGTD FTLTISSLEPEDFAVYFC QOSWNPFT FGQGTKLEIKGGG SGRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAK VQWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTL SKAD YEKHKVYACEVTHQGLSSPVT KSFNRGEC
	CODV014 HC (PR- 1571826)	EVQLVQSGSELKKPGASVKVSCKAS GYTFTNY GMVWRQA PGQGLEWMGW INTETGKPTYADDFKGR FVFSLDTSVSTAY LQISSLKAEDTAVYYCART TNYYSYIFY FDYWGQGMVTV VSSGGGGSEFVLTQSPGTL SLSPGERATLS CE RSSGDIGD SYVSWY QOKPGQAPRLVIY ADDQRPSGI PDRFSGSGSGTD FTLTISRLEPEDFAVYYC QSYDINIDIV FGGGTKVEIKGG SASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTV SWNSGALTSGVHTFPAVLQSSGLYSLSSVTV PSSSLGTQ TYICNVNHKPSNTKVDKKVEPKSCDKTHTCP PCPAPEAAG GPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNG KEYKCKVSNKALPAPIEKTI SKAKGQPREPQVYTL PPSRE EMTKNQVSLTCLVKGFYPSDIAVEWES NGQPENNYKTTPP VLDS DGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALH NAY TQKSLSLSPGK
	CODV014 LC (PR- 1571826)	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMVGVWIR QPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTSKNQV VLTMTNMDPVDTATYYCARI ESIGTTYSFDY WGQGMVTV SSGGGGSGGGDTVLTQSPATLSLSPGERATLS CRASESVS THMHWY QOKPGQAPRLLIY GASNLES GVPARFSGSGSGTD

		<p>FTLTISSELEPEDFAVYFCQQSWNDPFTFGQGTKLEIKGGG SGRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAK VQWKVDNALQSGNSQESVTEQDSKDYSLSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
	<p>CODV015 HC (PR- 1571827)</p>	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQA PGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSVSTAY LQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWGQTMVT VSSGGGGSGGGEFVLTQSPGTLSPGERATLSCERSSGD IGDSYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGS GTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEI KGGGSGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS SLGTQTYICNVNHKPSNTKVDKKEPKSCDKTHTCPPCPA PEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQ DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSSVMHEA LHNAYTQKSLSLSPGK</p>
	<p>CODV015 LC (PR- 1571827)</p>	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIR QPPGKALEWLANIWDDDKYNPSLKNRLTISKDTSKNQV VLTMTNMDPVDATATYYCARIESIGTTYSFDYWGQTMVTV SSGGGGSGGDTVLTQSPATLSLSPGERATLSCRASESVS THMHWYQQKPGQAPRLLIYGASNLESGVPARFSGSGSGTD FTLTISSELEPEDFAVYFCQQSWNDPFTFGQGTKLEIKGGS RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ WKVDNALQSGNSQESVTEQDSKDYSLSTLTLSKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC</p>
	<p>CODV016 HC (PR- 1571828)</p>	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQA PGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSVSTAY LQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWGQTMVT</p>

		<p>VSSGGGGSGGGEFVLTQSPGTL SLS PGERATL SCERSSGD IGDSYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGS GTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEI KGGGSGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPS SLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPA PEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQ DWLNGKEYKCKVSNKALPAPIEKTIISKAKGQPREPQVYTL PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTTPVLDSDGSFFLYSKLTVDKSRWQOQGNVFSCSVMHEA LHNAYTQKSL SLS PGK</p>
	CODV016 LC (PR- 1571828)	<p>EVTLRESGPALVKPTQTLTCTFSGFSLSTYGMGVGWR QPPGKALEWLANIWDDDKYNPSLKNRLTISKDTSKNQV VLTMTNMDPVDTATYYCARIESIGTTYSFDYWGQGTMTV SSGGGSDTVLTQSPATL SLS PGERATL SCRASESVSTM HWYQQKPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTL TISSLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKGGSRTV AAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDYSLSTLTLTKADYEKHK VYACEVTHQGLSSPVTKSFNRGEC</p>
	CODV017 HC (PR- 1571830)	<p>DTVLTQSPATL SLS PGERATL SCRASESVSTMHWYQQKP GQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEP EDFAVYFCQQSWNDPFTFGQGTKLEIKGGGSGGGEFVLTQ SPGTL SLS PGERATL SCERSSGDIGDSYVSWYQQKPGQAP RLVIYADDQRPSGIPDRFSGSGSGTDFTLTISRLEPEDFA VYYCQSYDINIDIVFGGGTKVEIKGGGSGASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVTVPSSLGTQTYICNVNHKPSN TKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPK DTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK</p>

		TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS KLTVDKSRWQQGNVFSCSVMHEALHNAYTQKSLSLSPGK
CODV017 LC (PR- 1571830)		EVTTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIR QPPGKALEWLANIWDDDKYYNPSLKNRLTISKDTSKNQV VLTMTNMDPVDATATYYCARIESIGTTYSFDYWGQGMVTV SSGEVQLVQSGSELKKPGASVKVSCASGYTFTNYGMYWV RQAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSVS TAYLQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWGQGT MVTVSSGGRTVAAPSVFIFPPSDEQLKSGTASVCLLNNF YPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTL TLISKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC
CODV018 HC (PR- 1571831)		EFVLTQSPGTLSSLSPGERATLSCERSGGDIGDSYVSWYQQ KPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLTISR EPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGGSGGGDTV LTQSPATLSLSPGERATLSCRASESVSTHMHWYQKPGQA PRLLIYGASNLESGVPARFSGSGSGTDFTLTISSELEPEDF AVYFCQQSWNDPFTFGQGTKLEIKGGGSGASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVH TFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSN TKVDDKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPK DTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCL VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS KLTVDKSRWQQGNVFSCSVMHEALHNAYTQKSLSLSPGK
CODV018 LC (PR- 1571831)		EVQLVQSGSELKKPGASVKVSCASGYTFTNYGMYWVRQA PGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSVSTAY LQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWGQGMVTV VSSGEVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGV

		<p>GWIRQPPGKALEWLANIWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDATATYYCARIESIGTTYSFDYWGQGT MVTVSSGGRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQESVTEQDSKIDSTYLSSTL TLISKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
	<p>CODV019 HC (PR- 1571832)</p>	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQOKP GQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTISSLEP EDFAVYFCQQSWNDPFTFGQGTKLEIKGGGSGGGGEVTLR ESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGK ALEWLANIWDDDKYYNPSLKNRLTISKDTSKNQVVLMT NMDPVDATATYYCARIESIGTTYSFDYWGQGTMTVSSLLGG CGGGSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPE PVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSS LGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAP EAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPE VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLP PSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYK TTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQVMHEAL HNAYTQKSLSLSPGK</p>
	<p>CODV019 LC (PR- 1571832)</p>	<p>EFVLTQSPGTLSLSPGERATLSCERSSGDIGDSYVSWYQQ KPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLTISRLL EPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGGSGGGGEV QLVQSGSELKPKGASVKVSKASGYTFTNYGMYWVRQAPG QGLEWMGWINTETGKPTYADDFKGRFVFSLDTSVSTAYLQ ISSLKAEDTAVYYCARTNYYYSYIFYFDYWGQGTMTVTS SLGGCGGGSRTVAAPSVFIFPPSDEQLKSGTASVVCLLNN FYPREAKVQWKVDNALQSGNSQESVTEQDSKIDSTYLSST LTLISKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
	<p>CODV020 HC (PR-</p>	<p>EFVLTQSPGTLSLSPGERATLSCERSSGDIGDSYVSWYQQ KPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLTISRLL</p>

1571836)		<p>EPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGGSGGGGEV QLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQAPG QGLEWMGWINTETGKPTYADDFKGRFVFLDTSVSTAYLQ ISSLKAEDTAVYYCARTTNYYYRSYIFYFDYWGQGTMTVVS SLGGCGGGSASTKGPSVFPLAPSSKSTSGGTAALGCLVKD YFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTV PSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPP CPAPEAAGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSH EDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTV LHQDWLNGKEYKCKVSNKALPAPIEKTIISKAKGQPREPQV YTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPE NNYKTTTPVLDSGSSFLYSKLTVDKSRWQQGNVDFSCSVM HEALHNAYTQKSLSLSPGK</p>
(PR- 1571836)	CODV020 LC	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQKP GQAPRLLIYGASNLESGVPARFSGSGGTDFTLTISLLEP EDFAVYFCQQSWNDPFTFGQGTKLEIKGGGSGGGGEVTLR ESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGK ALEWLANIWDDDKYNPSLKNRLTISKDTSKNQVVLMT NMDPVDTATYYCARIESIGTTYSFDYWGQGTMTVSSLG CGGGSRTVAAPSVFIFPPSDEQLKSGTASVCLLNIFYPR EAKVQWKVDNALQSGNSQESVTEQDSKDYSLSTLTLS KADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
(PR- 1577053)	CODV021 HC	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVRQA PGQGLEWMGWINTETGKPTYADDFKGRFVFLDTSVSTAY LQISSLKAEDTAVYYCARTTNYYYRSYIFYFDYWGQGTMTV VSSGGGGSGGGEFVLTQSPGTLSLSPGERATLSCERSSGD IGESYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGS GTDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEI KGGGSGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSS SLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPA</p>

		PEAAGGPSVFLFPPKPKDTLMISRTPPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQ DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEA LHNAYTQKSLSLSPGK
	CODV021 LC (PR- 1577053)	EVTLRESGPALVKPTQTLTLTCTFS GFSLS TYGMGVGWIR QPPGKALEWLANI WDDDKY NP SLKN RLTISKDTSKNQV VLTMTNMDPVDTATYYCARI ESIGTTYS FDYWGQGTMTV SSGGGGSGGGDTVLTQSPATLSLSPGERATL SCRASESVS THMHWY QOKPGQAP RLLIYGAS N LES GVPARFSGSGSGTD FTLTISSLEPEDFAVYFC QQSWNDP FTFGQGTKLEIKGGS RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ WKVDNALQSGNSQESVTEQDSKDYSLSSITLTLSKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC
	CODV022 HC (PR- 1577056)	EVQLVQSGSELKKPGASVKVSCKASGY FTTNY GMYWVRQA PGQGLEWMGW INTETGKPT Y ADDFK GRFVFLDTSVSTAY LQIS SLKA EDTAVYYCART TNYYRSYIF YFDYWGQGTMTV VSSGGGGSGGGEFVLTQSPGTL SLSP GERATL SCER SSGD IGESYVSWYQOKPGQAPRLVIY ADDQR PSGIPDRFSGSGS GTDFTLTISRLEPEDFAVYYC QSYD INIDIVFGGGTKVEI KGGGSGASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS SLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPA PEAAGGPSVFLFPPKPKDTLMISRTPPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQ DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEA LHNAYTQKSLSLSPGK
	CODV022 LC	EVTLRESGPALVKPTQTLTLTCTFS GFSLS TYGMGVGWIR

(PR-1577056)	<p>QPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTSKNQV VLTMTNMDPVDATATYYCARIESIGTTYSFDYWGQGMVTV SSGGGSDTVLTQSPATLSLSPGERATLSCRASESVSTM HWYQQKPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTL TISSLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKGGSRTV AAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKSTYSLSSTLTLSKADYEKHK VYACEVTHQGLSSPVTKSFNRGEC</p>
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實例 12：scFv-IgG 融合蛋白之產生

所有 Ig-scFv 分子使用同一抗 VEGF-A mAb AB014 作為 IgG 分子。使用標準分子選殖技術使用不同長度之 GS 連接體，將單鏈 Fv (scFv) 抗 PDGF-BB 抗體融合至 AB014 重鏈之 C 末端。製造四條不同的重鏈及一條共同輕鏈，如下表中所顯示。將每一重鏈及共同輕鏈共轉染至 HEK293 細胞中且使用 rProtein-A 層析純化所得 Ig-scFv 融合蛋白。

表 59：抗人類 VEGF-A/抗人類 PDGF-BB Ig-scFv 分子之重鏈及輕鏈胺基酸序列(連接體序列以斜體表示；CDR 序列以粗體表示)

Seq ID No	名稱(公司 ID)	序列
		1234567890123456789012345678901234567890
	AB014-GS6-9E8.4 VH-VK HC (PR-1599234)	<p>EVQLVESGGGLVQPGGSLRLSCAASGYTFTNYGMNWRQA PGKGLEWVGWINTYTGEPTYAADFKRRFTFSLDTSKSTAY LQMNSLRAEDTAVYYCAKYPHYYGSSHWYFDVWGQGTLVT VSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPEA AGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWL</p>

		<p>NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPS REEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSGDGSFFLYSKLTVDKSRWQOGNVFSCSVMHEALHN AYTQKSLSLSPGKGGSGGGEVTLRESGPALVKPTQTLTTLT CTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDDKYY NPSLKNRLTISKDTSKNQVLTMTNMDPVDATATYYCARIE SIGTTYSFFDYWGQGTMTVTVSSGGGGSGGGGSGGGGSEIVL TQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQKPGQ APRLVIYADDQRPSGI PDRFSGSGSGTDFTLTISRLEPED FAVYYCQSYDINIDIVFGGGTKVEIK</p>
<p>AB014-GS10- 9E8.4 VH-VK HC (PR-1599236)</p>		<p>EVQLVESGGGLVQPGGSLRLSCAASGYTFTNYGMNWVRQA PGKGLEWVGWINTYTGEPTYAADFKRRFTFSLDTSKSTAY LQMNSLRAEDTAVYYCAKYPHYYGSSHWYFDVWGQGLVTV VSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKHTHTCPPCPAPEA AGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWL NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPS REEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSGDGSFFLYSKLTVDKSRWQOGNVFSCSVMHEALHN AYTQKSLSLSPGKGGSGGGGSGGGEVTLRESGPALVKPTQT LTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVLTMTNMDPVDATATYYC ARIESIGTTYSFFDYWGQGTMTVTVSSGGGGSGGGGSGGGGS EIVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQQ KPGQAPRLVIYADDQRPSGI PDRFSGSGSGTDFTLTISRLE EPEDFAVYYCQSYDINIDIVFGGGTKVEIK</p>
<p>AB014-GS15- 9E8.4 VH-VK HC (PR-1599239)</p>		<p>EVQLVESGGGLVQPGGSLRLSCAASGYTFTNYGMNWVRQA PGKGLEWVGWINTYTGEPTYAADFKRRFTFSLDTSKSTAY LQMNSLRAEDTAVYYCAKYPHYYGSSHWYFDVWGQGLVTV</p>

		<p>VSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPEA AGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWL NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPS REEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSGDGSFFLYSKLTVDKSRWQOQGNVFSCSVMHEALHN AYTQKLSLSLSPGKGGSGGGGSGGGGSGGEVTLRESGPALV KPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLAN IWWDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDT ATYYCARIESIGTTYSFDYWGQGTMTVTVSSGGGGSGGGGS GGGGSEIVLTQSPGTLSLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTL TISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIK</p>
	<p>AB014-GS10- 9E8.4 VK-VH HC (PR-1599240)</p>	<p>EVQLVESGGGLVQPGGSLRLSCAASGYTFTNYGMNWVRQA PGKGLEWVGWINTYTGEPTYAADFKRRFTFSLDTSKSTAY LQMNSLRAEDTAVYYCAKYPHYGSSHWYFDVWGQGTLLVT VSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLG TQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPEA AGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWL NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPS REEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSGDGSFFLYSKLTVDKSRWQOQGNVFSCSVMHEALHN AYTQKLSLSLSPGKGGSGGGGSGGEIVLTQSPGTLSLSPGE RATLSCERSSGDIGDSYVSWYQQKPGQAPRLVIYADDQRP SGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQSYDINI DIVFGGGTKVEIKGGGGSGGGGSGGGGSEVTLRESGPALV KPTQTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLAN</p>

		IWWDDDKYYNP SLKN R LTISK D T S KNQ V VL T M T N M D P V D T ATYYCARI ESIG T T Y S F D Y W G Q G T M V T V S S
	AB014 LC	DIQMTQSPSSLSASV GD R V T I T C S A S Q D I S N Y L N W Y Q Q K P GKAPK V L I Y F T S S L H S G V P S R F S G S G S G T D F T L T I S S L Q P EDFATYYC Q Q Y S T V P W T F G Q G T K V E I K R T V A A P S V F I F P P SDEQLKSGTASV V C L L N N F Y P R E A K V Q W K V D N A L Q S G N S Q ESVTEQDSK D S T Y S L S S T L T L S K A D Y E K H K V Y A C E V T H Q G LSSPVT K S F N R G E C

所有 HC 皆使用完全相同之 LC (表 59 中之最後一條序列)。HC 之命名遵循以下慣例：VH 名稱 - 連接體長度(Fc 與 scFv 之間) - scFv 名稱以及 scFv 之定向。

實例 13：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子及其他雙特異性分子之活體外表徵

實例 13.1：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子及 CO-DVD-Ig 分子之表現及純化

將所有變體以 60%對 40%輕鏈對重鏈構築體之比率瞬時轉染至 200 - 500 ml HEK 293 6e 懸浮細胞培養物中。使用 1 mg/ml PEI 來轉染細胞。另一選擇為，使用 ExpiFectamine 套組(LifeTechnologies A14524)將變體瞬時轉染至 500 ml Expi293 懸浮細胞培養物中。在搖瓶中 6 天後收穫上清液，旋轉沉降成細胞糰粒，且經由 0.22 μ m 過濾器過濾以分離 IgG 與培養污染物。經由重力流使用 1-2 ml rProteinA sepharose fast flow 珠粒(GE Healthcare, 17-1279-04)經多製備型層析管柱(Bio Rad, 731-1550)來純化所有濾液。在上清液通過管柱後，立即用 10 管柱體積之結合緩衝液洗滌珠粒，且用 Immunopure IgG 溶析緩衝液(Pierce, 185 1520)溶析 IgG 並以 1 ml 等份收集。彙集含有 DVD-Ig 之部分且在 4°C 下在 PBS 或 15mM 組胺酸(pH 6)中透析過夜。

表 60. 抗 VEGF-A/抗 PDGF-BB DVD-Ig、CO-DVD-Ig 及 IgG-

scFv 融合蛋白之表現量及 SEC 特徵

名稱	公司 ID	Octet 效價 (mg/L)	產量 (mg/L)	SEC (單 體%)
AB014-GS-9E8.4	NA	4.2	ND	ND
9E8.4-GS-AB014	NA	1.2	ND	ND
AB014-SS-9E8.4	NA	3.5	0.4	ND
9E8.4-SS-AB014	NA	3.5	0.6	ND
AB014-SL-9E8.4	NA	2.0	ND	ND
9E8.4-SL-AB014	NA	2.8	0.1	ND
AB014-LS-9E8.4	NA	3.3	ND	ND
9E8.4-LS-AB014	NA	3.6	ND	ND
9E8.4-GS-4G8.3	PR-1563988	6.5	2.8	94.5
9E8.4-SS-4G8.3	PR-1563990	5.9	4.5	92.1
9E8.4-SL-4G8.3	PR-1563998	3.4	2.0	94.0
9E8.4-LS-4G8.3	PR-1564009	10.7	8.0	93.3
4G8.3-GS-9E8.4	PR-1564010	3.6	2.1	98.4
4G8.3-SS-9E8.4	PR-1564011	5.7	3.1	99.4
4G8.3-SL-9E8.4	PR-1564012	2.6	0.7	99.4
4G8.3-LS-9E8.4	PR-1564013	6.7	3.1	99.2
DVD3896	PR-1564883	ND	2.8	100.0
DVD3897	PR-1564893	ND	2.7	79.1
DVD3898	PR-1564896	ND	22.0	93.0
DVD3899	PR-1564898	ND	14.7	87.4
DVD3900	PR-1564899	ND	12.1	72.4
DVD3901	PR-1565023	ND	1.3	99.1
DVD3902	PR-1565029	ND	3.2	98.3
DVD3903	PR-1565030	ND	2.9	98.0
DVD3904	PR-1565031	ND	13.8	97.8
DVD3905	PR-1565032	ND	15.1	92.5
DVD3906	PR-1565035	ND	28.2	85.5

名稱	公司 ID	Octet 效價 (mg/L)	產量 (mg/L)	SEC (單 體%)
DVD3907	PR-1565033	ND	0.5	ND
CODV001	PR-1565040	ND	88.4	87.6
CODV002	PR-1565042	ND	46.5	97.0
CODV003	PR-1565044	ND	37.3	77.3
CODV004	PR-1565051	ND	75.8	77.4
CODV005	PR-1565083	ND	104.5	86.9
CODV006	PR-1565084	ND	83.9	96.4
CODV007	PR-1565085	ND	43.9	77.4
CODV008	PR-1565086	ND	44.5	75.5
CODV009	PR-1571821	2.0	1.2	86.6
CODV010	PR-1571823	4.5	3.6	94.8
CODV011	PR-1575521	3.7	2.0	100.0
CODV012	PR-1571824	2.0	0.7	98.9
CODV013	PR-1571825	0.7	0.4	90.6
CODV014	PR-1571826	4.5	0.5	89.6
CODV015	PR-1571827	0.7	0.9	91.7
CODV016	PR-1571828	2.6	1.4	93.6
CODV017	PR-1571830	4.2	2.6	99.8
CODV018	PR-1571831	2.6	1.5	88.8
CODV019	PR-1571832	0.4	0.2	87.1
CODV020	PR-1571836	2.1	0.3	58.1
4G8.3-GS-9E8.4	PR-1569574	4.4	4.3	ND
4G8.3-SL-9E8.4	PR-1569579	0.7	0.5	ND
4G8.3-LS-9E8.4	PR-1575573	3.8	2.7	ND
4G8.3-GS-9E8.4 (g)	PR-1572102	2.5	0.4	98.8
4G8.3-GS(11)-9E8.4 (g)	PR-1572103	5.3	1.4	100.0
4G8.3-GS(noR)-9E8.4 (g)	PR-1572104	4.1	0.7	99.5
4G8.3-SL-9E8.4 (g)	PR-1572105	1.4	0.3	98.6
4G8.3-LS-9E8.4 (g)	PR-1572106	4.0	0.8	100.0

名稱	公司 ID	Octet 效價 (mg/L)	產量 (mg/L)	SEC (單 體%)
4G8.3-GS-9E8.4E	PR-1575832	9.8	8.1	99.2
4G8.3-SL-9E8.4E	PR-1575834	4.5	2.6	99.0
4G8.3-LS-9E8.4E	PR-1575835	16.0	9.7	99.6
CODV021	PR-1577053	2.6	0.3	92.8
CODV022	PR-1577056	2.0	0.2	93.2
9A8.12-GS-9E8.4E	PR-1577165	3.3	2.4	82.99
9A8.12-SL-9E8.4E	PR-1577166	1.1	0.2	51.54
9A8.12-LS-9E8.4E	PR-1577547	10.6	1.1	97.35
9E8.4E-GS-9A8.12	PR-1578137	12.0	3.8	97.3
9E8.4E-SL-9A8.12	PR-1577548	5.0	1.7	97.51
9E8.4E-LS-9A8.12	PR-1577550	2.5	2.5	96.96
AB014-GS6-9E8.4 VH-VK	PR-1599234	70.0	25.6	33.8
AB014-GS10-9E8.4 VH- VK	PR-1599236	70.0	24.3	34.7
AB014-GS15-9E8.4 VH- VK	PR-1599239	70.0	29.3	39.3
AB014-GS10-9E8.4 VK- VH	PR-1599240	47.0	21.4	33.2
4G8.2-GS-9E8.4	PR-1598261	29.4	10.3	98.31
4G8.4-GS-9E8.4	PR-1598262	61.0	20.4	87.65
4G8.5-GS-9E8.4	PR-1598263	31.3	11.5	98.5
4G8.12-GS-9E8.4	PR-1598264	44.0	15.1	93.12
4G8.13-GS-9E8.4	PR-1598265	6.3	2.6	83.58
4G8.14-GS-9E8.4	PR-1598266	19.3	9.9	96.52
CL-34565 GS CL-33675	PR-1613183	101.4	27.7	88.2
CL-34565 GS 9E8.4	PR-1613184	49.3	31.3	95.9
CL-34565 GS 3E2.1	PR-1613185	109.8	82.5	96.3
4G8.5 GS CL-33675	PR-1611291	91.1	10.4	96.9
4G8.5 GS 9E8.4	PR-1612489	39.0	23.0	97.0

名稱	公司 ID	Octet 效價 (mg/L)	產量 (mg/L)	SEC (單 體%)
4G8.5_GS_3E2.1	PR-1610560	127.0	13.9	100.0
9E10.1_GS_CL-33675	PR-1610561	136.0	19.2	92.9
9E10.1_GS_9E8.4	PR-1612491	86.0	50.1	95.0
9E10.1_GS_3E2.1	PR-1610562	44.0	10.2	96.0
9E10.6_GS_CL-33675	PR-1612492	152.0	65.7	89.0
9E10.6_GS_9E8.4	PR-1612493	96.0	50.1	93.0
9E10.6_GS_3E2.1	PR-1610563	122.0	18.0	95.0
1B10.1_GS_CL-33675	PR-1611292	233.0	22.7	75.4
1B10.1_GS_9E8.4	PR-1612494	123.0	52.1	77.0
1B10.1_GS_3E2.1	PR-1610564	142.0	23.3	93.7
1E3.4_GS_CL-33675	PR-1611293	54.0	9.3	83.7
1E3.4_GS_9E8.4	PR-1611294	67.5	11.6	72.1
1E3.4_GS_3E2.1	PR-1612495	101.0	29.6	97.0
CL-33675_GS_CL-34565	PR-1613186	73.5	17.7	87.6
CL-33675_GS_4G8.5	PR-1612496	36.0	8.6	94.0
CL-33675_GS_9E10.1	PR-1611295	148.5	2.3	95.9
CL-33675_GS_9E10.6	PR-1611296	185.3	4.9	95.8
CL-33675_GS_1B10.1	PR-1612498	19.0	7.0	65.0
CL-33675_GS_1E3.4	PR-1611297	72.8	3.5	95.9
9E8.4_GS_CL-34565	PR-1613187	67.5	53.6	79.0
9E8.4_GS_4G8.5	PR-1613188	95.2	73.6	81.7
9E8.4_GS_9E10.1	PR-1611298	237.5	21.5	73.3
9E8.4_GS_9E10.6	PR-1611299	179.0	19.1	71.9
9E8.4_GS_1B10.1	PR-1611300	93.7	12.9	71.7
9E8.4_GS_1E3.4	PR-1611301	87.9	12.2	66.4
3E2.1_GS_CL-34565	PR-1613189	76.1	65.7	93.3
3E2.1_GS_4G8.5	PR-1612499	98.0	46.9	95.0
3E2.1_GS_9E10.1	PR-1612500	126.0	59.2	85.0
3E2.1_GS_9E10.6	PR-1612501	141.0	61.0	86.5

名稱	公司 ID	Octet 效價 (mg/L)	產量 (mg/L)	SEC (單 體%)
3E2.1_GS_1B10.1	PR-1612502	141.0	61.0	97.0
3E2.1_GS_1E3.4	PR-1613190	107.8	79.9	96.5
9E10.1_SL_CL-33675	PR-1629646	7.6	1.0	98.7
1B10.1_SL_CL-33675	PR-1629647	157.0	111.7	63.3
9E10.1_LS_CL-33675	PR-1629648	64.4	36.4	92.9
1B10.1_LS_CL-33675	PR-1629649	218.4	157.7	65.4

實例 13.2：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子及 CO-DVD-Ig 分子之結合親和力

藉由 Biacore 使用實例 1.1 中所述之方法量測抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子及 CO-DVD-Ig 分子對 VEGF-A 及 PDGF-BB 之結合親和力，且數據概述於下表 61 及 62 中。

表 61. 抗 VEGF/抗 PDGF DVD-Ig 分子之 Biacore 結合

DVD 名稱	公司 ID	VEGF			PDGF		
		k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)	k_{on} (M ⁻¹ s ⁻¹)	k_{off} (M ⁻¹)	K_D (M)
9E8.4-GS-4G8.3	PR-1563988	2.2 E+05	6.3 E-05	2.9 E-10	1.0 E+07	2.0 E-04	2.0 E-11
9E8.4-SS-4G8.3	PR-1563990	1.6 E+05	1.2 E-04	7.8 E-10	1.0 E+07	2.0 E-04	2.0 E-11
9E8.4-SL-4G8.3	PR-1563998	7.0 E+05	8.0 E-05	1.2 E-10	1.0 E+07	1.9 E-04	1.9 E-11
9E8.4-LS-4G8.3	PR-1564009	2.7 E+05	5.5 E-05	2.0 E-10	1.0 E+07	2.0 E-04	2.0 E-11
4G8.3-GS-9E8.4	PR-1564010	3.3 E+06	5.7 E-05	1.7 E-11	1.0 E+07	1.4 E-04	1.3 E-11
4G8.3-SS-9E8.4	PR-1564011	3.1 E+06	4.1 E-05	1.3 E-11	7.5 E+06	1.5 E-04	1.9 E-11

4G8.3-SL-9E8.4	PR- 1564012	3.1 E+06	4.1 E-05	1.3 E-11	1.4 E+07	1.4 E-04	9.9 E-12
4G8.3-LS-9E8.4	PR- 1564013	3.1 E+06	3.9 E-05	1.2 E-11	1.7 E+07	1.4 E-04	8.6 E-12
DVD3904	PR- 1565031	6.1 E+05	1.1 E-04	1.9 E-10	1.0 E+07	9.0 E-04	9.0 E-11
DVD3905	PR- 1565032	1.1 E+06	1.0 E-04	9.4 E-11	1.0 E+07	1.8 E-03	1.8 E-10
DVD3906	PR- 1565035	9.2 E+05	9.3 E-05	1.0 E-10	1.0 E+07	7.2 E-03	7.2 E-10
4G8.3-GS(9)-9E8.4 (g)	PR- 1572102	6.0 E+06	7.6 E-05	1.3 E-11	1.3 E+07	1.7 E-04	1.3 E-11
4G8.3-GS(11)- 9E8.4 (g)	PR- 1572103	6.3 E+06	7.5 E-05	1.2 E-11	1.4 E+07	1.7 E-04	1.3 E-11
4G8.3-GS(noR)- 9E8.4 (g)	PR- 1572104	6.1 E+06	6.9 E-05	1.1 E-11	1.5 E+07	1.4 E-04	8.9 E-12
4G8.3-SL-9E8.4 (g)	PR- 1572105	5.6 E+06	6.1 E-05	1.1 E-11	1.3 E+07	1.7 E-04	1.3 E-11
4G8.3-LS-9E8.4 (g)	PR- 1572106	6.3 E+06	5.1 E-05	8.1 E-12	1.8 E+07	2.0 E-04	1.1 E-11
4G8.3-GS-9E8.4E	PR- 1575832	6.1 E+06	8.0 E-05	1.3 E-11	1.3 E+07	2.7 E-04	2.0 E-11
4G8.3-SL-9E8.4E	PR- 1575834	6.2 E+06	6.3 E-05	1.0 E-11	1.7 E+07	2.5 E-04	1.5 E-11
4G8.3-LS-9E8.4E	PR- 1575835	5.8 E+06	5.9 E-05	1.0 E-11	2.0 E+07	2.8 E-04	1.4 E-11
9A8.12-GS-9E8.4E	PR- 1577165	7.7 E+05	1.4 E-04	1.8 E-10	3.3 E+07	2.6 E-04	8.1 E-12
9A8.12-SL-9E8.4E	PR- 1577166	2.5 E+05	1.2 E-04	4.7 E-10	2.7 E+07	2.3 E-04	8.3 E-12

9A8.12-LS-9E8.4E	PR- 1577547	2.7 E+05	9.3 E-05	3.5 E-10	3.6 E+07	2.3 E-04	6.5 E-12
9E8.4E-SL-9A8.12	PR- 1577548	2.2 E+06	3.4 E-04	1.6 E-10	5.0 E+07	3.2 E-04	6.4 E-12
9E8.4E-LS-9A8.12	PR- 1577550	6.4 E+05	1.5 E-04	2.3 E-10	5.0 E+07	2.5 E-04	5.0 E-12
9E8.4E-GS-9A8.12	PR- 1578137	4.7 E+05	1.8 E-04	3.8 E-10	5.0 E+07	4.4 E-04	8.8 E-12
CL-34565_GS_CL- 33675	PR- 1613183	1.2 E+07	2.0 E-05	1.7 E-12	6.0 E+07	1.1 E-05	1.9 E-13
CL- 34565_GS_9E8.4	PR- 1613184	1.5 E+07	1.6 E-05	1.1 E-12	3.5 E+07	1.9 E-04	5.4 E-12
CL- 34565_GS_3E2.1	PR- 1613185	1.2 E+07	1.7 E-05	1.4 E-12	4.5 E+07	5.2 E-04	1.2 E-11
4G8.5_GS_CL- 33675	PR- 1611291	4.7 E+06	3.1 E-05	6.6 E-12	1.6 E+07	1.2 E-05	7.4 E-13
4G8.5_GS_9E8.4	PR- 1612489	5.4 E+06	4.6 E-05	8.5 E-12	5.8 E+06	1.6 E-04	2.8 E-11
4G8.5_GS_3E2.1	PR- 1610560	4.8 E+06	4.2 E-05	8.7 E-12	4.1 E+07	5.5 E-04	1.3 E-11
9E10.1_GS_CL- 33675	PR- 1610561	9.7 E+06	1.7 E-05	1.8 E-12	2.0 E+07	9.1 E-06	4.5 E-13
9E10.1_GS_9E8.4	PR- 1612491	1.1 E+07	2.5 E-05	2.2 E-12	6.8 E+06	1.7 E-04	2.5 E-11
9E10.1_GS_3E2.1	PR- 1610562	9.3 E+06	2.3 E-05	2.4 E-12	4.1 E+07	8.5 E-04	2.1 E-11
9E10.6_GS_CL- 33675	PR- 1612492	1.1 E+07	2.2 E-05	2.0 E-12	2.4 E+07	2.8 E-05	1.2 E-12
9E10.6_GS_3E2.1	PR- 1610563	8.6 E+06	2.5 E-05	3.0 E-12	5.8 E+06	2.1 E-04	3.6 E-11

1B10.1_GS_CL- 33675	PR- 1611292	2.1 E+06	1.3 E-04	6.2 E-11	2.2 E+07	1.2 E-05	5.4 E-13
1E3.4_GS_3E2.1	PR- 1612495	5.3 E+06	5.2 E-05	9.8 E-12	4.5 E+07	5.1 E-04	1.2 E-11
CL- 33675_GS_4G8.5	PR- 1612496	2.3 E+05	4.0 E-05	1.8 E-10	3.8 E+07	9.0 E-06	2.3 E-13
3E2.1_GS_4G8.5	PR- 1612499	2.4 E+05	3.9 E-05	1.7 E-10	≥ 9.0 E+07	3.4 E-04	≤ 3.8 E- 12
3E2.1_GS_9E10.1	PR- 1612500	6.3 E+05	1.2 E-05	1.9 E-11	≥ 9.0 E+07	3.9 E-04	≤ 4.3 E- 12
3E2.1_GS_9E10.6	PR- 1612501	5.7 E+05	2.3 E-05	4.1 E-11	≥ 9.0 E+07	4.5 E-04	≤ 5.3 E- 12
3E2.1_GS_1B10.1	PR- 1612502	3.5 E+05	1.2 E-04	3.2 E-10	8.4 E+07	1.5 E-04	1.8 E-12
3E2.1_GS_1E3.4	PR- 1613190	3.6 E+05	9.2 E-05	2.6 E-10	≥ 9.0 E+07	4.8 E-04	≤ 5.3 E- 12

表 62. 抗 VEGF/抗 PDGF CO-DVD-Ig 分子之 Biacore 結合

CO- DVD-Ig 名稱	公司 ID	VEGF			PDGF		
		k_{on} (M-1 s-1)	k_{off} (M-1)	K_D (M)	k_{on} (M-1 s-1)	k_{off} (M-1)	K_D (M)
CODV003	PR-1565044	無結合			2.3 E+07	2.5 E-04	1.1 E-11
CODV004	PR-1565051	無結合			1.0 E+07	8.7 E-04	8.7 E-11
CODV005	PR-1565083			3.5 E-08	1.2 E+07	1.3 E-04	1.1 E-11
CODV006	PR-1565084	無結合			2.2 E+07	2.1 E-04	9.7 E-12
CODV007	PR-1565085			2.2 E-08	2.9 E+07	2.2 E-04	7.3 E-12
CODV008	PR-1565086	無結合			1.7 E+07	1.3 E-04	7.4 E-12
CODV009	PR-1571821			2.6 E-08	3.5 E+07	2.0 E-04	5.6 E-12
CODV010	PR-1571823	5.7 E+04	3.7 E-04	6.6 E-09	4.1 E+07	1.6 E-04	4.0 E-12
CODV011	PR-1575521	1.1 E+06	4.0 E-05	3.8 E-11	3.8 E+07	6.9 E-05	1.8 E-12

CODV012	PR-1571824	2.7 E+06	7.6 E-05	2.8 E-11	7.0 E+07	1.0 E-04	1.5 E-12
CODV014	PR-1571826	2.2 E+06	7.7 E-05	3.6 E-11	5.5 E+07	1.3 E-04	2.4 E-12
CODV015	PR-1571827	2.7 E+06	6.5 E-05	2.4 E-11	7.0 E+07	9.1 E-05	1.3 E-12
CODV016	PR-1571828	2.9 E+06	5.9 E-05	2.0 E-11	4.6 E+07	1.1 E-04	2.5 E-12
CODV017	PR-1571830	-	-	5.7 E-08	3.0 E+07	2.0 E-04	6.5 E-12
CODV018	PR-1571831	-	-	3.1 E-08	3.5 E+07	1.9 E-04	5.3 E-12
CODV019	PR-1571832	2.9 E+06	1.4 E-04	5.0 E-11	3.9 E+07	1.7 E-04	4.4 E-12
CODV020	PR-1571836	3.1 E+06	1.0 E-04	3.3 E-11	4.6 E+07	1.6 E-04	3.5 E-12
CODV021	PR-1577053	3.8 E+06	6.8 E-05	1.8 E-11	6.1 E+07	1.2 E-04	1.9 E-12
CODV022	PR-1577056	4.5 E+06	5.6 E-05	1.3 E-11	3.2 E+07	1.3 E-04	4.2 E-12

實例 13.2.1：抗 VEGF/抗 PDGF DVD-Ig 分子(PR-1610561)與多種 VEGF-A 同種型及不同物種之 VEGF-A 及 PDGF-BB 的結合

藉由 Biacore 使用實例 1.1 中所述之方法量測抗 VEGF/抗 PDGF DVD-Ig 分子(PR-1610561)及其親代單株抗體與多種 VEGF-A 同種型及不同物種之 VEGF-A 及 PDGF-BB 的結合，且數據概述於下表 63 中。表 63A-B 概述對 PR-1610561 所觀察到之對 VEGF-A₁₆₅ (65 pM)、VEGF-A₁₂₁ (230 pM)、VEGF-A₁₁₁ (290 pM)同種型之高親和力及對可溶性 PDGF-BB (5 pM)之高親和力。數據顯示 PR-1610561 結合至 PDGF-BB 之可溶性及細胞外基質(ECM)結合形式二者。

表 63. 抗 VEGF/抗 PDGF DVD-Ig 分子(PR-1610561)及親代 mAb 與 VEGF-A 同種型及 PDGF 之結合

編號	PR- 批號	人類 VEGF 165 PR-1350437、1925483			人類 PDGF-B PR-1373790、1926007			
		K_a ($M^{-1}s^{-1}$)	K_d (s^{-1})	K_D (M)	K_a ($M^{-1}s^{-1}$)	K_d (s^{-1})	K_D (M)	
1	9E10.1- GS-33675 PR- 1610561	2213329	5.2E+05	3.4E-05	6.5E-11	$\geq 1.0E+$ 07	5.2E- 05	$\leq 5.2E-$ 12

2	AB014 (癌思停 (Avastin))	PR- 1545939	2129911	5.5E+05	4.1E-05	7.6E-11			
3	AB642 (9E10.1)	PR- 1594047	2169800	1.6E+07	2.8E-05	1.8E-12			
4	CL-33675	PR- 1593725	2178826				$\geq 1.0E+07$	$5.8E-06$	$\leq 5.8E-13$
人類 VEGF 121 PR-1515941、2069355									
No		PR-	批號	K_a ($M^{-1}s^{-1}$)	K_d (s^{-1})	K_D (M)			
1	9E10.1- GS-33675	PR- 1610561	2213329	1.8E+05	4.1E-05	2.3E-10			
2	AB014 (癌思停)	PR- 1545939	2129911	1.8E+05	5.1E-05	2.8E-10			
3	AB642 (9E10.1)	PR- 1594047	2169800	3.2E+06	6.8E-05	2.1E-11			
4	CL-33675	PR- 1593725	2178826						
人類 VEGF 111 PR-1520687、2074657									
No		PR-	批號	K_a ($M^{-1}s^{-1}$)	K_d (s^{-1})	K_D (M)			
1	9E10.1- GS-33675	PR- 1610561	2213329	1.5E+05	4.3E-05	2.9E-10			
2	AB014 (癌思停)	PR- 1545939	2129911	1.4E+05	5.3E-05	3.8E-10			
3	AB642 (9E10.1)	PR- 1594047	2169800	1.8E+06	1.0E-04	5.8E-11			
4	CL-33675	PR- 1593725	2178826						

				食蟹猴 VEGF 具有與人類相似之序列			食蟹猴 PDGF-B PR-1575400、2154922		
No		PR-	批號				K_a ($M^{-1}s^{-1}$)	$K_d(s^{-1})$	$K_D(M)$
1	9E10.1- GS-33675	PR- 1610561	2213329				$\geq 1.0E+07$	8.1E-06	$\leq 8.1E-13$
2	AB014 (癌思停)	PR- 1545939	2129911						
3	AB642 (9E10.1)	PR- 1594047	2169800						
4	CL-33675	PR- 1593725	2178826				$\geq 1.0E+07$	1.3E-05	$\leq 1.3E-12$
				小鼠 VEGF PR-1578904、2150241			小鼠 PDGF-B PR-1577160、2147923		
No		PR-	批號	K_a ($M^{-1}s^{-1}$)	$K_d(s^{-1})$	$K_D(M)$	K_a ($M^{-1}s^{-1}$)	$K_d(s^{-1})$	$K_D(M)$
1	9E10.1- GS-33675	PR- 1610561	2213329			潛在極弱結合	$\geq 1.0E+07$	5.2E-05	$\leq 5.2E-12$
2	AB014 (癌思停)	PR- 1545939	2129911			無結合			
3	AB642 (9E10.1)	PR- 1594047	2169800			潛在極弱結合			
4	CL-33675	PR- 1593725	2178826				$\geq 1.0E+07$	5.8E-06	$\leq 5.8E-13$
				大鼠 VEGF PR-1645045、2235296			大鼠 PDGF-B PR-1645048、2235300		
No		PR-	批號	K_a ($M^{-1}s^{-1}$)	$K_d(s^{-1})$	$K_D(M)$	K_a ($M^{-1}s^{-1}$)	$K_d(s^{-1})$	$K_D(M)$
1	9E10.1- GS-33675	PR- 1610561	2213329			潛在極弱結合	$\geq 1.0E+07$	5.2E-05	$\leq 5.2E-12$

2	AB014 (癌思停)	PR- 1545939	2129911				無結合			
3	AB642 (9E10.1)	PR- 1594047	2169800				潛在極 弱結合			
4	CL-33675	PR- 1593725	2178826					≥1.0E+ 07	5.8E-06	≤5.8E- 13
				兔 VEGF PR-1563693、2130027			兔 PDGF-B 具有與大鼠相 似之序列			
No		PR-	批號	K_a ($M^{-1}s^{-1}$)	K_d (s^{-1})	K_D (M)				
1	9E10.1- GS-33675	PR- 1610561	2213329	9.6E+05	4.0E-05	4.1E-11				
2	AB014 (癌思停)	PR- 1545939	2129911	9.4E+05	4.4E-05	4.7E-11				
3	AB642 (9E10.1)	PR- 1594047	2169800	1.6E+07	2.8E-05	1.8E-12				
4	CL-33675	PR- 1593725	2178826							

表 63A. PR-1610561 對人類 VEGF-A 之多種同種型之親和力

人類 VEGF-A 同種型	A ₁₆₅	A ₁₂₁	A ₁₁₁
親和力 K _D (pM)	65	230	290

表 63B. PR-1610561 對人類 PDGF-BB 之親和力

人類 PDGF-BB 形式	可溶性	ECM 締合
親和力 K _D (pM)	5	n/t
細胞染色	n/t	+

實例 13.3：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子及 CO-DVD-Ig 分子之中和功效

評估 DVD-Ig 分子及 CO-DVD-Ig 分子阻斷 VEGF₁₆₅/VEGFR2 相互作用之功效(實例 1.4)及在 HMVEC-d 或 VEGFR2-3T3 增殖分析中

中和 VEGF₁₆₅ 活性之功效(實例 1.10 及 1.7)。亦表徵該等分子阻斷 PDGF-BB/PDGF-R β 相互作用之能力(實例 1.13)及抑制 NIH-3T3 細胞之 PDGF-BB 誘導之增殖的能力(實例 1.15)。數據概述於下表 64 中。PR-1610561 展現針對人類 VEGF-A (IC₅₀ 為 145 pM)及人類 PDGF-BB (IC₅₀ 為 34 pM)之中和活性，如表 64A 中所概述。

表 64. 抗 VEGF-A/抗 PDGF-BB DVD-Ig 及 CO-DVD-Ig 蛋白之人類 VEGF-A 及人類 PDGF-BB 中和功效

DVD-Ig	公司 ID	功效 IC ₅₀ (nM)				
		HMVEC-d hVEGF ₁₆₅	VEGFR2-3T3 hVEGF ₁₆₅	NIH-3T3 hPDGF-BB	hVEGFR2 競爭 ELISA IC ₅₀ nM	hPDGF β 競爭 ELISA IC ₅₀ nM
9E8.4-GS-4G8.3	PR-1563988	2.643	>5	0.076	NT	NT
9E8.4-SS-4G8.3	PR-1563990	NT	>5	0.094	NT	NT
9E8.4-SL-4G8.3	PR-1563998	NT	>5	0.091	NT	NT
9E8.4-LS-4G8.3	PR-1564009	NT	>5	0.104	NT	NT
4G8.3-GS-9E8.4	PR-1564010	0.096	NT	NT	0.126	NT
4G8.3-GS-9E8.4E	PR-1575832	NT	2.953	>5	NT	NT
4G8.3-SS-9E8.4	PR-1564011	NT	0.747	5.511	NT	NT
4G8.3-SL-9E8.4	PR-1564012	NT	NT	0.365	0.086	NT
4G8.3-SL-9E8.4E	PR-1575834	NT	3.090	0.572	NT	NT
4G8.3-LS-9E8.4	PR-1564013	0.060	NT	0.152	0.092	NT
CODV009	PR-1571821	NT	>5	>5	NT	NT
CODV010	PR-1571823	NT	>5	2.139	NT	NT
CODV011	PR-1575521	NT	2.553	0.043	NT	NT
CODV012	PR-1571824	NT	1.424	0.182	NT	NT
CODV013	PR-1571825	NT	0.785	0.11	NT	NT
CODV014	PR-1571826	NT	3.768	0.469	NT	NT

CODV015	PR-1571827	0.104	0.407	0.075	NT	NT
CODV021	PR-1577053	NT	>5	0.056	NT	NT
CODV016	PR-1571828	0.115	0.503	0.096	NT	NT
CODV022	PR-1577056	NT	1.462	0.059	NT	NT
CODV017	PR-1571830	NT	>5	>5	NT	NT
CODV018	PR-1571831	NT	>5	>5	NT	NT
DVD3904	PR-1565031	NT	>5	>5	NT	NT
DVD3905	PR-1565032	NT	>5	>5	NT	NT
DVD3906	PR-1565035	NT	>5	>5	NT	NT
CODV003	PR-1565044	NT	>5	>5	NT	NT
CODV004	PR-1565051	NT	>5	>5	NT	NT
CODV005	PR-1565083	NT	>5	>5	NT	NT
CODV006	PR-1565084	NT	>5	>5	NT	NT
CODV007	PR-1565085	NT	>5	>5	NT	NT
CODV008	PR-1565086	NT	>5	>5	NT	NT
4G8.3-GS(9)-9E8.4 (g)	PR-1572102	0.417	0.986	0.528	0.157	>5
4G8.3-GS(11)- 9E8.4 (g)	PR-1572103	NT	0.318	0.298	NT	NT
4G8.3-GS(noR)- 9E8.4 (g)	PR-1572104	NT	0.217	0.095	NT	NT
4G8.3-SL-9E8.4 (g)	PR-1572105	0.347	1.603	0.290	0.111	>5
4G8.3-LS-9E8.4 (g)	PR-1572106	NT	0.203	0.109	NT	NT
4G8.3-LS-9E8.4E	PR-1575835	NT	2.852	0.176	NT	NT
9A8.12-GS-9E8.4E	PR-1577165	NT	2.992	0.204	NT	NT
9A8.12-SL-9E8.4E	PR-1577166	NT	5.536	0.148	NT	NT
9A8.12-LS-9E8.4E	PR-1577547	NT	4.13	0.133	NT	NT
9E8.4E-SL-9A8.12	PR-1577548	NT	>5	0.147	NT	NT
9E8.4E-LS-9A8.12	PR-1577550	NT	>5	0.066	NT	NT

9E8.4E-GS-9A8.12	PR-1578137	NT	>5	0.327	NT	NT
hVEGF 4G8.3-GS- hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A	PR-1569574	0.341	1.02	0.630	0.137	>5
hVEGF 4G8.3-SL- hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A	PR-1569579	0.36	1.178	0.427	0.133	>5
hVEGF 4G8.3-LS- hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A	PR-1575573	NT	NT	NT	0.131	>5
AB014-GS6-9E8.4 VH-VK	PR-1599234	0.124	NT	0.222	NT	NT
AB014-GS10-9E8.4 VH-VK	PR-1599236	0.095	NT	0.063	NT	NT
AB014-GS15-9E8.4 VH-VK	PR-1599239	0.13	NT	0.066	NT	NT
AB014-GS10-9E8.4 VK-VH	PR-1599240	0.086	NT	0.074	NT	NT
4G8.2-GS10-9E8.4	PR-1598261	0.221	NT	>5	NT	NT
4G8.4-GS10-9E8.4	PR-1598262	0.281	NT	1.327	NT	NT
4G8.5-GS10-9E8.4	PR-1598263	0.079	NT	>5	NT	NT
4G8.12-GS10- 9E8.4	PR-1598264	0.079	NT	0.227	NT	NT
4G8.13-GS10- 9E8.4	PR-1598265	0.907	NT	0.255	NT	NT

4G8.14-GS10-9E8.4	PR-1598266	0.113	NT	0.459	NT	NT
4G8.5_GS_CL-33675	PR-1611291	0.076	NT	0.05	NT	NT
4G8.5_GS_3E2.1	PR-1610562	0.072	NT	1.398	NT	NT
9E10.1_GS_CL-33675	PR-1610561	0.145	0.433	0.034	0.045	0.09
9E10.1_GS_3E2.1	PR-1610562	0.054	NT	5.724	NT	NT
9E10.6_GS_3E2.1	PR-1610563	0.06	NT	1.317	NT	NT
1B10.1_GS_CL-33675	PR-1611292	0.05	NT	0.037	NT	NT
1B10.1_GS_3E2.1	PR-1610564	0.084	NT	1.545	NT	NT
1E3.4_GS_CL-33675	PR-1611293	0.067	NT	0.037	NT	NT
1E3.4_GS_9E8.4	PR-1611294	0.092	NT	0.329	NT	NT
CL-33675_GS_9E10.1	PR-1611295	0.064	NT	0.031	NT	NT
CL-33675_GS_9E10.6	PR-1611296	0.082	NT	0.037	NT	NT
CL-33675_GS_1E3.4	PR-1611297	0.372	NT	0.039	NT	NT
9E8.4_GS_9E10.1	PR-1611298	0.073	NT	0.317	NT	NT
9E8.4_GS_9E10.6	PR-1611299	0.132	NT	0.213	NT	NT
9E8.4_GS_1B10.1	PR-1611300	0.391	NT	0.109	NT	NT
9E8.4_GS_1E3.4	PR-1611301	0.897	NT	0.131	NT	NT
4G8.5_GS_9E8.4	PR-1612489	0.069	NT	4.829	NT	NT
9E10.1_GS_9E8.4	PR-1612491	0.059	NT	1.913	NT	NT
9E10.6_GS_CL-33675	PR-1612492	0.05	NT	0.037	NT	NT
9E10.6_GS_9E8.4	PR-1612493	0.049	NT	1.14	NT	NT

1B10.1_GS_9E8.4	PR-1612494	0.127	NT	0.678	NT	NT
1E3.4_GS_3E2.1	PR-1612495	0.043	NT	6.253	NT	NT
CL- 33675_GS_4G8.5	PR-1612496	0.219	NT	0.035	NT	NT
CL- 33675_GS_1B10.1	PR-1612498	0.265	NT	0.11	NT	NT
3E2.1_GS_4G8.5	PR-1612499	0.743	NT	0.38	NT	NT
3E2.1_GS_9E10.1	PR-1612500	0.133	NT	0.394	NT	NT
3E2.1_GS_9E10.6	PR-1612501	0.188	NT	0.377	NT	NT
3E2.1_GS_1B10.1	PR-1612502	1.78	NT	0.187	NT	NT
CL-34565_GS_CL- 33675	PR-1613183	0.059	NT	0.052	NT	NT
CL- 34565_GS_9E8.4	PR-1613184	0.065	NT	0.323	NT	NT
CL- 34565_GS_3E2.1	PR-1613185	0.053	NT	6.005	NT	NT
CL-33675_GS_CL- 34565	PR-1613186	0.05	NT	0.043	NT	NT
9E8.4_GS_CL- 34565	PR-1613187	0.058	NT	0.134	NT	NT
9E8.4_GS_4G8.5	PR-1613188	0.354	NT	0.108	NT	NT
3E2.1_GS_CL- 34565	PR-1613189	0.063	NT	1.157	NT	NT
3E2.1_GS_1E3.4	PR-1613190	0.709	NT	0.896	NT	NT

NT - 未測試

表 64A. 細胞分析中之中和活性

蛋白質	人類 VEGF-A	人類 PDGF-BB
功效 IC ₅₀ (pM)	145	34

進一步表徵所選 DVD-Ig 分子中和人類 VEGF-A 之同種型人類

VEGF₁₁₁ 及人類 VEGF₁₂₁ 的能力。測試該等分子對 VEGFR2-3T3 細胞之 VEGF₁₁₁ 及人類 VEGF₁₂₁ 誘導之增殖的抑制(實例 1.8)。亦評估非人類 VEGF-A 種類之中和。測試分子對 VEGFR2-3T3 細胞之兔 VEGF₁₆₅ 誘導之增殖的抑制(實例 1.9)。數據概述於下表 65 中。如上所述，食蟹猴 VEGF-A 之胺基酸序列與人類 VEGF-A 一致。先前已在競爭 ELISA 中檢查親代抗體之小鼠 VEGF₁₆₄ 交叉反應性且未觀察到阻斷(實例 1.5)。

表 65. 抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子對不同 VEGF-A

同 種 型 之 中 和	公司 ID	功效 IC50 (nM)		
		人類 VEGF ₁₁₁	人類 VEGF ₁₂₁	兔 VEGF ₁₆₅
4G8.3-GS(9)-9E8.4 (g)	PR-1572102	0.771	0.182	0.869
4G8.3-SL-9E8.4 (g)	PR-1572105	0.654	0.139	1.194
4G8.3-LS-9E8.4 (g)	PR-1572106	0.431	0.148	0.601
4G8.3-LS-9E8.4E	PR-1575835	NT	NT	1.534
hVEGF 4G8.3-GS-hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A	PR-1569574	0.674	0.124	0.841
hVEGF 4G8.3-SL-hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A	PR-1569579	0.576	0.154	1.213
9E10.1_GS_CL-33675	PR-1610561	0.213	0.097	0.520

NT - 未測試

使用實例 1.15-1.18 中所述之分析進一步評估所選 DVD-Ig 分子中和不同物種之 PDGF-BB 之功效。數據概述於下表 66 中。如上所述，兔 PDGF-BB 之胺基酸序列與大鼠 PDGF-BB 一致。

表 66. 抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子對不同 PDGF-BB

種	類	之	中 和		
			功效 IC50 (nM)		
DVD-Ig 及對照	公司 ID	食蟹猴 PDGF- BB	mPDGF- BB	大鼠 PDGF-BB	
4G8.3-GS-9E8.4	PR-1564010	NT	0.440	1.359	
4G8.3-SL-9E8.4	PR-1564012	NT	0.290	0.650	
4G8.3-SL-9E8.4E	PR-1575834	NT	0.772	NT	
4G8.3-LS-9E8.4	PR-1564013	NT	0.110	0.210	
4G8.3-GS(9)-9E8.4 (g)	PR-1572102	0.139	0.174	2.202	
4G8.3-SL-9E8.4 (g)	PR-1572105	0.142	0.096	1.296	
4G8.3-LS-9E8.4 (g)	PR-1572106	0.094	0.14	NT	
hVEGF 4G8.3-GS- hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A	PR-1569574	0.139	0.134	1.514	
hVEGF 4G8.3-SL- hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A	PR-1569579	0.144	0.150	0.994	
9E10.1_GS_CL-33675	PR-1610561	0.035	0.032	0.038	

NT - 未測試

評估所選 DVD-Ig 分子在第二配體存在下中和之能力。為評估 hPDGF-BB 功效，將 DVD-Ig 分子與過量人類 VEGF₁₆₅ 一起預培育，然後在 NIH-3T3 增殖分析中進行測試(實例 1.21)。為評估 hVEGF₁₆₅ 功效，將 DVD-Ig 分子與過量人類 hPDGF-BB 一起預培育，然後在 VEGFR2-3T3 (KDR/Flk-1)磷酸化分析中進行測試(實例 1.20)。數據概述於下表 67 中。

表 67. 與 VEGF 及 PDGF 之同時結合

DVD-Ig	公司 ID	共培育功效 IC50 (nM)	
		hPDGF-BB	hVEGF ₁₆₅
9E8.4-GS-4G8.3	PR-1563988	NT	NT
9E8.4-SS-4G8.3	PR-1563990	NT	NT
9E8.4-SL-4G8.3	PR-1563998	NT	NT
9E8.4-LS-4G8.3	PR-1564009	NT	NT
4G8.3-GS-9E8.4	PR-1564010	NT	NT
4G8.3-SS-9E8.4	PR-1564011	NT	NT
4G8.3-SL-9E8.4	PR-1564012	NT	NT
4G8.3-LS-9E8.4	PR-1564013	NT	NT
4G8.3-GS(9)-9E8.4 (g)	PR-1572102	0.051	0.701
4G8.3-SL-9E8.4 (g)	PR-1572105	0.047	0.773
hVEGF 4G8.3-GS- hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A	PR-1569574	0.032	0.594
hVEGF 4G8.3-SL- hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A	PR-1569579	0.038	0.789
9E10.1_GS_CL-33675	PR-1610561	0.04	0.464

NT - 未測試

進一步評估所選 DVD-Ig 分子結合天然源性人類 VEGF₁₆₅ (實例 1.11)及天然源性人類 PDGF-BB (實例 1.19)之能力。數據概述於下表 68 中。

表 68. 藉由 ELISA 之抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子與

hVEGF ₁₆₅	及	hPDGF-BB	之 結 合	
			血小板源性 hPDGF-BB	Y-79 源性 hVEGF ₁₆₅
DVD-Ig		公司 ID		
4G8.3-GS(9)-9E8.4 (g)		PR-1572102	是	NT
4G8.3-SL-9E8.4 (g)		PR-1572105	是	NT
hVEGF 4G8.3-GS-hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A		PR-1569574	是	NT
hVEGF 4G8.3-SL-hPDGF 9E8.4 [hu IgG1/k] mut(234,235) H435A		PR-1569579	是	NT
9E10.1_GS_CL-33675		PR-1610561	是	是

NT - 未測試

實例 13.4：抗 VEGF/抗 PDGF DVD-Ig 分子(PR-1610561)之物種交叉反應性

使用基於細胞之增殖分析進一步評估 PR-1610561 與食蟹猴、小鼠、大鼠及兔交叉反應之能力(實例 1.6、1.17、1.18 及 1.25)。數據概述於下表 69 中。

表 69. 抗 VEGF/抗 PDGF DVD-Ig 分子(PR-1610561)之物種交叉反應性

蛋白質	VEGF				PDGF			
	食蟹猴	小鼠	大鼠	兔	食蟹猴	小鼠	大鼠	兔
親和力 K _D (pM)	65	-	-	41	0.8	0.3	3	3

實例 13.5：抗 PDGF-BB 抗體及抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子對 ECM 締合之 PDGF-BB 之反應性

如實例 1.27 中所述，使用過表現 PDGFBB-RM 之第一重組細胞

系 HEK293 細胞、且然後使用天然表現 ECM 締合之 PDGF-BB 細胞之 HUVEC 來染色：

HEK293 細胞染色：將 PDGFB-RM 瞬時轉染之 HEK 293 細胞及親代 HEK293 細胞以 1E6 個細胞/mL 重懸浮於 PBS 中且在室溫下在 4%多聚甲醛中固定 10 分鐘，用 PBS 洗滌並在冰上在封阻緩衝液(10%山羊血清於 PBS 中)中將 2E5 個細胞/管培育 1 小時。用 PBS 洗滌細胞且在冰上與抗體稀釋緩衝液(5%山羊血清於 PBS 中)中之 33nM 一級抗體或 DVD 一起培育 1 小時。用 PBS 將細胞洗滌三次且與抗體稀釋緩衝液中之 Alexa Fluo 488 偶聯之山羊抗人類 IgG (Jackson Immune，代碼：109-546-098，批號：108427) 1：400 稀釋物一起培育，在冰上培育 45 分鐘。用 PBS 將細胞洗滌三次且旋塗至載玻片上並用含有 DAPI 之封固培養基封固。藉由螢光顯微術獲取圖片。抗 PDGF-BB 親代及親和力成熟 mAb 及三個 DVD-Ig 分子皆顯示對 PDGFB-RM 瞬時轉染之 293 細胞之陽性染色(圖 2A)且對親代 HEK 293 細胞無染色，親和力成熟之抗 PDGF-BB mAb 之輕微陽性染色除外。並不明確親代 HEK 293 細胞是否以內源方式表現少量 PDGF-BB。

HUVEC 染色：HUVEC 細胞分泌 PDGF-BB，且在細胞表面可捕獲少量呈 ECM 締合之 PDGF-BB 形式之 PDGF-BB。進一步評估親和力成熟之抗 PDGF-BB mAb 及用親和力成熟之抗 PDGF-BB mAb 構建之抗 VEGF/抗 PDGF DVD-Ig 對 HUVEC 細胞上的天然源性 ECM 締合之 PDGF-BB 之染色。將 HUVEC (Lonza，目錄號：C2519A，批號：181607)胰蛋白酶化，以 2E4 個細胞/mL 重懸浮於培養基(Lonza, EGM2 MV Bulletkit: CC-3202)中。將細胞以 10,000 個細胞/ 500 μ l /孔平鋪於 8 室載玻片中且在 37°C、5% CO₂ 下培育 16 小時。培育後，在室溫下用 200 μ l 4%多聚甲醛將細胞固定 10 分鐘，用 PBS 洗滌且在冰上在封阻緩衝液(10%山羊血清於 PBS 中)中培育 1 小時。用 PBS

將細胞洗滌 3×且在冰上與抗體稀釋緩衝液(5%山羊血清於 PBS 中)中之 33 nM 初級抗體或 DVD-Ig 分子一起培育 1 小時。用 PBS 將細胞洗滌三次，且與抗體稀釋緩衝液中之 Alexa Fluo 488 偶聯之山羊抗人類 IgG (JacksonImmune，代碼：109-546-098，批號：108427) 1：400 稀釋物一起培育，在冰上培育 45 分鐘。用 PBS 將細胞洗滌三次且用含有 DAPI 之封固培養基封固。藉由螢光顯微術獲取圖片。如圖 2B 中所顯示，親和力成熟之抗 PDGF-BB mAb 顯示對 HUVEC 細胞之陽性染色，而親代抗 PDGF-BB mAb 對 HUVEC 細胞之染色並不明顯(圖 2B)。用親和力成熟之抗 PDGF-BB mAb 構建之抗 VEGF/抗 PDGF DVD-Ig (PR-1610561)顯示對 HUVEC 細胞之陽性染色，但對照抗破傷風類毒素 DVD-Ig 分子亦顯示一定的弱染色，此可能因背景問題所致。

實例 13.6：在 HUVEC/MSC 共培養出芽分析中抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子對出芽之抑制

如實例 1.28 中所述，在早期治療性治療模式中，用 HUVEC 細胞(Lonza)將 Cytodex-3 珠粒(Sigma-Aldrich，目錄號 C3275)塗覆過夜，且然後用人類間葉幹細胞(Lonza，20,000 個細胞/孔)包埋(100 珠粒/孔)於 24 孔組織培養板中之纖維蛋白凝膠中。將新鮮 EGM-2 完全培養基(Lonza)及纖維母細胞(Lonza)條件化 EGM-2 培養基之 1:1 混合物與 2 ng/mL 重組人類 HGF 一起添加在纖維蛋白凝膠之頂部。每 2-3 天更換培養基直至實驗結束。在 EC 出芽且通常在第 4 天形成周細胞覆蓋後，將抗 VEGF-A (4G8.4)、抗 PDGFBB (9E8.)或抗 PDGFBB/VEGF-A DVD-Ig 以 10 nM 添加至培養基中。10 天後，在 4°C 下在 4% PFA 中將細胞固定過夜。用抗 PECAM (Abcam, ab32457)、然後用螢光偶聯之二級抗體對內皮細胞染色，且用抗 α SMA-Cy3 (Sigma, C6198)標記周細胞。然後藉由倒置螢光顯微鏡觀察細胞且捕獲 5 × 影像(圖 3)。如

圖片中所見，DVD-Ig 分子以及抗 VEGF 及抗 PDGF mAb 之組合與單獨抗 VEGF mAb 相比能夠在更大程度上防止出芽形成。單獨抗 PDGF mAb 或抗 PDGF 適配體似乎皆不具有出芽形成之任何顯著抑制(圖 3)。亦在預防性及後續治療性治療模式中實施類似實驗，且結果明確證實在此 3D 共培養分析中抗 VEGF/抗 PDGF DVD-Ig (PR-1610561)強烈抑制出芽形成。

實例 13.7：FcRn 及 FcγR 結合之表徵

抗 VEGF/抗 PDGF DVD-Ig 分子(包括 4G8.3-GS-9E8.4、4G8.3-SL-9E8.4、4G8.3-GS-9E8.4(g)、4G8.3-SL-9E8.4(g)、9E10.1GS_CL-33675)係人類 IgG1/κ 同型，其具有 L234A、L235A 突變以減弱 FcγR 結合及 H435A 突變以消除 FcRn 結合。藉由 Biacore 使用實例 1.2 中所述之方法來表徵 DVD-Ig 分子與不同物種之 FcRn 的結合及 DVD-Ig 分子與不同 FcγR 的結合。數據概述於下表 70 及 71 中。

表 70. 藉由 Biacore 量測之抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子與不同物種之 FcRn 的結合

	穩態			1:1 結合擬合					
	huFcRn	食蟹猴 FcRn	兔 FcRn	大鼠 FcRn			muFcRn		
經固定	K _D (M)	K _D (M)	K _D (M)	ka (1/Ms)	kd (1/s)	K _D (M)	ka (1/Ms)	kd (1/s)	K _D (M)
4G8.3-GS-9E8.4(g) PR-1572102	NSB	NSB	NSB	n/a	n/a	NSB	n/a	n/a	NSB

4G8.3-SL- 9E8.4(g) PR- 1572105	NSB	NSB	NSB	n/a	n/a	NSB	n/a	n/a	NSB
9E10.1_GS _CL-33675 PR- 1610561	NSB	NSB	NSB	n/a	n/a	NSB	n/a	n/a	NSB
4G8.3-GS- 9E8.4 PR- 1569574	NSB	NSB	NSB	n/a	n/a	NSB	n/a	n/a	NSB
4G8.3-SL- 9E8.4 PR- 1569579	NSB	NSB	NSB	n/a	n/a	NSB	n/a	n/a	NSB

* NSB = 在所測試濃度下無顯著結合；n/a = 未獲得

表 71. 藉由 **Biacore** 量測之抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子與不同人類 FcγR 之結合

樣品	huFcRIIb	huFcRIIa 131H	huFcRIIa 131R	huFcRIIIa 158F	huFcRIIIa 158V			擬合
	K _D (M)	K _D (M)	K _D (M)	K _D (M)	ka (1/Ms)	kd (1/s)	K _D (M)	
4G8.3-GS- 9E8.4(g) PR-1572102	NSB	NSB	NSB	NSB	n/a	n/a	7.40E-06	穩態
4G8.3-SL- 9E8.4(g) PR-1572105	NSB	NSB	NSB	NSB	n/a	n/a	6.20E-06	穩態
9E10.1_GS_CL	NSB	NSB	NSB	NSB	n/a	n/a	1.1E-05*	穩態

-33675 PR-1610561								
4G8.3-GS-9E8.4 PR-1569574	NSB	NSB	NSB	NSB	n/a	n/a	1.6E-05*	穩態
4G8.3-SL-9E8.4 PR-1569579	NSB	NSB	NSB	NSB	n/a	n/a	1.2E-05*	穩態

* NSB = 在所測試濃度下無顯著結合； n/a = 未獲得

實例 14：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之物理化學性質

實例 14.1：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之物理化學性質之評估。

選擇 21 個 DVD-Ig 分子來篩選其溶解度及穩定性特徵。根據實例 2.4 製備及評估樣品。在調配物緩衝液中製備 DVD-Ig 蛋白且在 40 °C 及 5°C 下儲存高達 21 天。取出樣品且藉由 SEC 分析以確定聚集之變化(表 72)。在所列表濃度下評估該等分子。使用 SEC 來定量聚集百分比。

表 72. 在 40°C 及 5°C 下在調配物緩衝液中儲存 21 天之所選 DVD-Ig 分子之聚集及溶解度篩選

DVD-Ig 分子	濃度(mg/ml)	自 T0 之聚集變化%	
		T21d 5°C	T21d 40°C
4G8.3-GS-9E8.4	100	0.24	*
4G8.3-SL-9E8.4	100	0.27	*
CL-34565_GS_CL-33675	48.7	0.20	0.25
CL-34565_GS_9E8.4	4.3	-0.30	0.05
CL-34565_GS_3E2.1	10.9	-1.12	-0.89
4G8.5_GS_CL-33675	50	-0.09	*
4G8.5_GS_9E8.4	50	-0.09	12.50

4G8.5_GS_3E2.1	50	0.53	14.63
9E10.1_GS_CL-33675	50	-2.08	-3.09
9E10.1_GS_9E8.4	50.7	2.95	-0.39
9E10.1_GS_3E2.1	43.2	-6.16	-9.05
9E10.6_GS_CL-33675	50	3.17	1.87
9E10.6_GS_3E2.1	34.9	-0.63	-0.65
1B10.1_GS_CL-33675	50	0.72	1.10
1E3.4_GS_3E2.1	50	0.17	*
CL-33675_GS_4G8.5	38.7	0.15	2.34
3E2.1_GS_4G8.5	50	16.15	*
3E2.1_GS_9E10.1	30.4	*	*
3E2.1_GS_9E10.6	50	0.17	5.55
3E2.1_GS_1B10.1	38.6	-6.33	*
3E2.1_GS_1E3.4	50	10.12	*

*樣品因降解或受損而無法利用 SEC 來評估(例如膠凝、沈澱)。

實例 14.2：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之物理化學性質(在 40°C、25°C 及 5°C 下儲存期間之穩定性)之進一步評估

基於上文所論述之物理化學篩選(實例 14.1)，選擇三種抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子(4G8.3-GS-9E8.4、4G8.3-SL-9E8.4 及 9E10.1-GS-33675)來進一步表徵。根據實例 2.4 實施樣品製備及分析。

簡言之，在調配物緩衝液中以 100 ± 10 mg/ml 製備該等分子且在 40°C、25°C 及 5°C 下儲存 84 天。週期性取出樣品進行表徵(下表 73-75)。

如實例 2.4 中所提及，25°C (室溫)及 5°C (儲存溫度)二者係樣品在製備及儲存用於製造期間或作為最終藥品呈遞之一部分將經受的典型溫度。同樣，在 40°C 下儲存視為加速穩定性條件，其提供長期穩定性預期之指示。

表 73. 4G8.3-GS-9E8.4 在儲存期間之穩定性. 藉由 SEC 定量

聚 集 物 、 單 體 及 片 段 百 分 比

	聚 集 物 %	單 體 %	片 段 %	相 對 於 T0 之 SEC 層 析 圖 信 號 下 面 積
T0	1.8	97.3	0.9	1.00
T7d 40°C	*	*	*	*
T7d 25°C	2.2	97.0	0.9	0.91
T7d 5°C	1.9	97.2	0.9	0.92
T21d 40°C	*	*	*	*
T21d 25°C	3.0	96.4	0.6	0.84
T21d 5°C	1.8	97.8	0.5	0.90
T42d 40°C	*	*	*	*
T42d 25°C	3.4	95.6	1.0	0.88
T42d 5°C	2.0	97.3	0.7	1.00
T63d 40°C	*	*	*	*
T63d 25°C	4.2	94.7	1.0	0.85
T63d 5°C	2.1	97.4	0.5	0.92
T84d 40°C	*	*	*	*
T84d 25°C	5.0	93.7	1.3	0.79
T84d 5°C	2.2	97.3	0.6	0.85

*樣品因降解或受損而無法利用 SEC 來評估(例如膠凝、沈澱)。

表 74. 4G8.3-SL-9E8.4 在儲存期間之穩定性. 藉由 SEC 定量

聚 集 物 、 單 體 及 片 段 百 分 比

	聚 集 物 %	單 體 %	片 段 %	相 對 於 T0 之 SEC 層 析 圖 信 號 下 面 積
T0	4.2	94.7	1.1	1.00
T7d 40°C	*	*	*	*
T7d 25°C	6.6	92.2	1.3	0.86
T7d 5°C	4.3	94.7	1.0	0.82
T21d 40°C	*	*	*	*

T21d 25°C	8.5	90.5	1.1	0.77
T21d 5°C	3.9	95.3	0.8	0.87
T42d 40°C	*	*	*	*
T42d 25°C	13.2	85.6	1.3	0.80
T42d 5°C	4.5	94.4	1.1	0.97
T63d 40°C	*	*	*	*
T63d 25°C	13.2	85.3	1.5	0.73
T63d 5°C	4.3	95.0	0.7	0.87
T84d 40°C	*	*	*	*
T84d 25°C	10.3	88.1	1.6	0.62
T84d 5°C	4.5	94.7	0.7	0.80

*樣品因降解或受損而無法利用 SEC 來評估(例如膠凝、沈澱)。

表 75. 9E10.1-GS-33675 在儲存期間之穩定性。藉由 SEC 定量聚集物、單體及片段百分比。

	聚集物%	單體%	片段%	相對於 T0 之 SEC 層析圖信號下面積
T0	0.8	98.4	0.7	1.00
T7d 40°C	5.3	93.8	0.8	0.84
T7d 25°C	4.8	94.6	0.6	0.89
T7d 5°C	3.7	95.5	0.8	0.92
T21d 40°C	6.1	92.5	1.4	0.77
T21d 25°C	4.4	95.0	0.6	0.82
T21d 5°C	6.7	92.8	0.5	0.89
T42d 40°C	13.8	83.9	2.3	0.76
T42d 25°C	4.7	94.6	0.8	0.85
T42d 5°C	7.7	91.7	0.5	0.92
T63d 40°C	19.8	77.0	3.2	0.77
T63d 25°C	4.8	94.4	0.8	0.84

T63d 5°C	8.4	91.2	0.4	0.94
T84d 40°C	22.8	73.2	4.0	0.68
T84d 25°C	5.3	93.7	1.0	0.80
T84d 5°C	8.1	91.5	0.4	0.88

4G8.3-GS-9E8.4 及 4G8.3-SL-9E8.4 二者在 40°C 下儲存 7 天後形成白色沈澱，且因此無法藉由 SEC 來分析。假設該等樣品完全聚集。在 25°C 下，對兩種分子可觀察到聚集增加。4G8.3-GS-9E8.4 之聚集不如 4G8.3-SL-9E8.4 快。84 天後前者之聚集自 1.8% 增加至 5.0%，而後者之聚集起始於 4.2% 且在 84 天之時程內達到高至 13.2%。在 5°C 下，兩種分子皆無可注意到之聚集物增加。

對於 9E10.1-GS-33675，截至 21 天在 5°C 下之聚集自 0.8% 增加至 6.7% 且在 42 至 84 天穩定在約 8%。在 25°C 下，截至 7 天聚集自 0.8% 增加至 4.7% 且直至 84 天穩定在該值。最後，在 84 天之時程內，在 40°C 下之聚集以表觀線性方式自 0.8% 增加至 22.8%。9E10.1-GS-33675 在 40°C 下之聚集遠小於對其他兩種 DVD-Ig 分子所觀察到之聚集。此可能係所用通用調配物緩衝液之結果。

在 25°C 或 5°C 下所有三種 DVD-Ig 分子之片段化無明顯變化。在 40°C 下，在 21 天後對於 9E10.1-GS-33675 觀察到明顯的預期片段化增加。

實例 14.3：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之物理化學性質(對冷凍-解凍應力之穩定性)之進一步評估

基於早期物理化學篩選(實例 14.1)，選擇三種抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子(4G8.3-GS-9E8.4、4G8.3-SL-9E8.4 及 9E10.1-GS-33675)用於進一步表徵。根據實例 2.5 實施樣品製備、應力及分析。簡言之，在調配物緩衝液中以 100 ± 10 mg/ml 或 1 mg/ml 之濃度製備該等分子且使其經受四個冷凍(-80°C)及解凍(30°C)週期。在第二

及第四次解凍後表徵樣品(下表 76-81)。

如實例 2.5 中所提及，蛋白質樣品通常冷凍在 -80°C 下以供長期儲存以及運送遠離製造現場。然後將樣品解凍以完成藥品製造過程。

表 76. $100 \pm 10 \text{ mg/ml}$ 之 4G8.3-GS-9E8.4 在經受冷凍-解凍應力($-80^{\circ}\text{C} / 30^{\circ}\text{C}$)時之穩定性。藉由 SEC 定量聚集物、單體及片段百分比。

	聚集物%	單體%	片段%	相對於 T0 之 SEC 層析圖信號下面積
F/T 0	1.8	97.3	0.9	1.00
F/T 2	1.8	97.4	0.8	0.90
F/T 4	2.2	96.9	0.9	0.92

表 77. $100 \pm 10 \text{ mg/ml}$ 之 4G8.3-SL-9E8.4 在經受冷凍-解凍應力($-80^{\circ}\text{C} / 30^{\circ}\text{C}$)時之穩定性。藉由 SEC 定量聚集物、單體及片段百分比

	聚集物%	單體%	片段%	相對於 T0 之 SEC 層析圖信號下面積
F/T 0	4.2	94.7	1.1	1.00
F/T 2	4.1	95.2	0.7	0.83
F/T 4	4.3	94.4	1.3	0.82

表 78. $100 \pm 10 \text{ mg/ml}$ 之 9E10.1-GS-33675 在經受冷凍-解凍應力($-80^{\circ}\text{C} / 30^{\circ}\text{C}$)時之穩定性。藉由 SEC 定量聚集物、單體及片段百分比。

	聚集物%	單體%	片段%	相對於 T0 之 SEC 層析圖信號下面積
F/T 0	0.8	98.4	0.7	1.00

F/T 2	1.1	98.5	0.4	0.91
F/T 4	1.8	97.6	0.6	0.88

表 79. 1 mg/ml 之 4G8.3-GS-9E8.4 在經受冷凍-解凍應力(-80°C / 30°C)時之穩定性。藉由 SEC 定量聚集物、單體及片段百分比。

	聚集物%	單體%	片段%	相對於 T0 之 SEC 層析圖信號下面積
F/T 0	1.8	97.3	0.9	1.00
F/T 2	1.9	97.5	0.6	0.95
F/T 4	2.0	97.1	0.9	0.96

表 80. 1 mg/ml 之 4G8.3-SL-9E8.4 在經受冷凍-解凍應力(-80°C / 30°C)時之穩定性。藉由 SEC 定量聚集物、單體及片段百分比。

	聚集物%	單體%	片段%	相對於 T0 之 SEC 層析圖信號下面積
F/T 0	4.2	94.7	1.1	1.00
F/T 2	3.9	95.4	0.7	0.94
F/T 4	4.1	94.9	1.0	0.94

表 81. 1 mg/ml 之 9E10.1-GS-33675 在經受冷凍-解凍應力(-80°C / 30°C)時之穩定性。藉由 SEC 定量聚集物、單體及片段百分比。

	聚集物%	單體%	片段%	相對於 T0 之 SEC 層析圖信號下面積
F/T 0	0.8	98.4	0.7	1.00
F/T 2	1.0	98.6	0.5	0.98
F/T 4	1.2	98.2	0.6	0.98

對於所有三種 DVD-Ig，在兩個週期後，在 100 ± 10 mg/ml 或 1 mg/ml 下因冷凍-解凍應力所致未觀察到明顯的聚集增加。

實例 14.4：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之物理化學性質之進一步評估(黏度測定)

基於早期物理化學篩選(實例 14.1)，選擇三種抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子(4G8.3-GS-9E8.4、4G8.3-SL-9E8.4 及 9E10.1-GS-33675)用於進一步表徵。在調配物緩衝液中以 100 ± 10 mg/ml 製備該等分子且在室溫下量測黏度(實例 2.6)。黏度分別為 5.1 厘泊、7.2 厘泊及 7.2 厘泊。該等值在使得能夠易於經由附接至注射器之小直徑針投與之範圍內。

實例 14.5：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之物理化學性質之進一步評估(熱穩定性評估)

基於早期物理化學篩選(實例 14.1)，選擇三種抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子(4G8.3-GS-9E8.4、4G8.3-SL-9E8.4 及 9E10.1-GS-33675)用於進一步表徵。根據實例 2.3 在調配物緩衝液中以 1 mg/ml 製備該等分子且根據實例 2.2 測定熱穩定性。去摺疊之第一轉變之中點溫度分別係 52°C 、 51°C 及 62°C 。第一轉變開始出現時之溫度分別為 44°C 、 42°C 及 62°C 。數據指示，9E10.1-GS-33675 具有顯著高於其他兩種 DVD-Ig 分子之熱穩定性。

實例 14.6：抗 VEGF/抗 PDGF DVD-Ig 分子(PR-1610561)之物理化學性質

PR-1610561 之測試揭露高熱穩定性($T_{\text{開始}} = 62^{\circ}\text{C}$)、至少 76 mg/ml 之溶解度及在 100 mg/ml 下在室溫下 7.2 厘泊之黏度，此在使得能夠易於經由附接至注射器之小直徑針投與之範圍內。PR-1610561 具有通用緩衝液中之適當儲存穩定性及冷凍-解凍穩定性。

實例 14.76：完整及降低分子量測定

Q-TOF LC-MS 可檢測蛋白質之間可源自影響蛋白質分子量之錯誤突變、轉譯後修飾、截短及其他共價變化的質量差別。表 82 顯示所有三種 DVD-Ig 分子之完整分子量及去糖基化完整分子量。表 83 顯示輕鏈、重鏈及去糖基化重鏈之分子量。所觀察到三種 DVD-Ig 分

子之分子量與理論值匹配良好且僅差不到 3 道爾頓，此恰好在儀器之預期誤差範圍內。

表 82. 完整分子量

	完整 MW		去糖基化完整 MW	
	理論值	觀察值	理論值	觀察值
PR-1572102	203220	203219	200330	200330
PR-1572105	204350	204348	201460	201460
PR-1610561	202452	202450	199562	199562

表 83. 降低分子量

	輕鏈 MW		重鏈 MW		去糖基化 HC MW	
	理論值	觀察值	理論值	觀察值	理論值	觀察值
PR-1572102	36080	36080	65533	65533	64088	64091
PR-1572105	36735	36734	65444	65444	63999	64002
PR-1610561	36006	36005	65224	65224	63779	63780

實例 14.8：藉由 Fc 分子量之寡糖特徵

DVD-Ig 分子在重鏈之 Fc 區中含有 N-連接寡糖。Fc 分子量量測可提供寡糖特徵之半定量分析。表 84 顯示藉由 Fc 分子量之寡糖特徵之結果。所有三種 DVD-Ig 分子之寡糖特徵與對 mAb 通常所觀察到之寡糖特徵相似，其含有 70%-73% Gal 0F 及 21%-24% Gal 1F。在所有三個樣品中，高甘露糖種類之含量極低。未檢測到無糖基化種類之顯著含量。

表 84. 藉由 Fc 分子量之寡糖特徵

種類	PR-1572102	PR-1572105	PR-1610561
Man 5	1.0	1.1	0.4
Gal 0F-GlcNAc	0.5	0.4	0.0
Gal 0	0.5	0.2	0.7
Gal 0F	73.4	73.4	70.8
Lys-1	0.8	0.3	0.8

Gal 1F	21.0	21.2	23.8
Gal 2F	2.8	3.3	3.6

實例 14.9：藉由弱陽離子交換層析及成像等電聚焦之電荷異質性

弱陽離子交換(WCX)層析基於分子淨表面電荷來分離分子。改變 C 末端處理及某些轉譯後修飾之程度可產生具有不同電荷分佈之不同種類之抗體。電荷性質發生變化之分子將展現不同程度之與離子交換樹脂之相互作用，因此展現不同的溶析特徵。每一層析圖之特徵在於主峰(「主要」)及溶析之前(「酸性」)或之後(「鹼性」)的物質。該等物質類型之相對豐度顯示於表 85 中。

表 85. 弱陽離子交換層析分析之結果

	酸性(%)	主要(%)	鹼性(%)
PR-1572102	9.2	63.9	26.9
PR-1572105	14.9	52.4	32.7
PR-1610561	17.7	56.5	25.8

成像毛細管等電聚焦(icIEF)係基於蛋白質之等電點或 pI 值分離蛋白質之技術。不同蛋白質具有不同的 pI 及峰特徵，此使得 icIEF 成為理想的一致性分析。在 icIEF 中，具有不同 pI 值之蛋白質在施加高電壓後以由兩性電解質形成之線性 pH 梯度聚焦至不同條帶中。表 86 顯示理論 pI(基於胺基酸序列計算)及藉由成像 icIEF 量測之所觀察 pI 值。表 86 中亦顯示藉由成像 icIEF 檢測之不同電荷物質之相對豐度。

表 86. 成像等電聚焦之結果

	理論 pI	藉由 icIEF 之 pI	酸性(%)	主要(%)	鹼性(%)
PR- 1572102	6.13	6.78	14.3	71.6	14.1
PR-1572105	6.13	6.74	25.3	60.2	14.4
PR-1610561	6.67	7.27	27.2	63.2	9.6

實例 15：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之藥物動力學性質

實例 15.1：靜脈內投與 huFcRN 轉基因小鼠中之抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之藥物動力學性質

根據 AbbVie IACUC 指導方針來實施研究。藉由緩慢靜脈內濃注射劑量注射將抗 VEGF/抗 PDGF DVD-Ig 分子 PR-1572102 (批號 2211502)、PR-1572105 (批號 2211597)或 PR-1610561 (批號 2213329) 以 5 mg/kg 投與 huFcRn B6.Cg 轉基因小鼠(5 隻/組)。在投藥後 1 小時、24 小時及 96 小時以及 7 天、10 天、14 天及 21 天自每一小鼠收集血液樣品。將所有樣品儲存在 -80°C 下直至分析。使用 Meso Scale Discovery (MSD)電致化學發光(ECL)配體結合分析來量測 DVD-Ig 血清濃度。將生物素化 VEGF 配體塗覆至鏈黴抗生物素蛋白 MSD 板上用於自血液樣品捕獲抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子，且用帶磺基標籤之山羊抗人類 IgG 抗體達成檢測。藉由四參數邏輯擬合使用 XLfit4 來計算濃度。利用非分室分析使用管控及分析用藥物動力學實驗室自動化軟體(PLASMA) (2.6.12 版，SParCS, AbbVie)來計算藥物動力學參數。

攜載 H435A 取代之所有三種抗 VEGF/PDGF DVD-Ig 分子皆使得血清濃度快速清除，其中可量測濃度僅持續 24 小時。該等結果與在人類 FcRn 轉基因小鼠中用其他經 H435A 修飾之抗體及 DVD-Ig 分子所觀察到之快速清除一致。

實例 15.2：玻璃體內投與兔中之抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之藥物動力學性質

根據 Abbott IACUC 指導方針來實施研究。使用雌性新西蘭白兔 (New Zealand White rabbit)進行抗 VEGF-A/抗 PDGF-BB DVD-Ig：PR-1572102、PR-1572105 及 PR-1610561 之眼部藥物動力學表徵。將動物(4 隻動物)劃分成兩個兩者隊列用於測定眼部藥物動力學。在投藥後 4 小時、24 小時、48 小時、72 小時、120 小時、168 小時、336

小時及 504 小時獲取房水樣品。其中隊列 1 提供投藥後 4 小時、48 小時、120 小時及 168 小時之樣品，且隊列 2 提供投藥後 24 小時、72 小時、336 小時及 504 小時之樣品。根據房水中之濃度(作為玻璃體濃度之替代)確定眼睛中之藥物含量。自每一動物收穫玻璃體作為其最終房水樣品後之末端樣品。自該等末端時間點確定房水對玻璃體濃度之比例。亦在投藥後 4 小時、24 小時、48 小時、72 小時、120 小時及 168 小時自所有動物收集、且在 336 小時及 504 小時自隊列 2 動物收集用於收穫用來估計玻璃體投藥後之全身暴露之血清的血液樣品。將檢品以 0.25 mg 至 0.50 mg/眼睛之範圍及不大於 0.050 mL 之劑量體積投至玻璃體分室中。僅向每一動物之右眼投藥。在投藥之前，用甲苯噻嗪/氯胺酮麻醉動物。藉由首先施用局部鎮痛滴劑(普魯卡因 HCl 眼用溶液，0.5%)來使眼睛做準備，然後在注射之前用飽和聚維酮(povidone)-碘拭子條(等效於 1%有效碘之 10%溶液)擦拭注射位點。用 26 號針投與玻璃體內劑量。注射之進入點為距邊緣 1-2 mm 穿過鞏膜。注射後，將無菌眼棉置於注射位點上且保持 30 秒以防止滲漏。將動物麻醉以收集房水。在投藥後之所選時間點，使用穿過角膜插入之 30 號針收集房水。針前進剛經過斜面且收集房水。樣品在每個取樣時段提供約 0.05-0.1 mL 房水。在投藥後之所選時間點，自耳靜脈或動脈獲得血液樣品。藉由視需要施加人工壓力及局部凝血因子或組織膠來達成收集後止血。樣品之體積為 0.5-1 ml，且允許凝固以收穫血清。將房水、玻璃體及血清樣品儲存在-80°C 下，且提交用於藥物含量測定。

使用 GYROS 方法採用生物素化 VEGF 配體來捕獲及 Alexa Flour 647 山羊抗人類 IgG 檢測來量測所有 DVD-Ig 血清濃度。藉由四參數邏輯擬合使用 XLfit4 來計算濃度。利用非分室分析使用管控及分析用藥物動力學實驗室自動化軟體(PLASMA) (2.6.12 版，SParCS,

AbbVie)來計算藥物動力學參數。

表 87. 來自房水分析之兔中眼部半衰期

實驗	檢品	公司 ID	半衰期(小時)
1 號	9E10.1_GS_CL-33675	PR-1610561	111
2 號	9E10.1_GS_CL-33675	PR-1610561	待決

實例 15.3：靜脈內投與食蟹猴中之抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之藥物動力學性質

根據 AbbVie IACUC 指導方針來實施研究。將雌性食蟹猴用於在靜脈內投藥後抗 VEGF-A/抗 PDGF-BB DVD-Ig (包括 PR-1572102、PR-1572105 及 PR-1610561)之全身藥物動力學表徵。藉由緩慢濃注以 5 mg/kg 以 0.5 mL/kg 之體積經約 2 分鐘向猴之隱靜脈中靜脈內投藥。獲取樣品用於測定測試化合物在投藥後 0 小時、0.08 小時、4 小時、8 小時、24 小時、72 小時、168 小時、240 小時、336 小時、504 小時及 672 小時時之藥物動力學。在投藥後之所選時間點，自股靜脈獲得血液樣品。藉由視需要施加人工壓力及局部凝血因子或組織膠來達成收集後止血。樣品之體積可為約 1 ml，且允許凝固以收穫血清。將血清樣品儲存在-80°C 下，且提交用於藥物含量測定。

使用 GYROS 或 MSD 方法來量測 DVD-Ig 血清濃度。GYROS 採用生物素化 VEGF 配體來捕獲及 Alexa Flour 647 山羊抗人類 IgG 檢測。MSD 採用生物素化 VEGF 配體來捕獲及帶磺基標籤之山羊抗人類 IgG 或帶磺基標籤之 VEGF 來檢測。藉由四參數邏輯擬合使用 XLfit4 來計算濃度。利用非分室分析使用管控及分析用藥物動力學實驗室自動化軟體(PLASMA) (2.6.12 版，SParCS, AbbVie)來計算藥物動力學參數。

實例 15.4：玻璃體內投與食蟹猴中之抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子之藥物動力學性質。

根據 AbbVie IACUC 指導方針來實施研究。將雌性食蟹猴用於抗 VEGF-A/抗 PDGF-BB DVD-Ig (包括 PR-1572102、PR-1572105 及 PR-1610561) 之眼部藥物動力學表徵。將動物(4 隻動物)劃分成兩個兩者隊列用於測定眼部藥物動力學。在投藥後 4 小時、24 小時、48 小時、72 小時、120 小時、168 小時、336 小時及 504 小時獲取房水樣品。其中隊列 1 提供投藥後 4 小時、48 小時、120 小時及 168 小時之樣品，且隊列 2 提供投藥後 24 小時、72 小時、336 小時及 504 小時之樣品。根據房水中之濃度(作為玻璃體濃度之替代)確定眼睛中之藥物含量。亦在投藥後 4 小時、24 小時、48 小時、72 小時、120 小時及 168 小時自所有動物收集、且在 336 小時及 504 小時自隊列 2 動物收集用於收穫用來估計玻璃體投藥後之全身暴露之血清的血液樣品。將檢品以 0.25 mg 至 0.50 mg/眼睛之範圍及不大於 0.050 mL 之劑量體積投至玻璃體分室中。僅向每一動物之右眼投藥。在投藥之前，用甲苯噻嗪/氯胺酮麻醉動物。藉由首先施用局部鎮痛滴劑(普魯卡因 HCl 眼用溶液，0.5%)來使眼睛做準備，然後在注射之前用飽和聚維酮-碘拭子條(等效於 1%有效碘之 10%溶液)擦拭注射位點。用 26 號針投與玻璃體內劑量。注射之進入點為距邊緣 1-2 mm 穿過鞏膜。注射後，將無菌眼棉置於注射位點上且保持 30 秒以防止滲漏。將動物麻醉以收集房水。在投藥後之所選時間點，使用穿過角膜插入之 30 號針收集房水。針前進剛經過斜面且收集房水。樣品在每個取樣時段提供約 0.05-0.1 mL 房水。在投藥後之所選時間點，自耳靜脈或動脈獲得血液樣品。藉由視需要施加人工壓力及局部凝血因子或組織膠來達成收集後止血。樣品之體積為約 1 ml，且允許凝固以收穫血清。將房水、玻璃體及血清樣品儲存在 -80°C 下，且提交用於藥物含量測定。

使用 GYROS 或 MSD 方法來量測 DVD-Ig 血清濃度。GYROS 採用生物素化 VEGF 配體來捕獲及 Alexa Flour 647 山羊抗人類 IgG 檢

測。MSD 採用生物素化 VEGF 配體來捕獲及帶磺基標籤之山羊抗人類 IgG 或帶磺基標籤之 VEGF 來檢測。藉由四參數邏輯擬合使用 XLfit4 來計算濃度。利用非分室分析使用管控及分析用藥物動力學實驗室自動化軟體(PLASMA) (2.6.12 版, SParCS, AbbVie)來計算藥物動力學參數。

實例 16：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子在人類 VEGF 轉基因小鼠中之效能

實例 16.1：在 Rho/huVEGF 轉基因小鼠中抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子抑制視網膜下新血管形成之效能

視紫質啟動子驅動人類 VEGF₁₆₅ 在光受體中之表現之轉基因小鼠 (Rho-VEGF 小鼠)在 P7 時開始 VEGF 表現，且在 P10 開始自視網膜之深毛細管床發生 NV 出芽，其生長通過光受體層且在視網膜下空間中形成廣泛的新血管網絡。由於新血管源自視網膜毛細管而非脈絡膜血管，故其在技術上係視網膜血管瘤增殖(RAP)之模型，視網膜血管瘤增殖發生在約 30%之新血管形成性 AMD 患者中，但其通常模擬濕性 AMD 之關鍵特徵。在 P14 時，給予半合子 Rho-VEGF 小鼠測試劑之眼內注射。在 P21 時，對小鼠實施安樂死，且在 10%磷酸鹽緩衝福馬林中將眼睛固定 2 小時。將視網膜解剖，用 PBS 中之 5%正常豬血清封阻 1 小時，用 FITC 偶聯之 GSA (血管染色劑)染色 2 小時以對血管細胞染色，光受體側向上平置安裝，並藉由螢光顯微術檢查。由針對治療組盲化之研究者利用影像分析來量測視網膜下 NV 面積。另一個眼睛將提供關於眼內注射之全身效應之資訊。

在以下研究中，評估 9 個治療組：DVD-Ig 對照(DVD 889)、Eylea、抗 VEGF mAb、抗 PDGF mAb、抗 VEGF + 抗 PDGF (組合 Ab 治療)、抗 VEGF/抗 PDGF DVD-Ig。僅分析實驗眼睛中之眼睛量測且使用單因子 ANOVA 分析報告於本文中。藉由 Dunnett 測試來分

析治療組對 DVD 對照組之事後比較。結果顯示於參見圖 4 及下表 88 中。另外，在此模型中，DVD-Ig 對 IgG 之 PDGF 中和功效及分子粒徑之差別不具效應。

使用針對顯著性之整體 ANOVA F-測試且顯示數據具有顯著性 ($p < 0.0001$)。測試組與 DVD-Ig 對照組之比較顯示所有組之差別較為顯著 (Dunnet 測試 $p < 0.0001$)。PR-1610561 在抑制 Rho/huVEGF 轉基因小鼠之視網膜下新血管形成方面比 Eylea 顯著更有效 (Tukey HSD 測試 p 值 = 0.0031)。PR-1610561 比抗 VEGF 及抗 PDGF (功效匹配之 mAb) 組合組更有效，但並不顯著不同。

表 88. 在 Rho/huVEGF 轉基因小鼠中抗 VEGF-A、抗 PDGF-BB、抗 VEGF-A + 抗 PDGF-BB 及抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子對視網膜下新血管形成之抑制效能

組	公司 ID 編號	N (動物編號)	平均值	Std Dev	Std Err	CV (%)
DVD 陰性對照	PR-1250499	8	0.0892	0.0665	0.0235	74
Eylea	-	19	0.0198	0.0224	0.0051	113
抗 VEGF	-	7	0.0164	0.0088	0.0033	54
抗 PDGF	-	16	0.0297	0.0265	0.0066	89
抗 VEGF + 抗 PDGF	-	10	0.0119	0.0182	0.0058	153
抗 VEGF/抗 PDGF DVD-Ig	PR-1610561	9	0.0033	0.0038	0.0013	115

實例 16.2：抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子在 Tet-視蛋白-人類 VEGF₁₆₅ 雙轉基因小鼠中之效能

當給予去氧羥四環素注射時，Dox 誘導型表現 VEGF 之 Tet-視蛋白-VEGF 雙轉基因小鼠比 Rho-VEGF 轉基因小鼠表現 10 倍高量之人類 VEGF₁₆₅，且在 3 至 5 天內罹患重度 NV 及滲出性視網膜脫落。

Tet-視蛋白-VEGF 小鼠提供小鼠罹患滲出性視網膜脫落且僅最有效之藥劑具有顯著影響之重度模型。給予雙半合子 Tet-視蛋白-VEGF 小鼠之右眼測試試劑之眼內注射。對於隨後 3 天，亦投與小鼠 50 mg/kg 去氧經四環素之每日皮下注射。在第 4 天，對小鼠實施安樂死且用 Micron III 視網膜成像顯微鏡 (Phoenix Research Laboratories, Pleasanton, CA) 獲取胃底照片。同樣，藉由 Bioptigen 影像引導之 OCT (Envisu R4110, Bioptigen Inc. Morrisville, NC) 獲取 OCT 影像。然後將眼睛冷凍在最佳切割溫度包埋溶液中。在整個眼睛上切割 10 微米眼部連續切片，用 H&E 染色劑染色且藉由光學顯微術檢查。此後，由針對治療組盲化之研究者利用影像分析來量測每個切片視網膜脫落之平均長度。計算脫落視網膜之百分比。將視網膜脫落分級為無脫落(0)；部分視網膜脫落(1)；或全部視網膜脫落(2)。

測試抗 VEGF-A、抗 PDGF-BB 以及抗 VEGF-A 及抗 PDGF-BB 之組合抑制 tet-視蛋白-VEGF 雙轉基因小鼠之視網膜脫落(RD)之能力。結果顯示 3 個測試組間之差別($P=0.01$, Kruskal-Wallis 測試)。基於 RD 數量，抗 VEGF-A 及抗 PDGF-BB 之組合(7 個 NRD、1 個 PRD、0 個 TRD)以及單獨抗 VEGF-A (5 個 NRD、0 個 PRD、0 個 TRD)組在防止 Tet-視蛋白-VEGF 雙轉基因小鼠之 RD 方面比單獨抗 PDGF-BB (2 個 NRD、2 個 PRD、2 個 TRD)更有效。

隨後比較在 tet-視蛋白-VEGF 小鼠中 PR-1610561、Eylea 與對照 IgG 之間效能之差別。亦發現 3 組間之差別($P=0.01$, Kruskal-Wallis 測試)。PR-1610561 (10 個 NRD、0 個 PRD、1 個 TRD)及 Eylea (4 個 NRD、3 個 PRD、1 個 TRD)在防止 Tet-視蛋白-VEGF 雙轉基因小鼠之 RD 方面比 IgG 對照(2 個 NRD、2 個 PRD、2 個 TRD)更有效。數據概述於下表 89 中。

表 89. 檢品在 tet-視蛋白-VEGF 雙轉基因小鼠中之效能

等級	IgG 對照	抗 VEGF mAb	抗 PDGF mAb	抗 VEGF+ 抗 PDGF	PR-1610561	Eylea
0 (NRD)	2	5	2	7	10	4
1 (PRD)	1	0	2	1	0	3
2 (TRD)	6	0	3	0	1	1
總眼睛	9	5	7	8	11	8

亦藉由另一分級系統來分析 PR-1610561 在 tet/視蛋白/huVEGF 雙轉基因小鼠視網膜脫落模型中之效應(表 89A)。將 1 μ l 試劑注射至一個眼睛中，然後以 500 mg/kg 每天一次持續三天皮下注射去氧羥四環素，且然後在第 4 天獲得胃底影像及 OCT。將視網膜脫落分級為無脫落(0)；無視網膜脫落但至少一種選自視網膜血管膨大、視網膜水腫或出血之體徵(1)；四分之一或不到四分之一的視網膜脫落(2)；二分之一或四分之三的視網膜脫落或淺盤視網膜脫落(3)；或重度大胞狀視網膜脫落(4)。

表 89A. 抗 VEGF、抗 PDGF、抗 VEGF + 抗 PDGF 及抗 VEGF/抗 PDGF DVD-Ig 分子在 Tet/視蛋白/huVEGF 雙轉基因小鼠中之效能

等級	DVD889	抗 VEGF	抗 PDGF	組合	PR-1610561	阿柏西普 (Aflibercept)
0	1	4	1	4	3	1
1	1	1	1	2	7	3
2	1	0	2	0	0	1
3	0	0	0	1	1	1
4	6	0	3	0	0	1

所評估之全部 眼睛	9	5	7	8	11	7
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上表中之結果顯示，在抑制 Rho/huVEGF 轉基因小鼠之視網膜下新血管形成方面，PR-1610561 具有類似於抗 VEGF-A 及抗 PDGF-BB 之組合的效能且優於單獨阿柏西普。在防止 Rho/huVEGF 轉基因小鼠之血管滲漏方面，PR-1610561 亦優於阿柏西普及抗 PDGF-BB 之組合。

實例 16.3：抗 VEGF/抗 PDGF 對眼部新血管形成及血管通透性/灌注之效應

此研究比較抗 VEGF/抗 PDGF DVD-Ig 分子、單獨抗 VEGF mAb、單獨抗 PDGF 及抗體組合之眼內注射之效應。

選擇 DVD-Ig 分子及 DVD-Ig Fab 片段進行評估，首先在 Rho/VEGF 小鼠中且然後在 Tet/視蛋白/VEGF 雙轉基因小鼠中進行評估。

研究使用如實例 16.1 中所述之 rho/VEGF 及 Tet/視蛋白/VEGF 小鼠模型。所評估化合物顯示於下表 90 中。每個實驗包括約 20 隻小鼠，其中向一個眼睛注射藥劑且另一個眼睛未經注射。

表 90. 研究藥劑

4G8.3-GS-9E8.4 (PR-1572102; DVD-Ig-1)
4G8.3-LS-9E8.4 (PR- PR-1575573; DVD-Ig-2)
4G8.3-SL-9E8.4 (PR-1572105; DVD-Ig-3)
DVD 889(IgG 對照)
抗 VEGF IgG 4G83
抗 PDGF-BB IgG 9E8.4
抗 VEGF IgG 24 µg + 抗 PDGF-BB IgG
癌思停 24 µg
抗 PDGF-BB 適配體 E10030.1
癌思停 24 µg + 抗 PDGF-BB 適配體

視紫質啟動子驅動 VEGF 在光受體中之表現之轉基因小鼠 (rho/VEGF 小鼠)罹患視網膜血管瘤增殖(RAP)，其源自視網膜之深毛細管床且生長通過光受體層以到達視網膜下空間。轉基因小鼠用於測定 DVD-Ig 分子對視網膜下新血管形成之效應。rho/VEGF 小鼠在 P7 時開始 VEGF 表現，且在 P10 開始自視網膜之深毛細管床發生出芽，其生長通過光受體層且在視網膜下空間中形成廣泛的新血管網絡。在 P14 時，給予半合子 Rho-VEGF 小鼠測試試劑之眼內注射。在 P21 時，對小鼠實施安樂死，且在 10%磷酸鹽緩衝福馬林中將眼睛固定 2 小時。將視網膜解剖，用 PBS 中之 5%正常豬血清封阻 1 小時，用 FITC 偶聯之 GSA 染色 2 小時以對血管細胞染色，光受體側向上平置安裝，並藉由螢光顯微術檢查。由針對治療組盲化之研究者利用影像分析來量測視網膜下 NV 面積。

與對照 DVD-Ig 分子相比，DVD-Ig-1 及 DVD-Ig-3 顯著減少脈絡膜新血管形成(CNV) ($p=0.02$ 、 0.04)，而 DVD-Ig-2 並不顯示更多效應。與 IgG 對照相比，組合投與抗 VEGF IgG 及抗 PDGF-BB IgG 會顯著減少 CNV ($p=0.045$)，而投與單獨抗 VEGF IgG 或抗 PDGF IgG 不會顯著減少視網膜下 NV。在注射有癌思停、抗 PDGF-BB 適配體或癌思停及抗 PDGF-BB 適配體之混合物之眼睛中未觀察到其他差別。發現在與癌思停及抗 PDGF-BB 適配體之混合物相比時，在投與 DVD-Ig-1 及 DVD-Ig-3 後顯著減少視網膜下 NV。在 DVD-Ig 試劑與組合投與抗 VEGF-IgG 及抗 PDGF IgG 之間未發現其他差別。圖 5。

在注射有抗 VEGF/抗 PDGF DVD-Ig 分子、對照 DVD-Ig、單獨抗 VEGF mAb、單獨抗 PDGF 及抗體組合之小鼠的未經治療之眼睛中未發現差別(ANOVA, $P>0.05$)，此指示不存在眼內注射之明顯全身效應。圖 6。

Tet/視蛋白/VEGF 小鼠在光受體中表現高於 rho/VEGF 小鼠之量

之 VEGF，從而導致重度 NV 及伴有滲出性視網膜脫落之血管滲漏。亦評估抗 VEGF/抗 PDGF DVD-Ig 分子之眼內注射在此轉基因小鼠中之效能。給予小鼠之右眼測試試劑之眼內注射。對於隨後 3 天，亦投與小鼠 50 mg/kg 去氧經四環素之每日皮下注射。在第 4 天，對小鼠實施安樂死且用 Micron III 視網膜成像顯微鏡(Phoenix Research Laboratories, Pleasanton, CA)獲取眼底照片。藉由 Bioptigen 影像引導之 OCT (Envisu R4110, Bioptigen Inc. Morrisville, NC)獲取 OCT 影像。然後將眼睛冷凍在最佳切割溫度包埋溶液中。在整個眼睛上切割 10 微米眼部連續切片，用 H&E 染色劑染色且藉由光學顯微術檢查。由針對治療組盲化之研究者利用影像分析來量測每個切片視網膜脫落之平均長度。計算脫落視網膜之百分比。

向每一測試組中之 5 隻小鼠單獨注射 DVD-Ig 試劑。在注射 DVD-Ig-1 之眼睛中，兩個未脫落且三個部分脫落，而在未經注射之眼睛中，三個眼睛完全脫落且兩個部分脫落。在注射 DVD-Ig-3 之眼睛中，一個未脫落，兩個部分脫落，且兩個完全脫落，而所有未經注射之眼睛皆完全脫落。在注射 DVD-Ig-2 之眼睛中，一個未脫落且四個完全脫落，而在未經注射之眼睛中，一個眼睛部分脫落且四個眼睛完全脫落。在 IgG 對照組中，一個經注射眼睛未脫落，一個眼睛部分脫落，且三個眼睛完全脫落，而在未經注射之眼睛中，所有眼睛完全脫落。圖 7。

因此，DVD-Ig-1 及 DVD-Ig-3 關於所量測參數似乎發揮至少與抗 VEGF mAb 及抗 PDGF mAb 之組合同樣好之作用，同時需要僅投與一種化合物

實例 17：最佳應用於眼部疾病之不同分子格式之產生及鑑別

在用於治療濕性 AMD 之治療性生物劑之設計中考慮若干屬性：

PK、效能及投與頻率：較長眼部持續時間可支持較不頻繁的玻

璃體內注射。所投與分子之粒徑可在確定眼部半衰期中起作用。此係由在人類及實驗動物中具有較大分子粒徑之當前抗 VEGF 劑的一致地較長眼部半衰期支持。在 Rho/huVEGF 及 tet/huVEGF 轉基因小鼠二者中，分子粒徑大於蘭尼單抗(ranibizumab) (49 kDa)之貝伐珠單抗 (bevacizumab) (150 kDa)看上去亦具有更穩健之效能持續時間，該兩種模型用於臨床前效能。

FcRn 及 FcγR 結合及安全性：對血清中 IgG 分子之長循環半衰期起作用之 Fc 新生受體(FcRn)在確定眼部半衰期方面可起或可不起重要作用。然而，具有野生型 FcRn 結合之分子將具有長全身半衰期且可增加安全性風險，此歸因於玻璃體內注射之分子之不必要的全身暴露。亦應理解 FcRn 在 IgG 跨越血液-視網膜屏障主動流出方面起作用。此可縮短玻璃體內注射分子之眼部滯留時間。抗濕性 AMD 劑之效能無需效應物功能。但 VEGF-A 及 PDGF-BB 二者在其最初合成並分泌時可與細胞外基質締合。因此，ECM 締合之 VEGF-A 及 PDGF-BB 可潛在地調介效應物功能。

親和力、化合價及功效：VEGF-A 及 PDGF-BB 二者係同二聚分子。若將類似於蘭尼單抗(Fab)之單價分子格式用於靶向 VEGF 及 PDGF 之雙特異性分子來治療濕性 AMD，則可能需要高親和力來維持 VEGF-A 及 PDGF-BB 二者之結合及強效中和。

可製造性：任一活力格式需要具有可接受之表現、純化、調配性質以適應 DS 及 DP 製造。

多種本文所揭示之結合蛋白格式可滿足該等特徵：

(1) 全長 DVD-Ig [L234A、L235A] (200 kDa，缺少與 FcγR 之結合)

(2) 全長 DVD-Ig [L234A、L235A、H435A] (200 kDa，缺少與 FcγR 及 FcRn 之結合)

- (3) 半 DVD-Ig (100 kDa, 缺少與 FcγR 及 FcRn 之結合)
- (4) DVD-Fab (75 kDa, 無 Fc)

實例 17.1：多種分子格式(包括 DVD-Ig [L234A、L235A]、DVD-Ig [L234A、L235A 及 H435A]、DVD-Ig [L234A、L235A 及 H435R]、半 DVD-Ig 及 DVD-Fab)之產生

此實例評估 Fc 突變對 DVD-Ig 結合蛋白之 PK 性質之影響。使用 DVD-038 作為工具分子來研究多種 DVD-Ig 格式，包括半 DVD-Ig (DVD038 [L234A、L235A]半 DVD)、具有三個恆定結構域突變之完整 DVD-Ig 結合蛋白(DVD038 [L234A、L235A 及 H435A]及 DVD038 [L234A、L235A 及 H435R])及具有兩個恆定結構域突變之完整 DVD-Ig 結合蛋白(DVD038 [L234A、L235A])。使用以下數據來評估產生具有良好類藥性之 VEGF/PDGF 結合蛋白結構且展現高眼部持續時間但低體循環的選擇。DVD038 係結合 HER2 及 VEGF 之雙可變結構域結合蛋白。

為製備 DVD038 之突變體，使用引子經設計以包括期望突變之重疊 PCR。將 PCR 產物消化並連接至選殖載體中。使用業內已知之標準方案，實施細菌轉變以鑑別陽性純系且收穫構築體並純化用於哺乳動物轉染中。

將所有變體以 60%對 40%輕鏈對重鏈構築體之比率瞬時轉染至 Wave 袋中之 10L HEK 293 6E 懸浮細胞培養物中。使用 0.5 mg/mL PEI 來轉染細胞。在 11 天後藉由在 16000g 下離心 20 分鐘收穫上清液，然後使用 Pall 血清膠囊及 Pall AcroPak 1000 過濾。在 MabSelectSuRe 樹脂(GE Healthcare, 17-5438-04)上純化除 DVD-Fab 外之全部變體。用 PBS (pH 7.4)平衡後，將上清液裝載於樹脂上且用 PBS (pH 7.4)洗滌。用 50 mM 甘胺酸、50 mM NaCl (pH 3.5)溶析 DVD-Ig 蛋白。使用蛋白質 G Sepharose 4 FF 樹脂(GE Healthcare, 17-

0618-04)純化 DVD-Fab。用 Immunopure IgG 溶析緩衝液(Pierce, 185 1520)實施溶析。彙集含有 DVD-Ig 之部分且在 4°C 下在 30 mM 組胺酸(pH 6)、8%蔗糖中透析過夜。

實例 17.2：多種格式與不同物種之 FcRn 之結合

如實例 1.2 中所述，分析 DVD038 之所有變體(不具 Fc 區之 DVD038 Fab 除外)與不同物種之 FcRn 結合之能力。數據概述於下表 91 中。

表 91. 多種格式與不同物種之 FcRn 之結合

檢品	公司 ID	Hu FcRn	食蟹 猴 FcRn	兔 FcRn	大鼠 FcRn		
		KD (M)	KD (M)	KD (M)	ka (1/Ms)	kd (1/s)	KD (M)
DVD038 (L234A、 L235A)半 DVD-Ig	PR- 1578399	6.26E- 06	3.13E- 06	6.76E- 07	3.06E+ 04	2.57E- 02	8.40E- 07
DVD038 (L234A、 L235A、 H435R)	PR- 1564681	7.96E- 06	2.57E- 06	3.98E- 07	5.15E+ 04	5.53E- 02	1.07E- 06
DVD038 (L234A、 L235A)	PR- 1565009	4.90E- 06	1.74E- 06	2.75E- 07	3.66E+ 04	1.94E- 02	5.31E- 07
DVD038 (L234A、 L235A、 H435A)	PR- 1565689	NSB	NSB	NSB	NSB		

賀癌平 (HERCEPTIN)	-	4.53E-06	2.62E-06	4.69E-07	3.27E+04	1.81E-02	5.55E-07
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* NSB = 無顯著結合

實例 17.3：靜脈內投與 huFcRn 轉基因小鼠中之不同格式之藥物動力學性質

根據 Abbott IACUC 指導方針來實施研究。藉由緩慢靜脈內濃注射劑量注射將 DVD038 (L234A、L235A) (PR-1565009)、DVD038 (L234A、L235A、H435R) (PR-1564681)及 DVD038 (L234A、L235A、H435A) (PR-1565689)以 6.7 mg/kg 投與 huFcRn 轉基因小鼠(5 隻/組)。在投藥後 1 小時、24 小時及 96 小時以及 7 天、10 天、14 天及 21 天自每一小鼠收集血液樣品。將所有樣品儲存在 -80°C 下直至分析。使用 Meso Scale Discovery (MSD)電致化學發光(ECL)配體結合分析來量測 DVD-Ig 血清濃度。將生物素化 VEGF 配體塗覆至鏈黴抗生物素蛋白 MSD 板上用於自血液樣品捕獲抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子，且用帶磺基標籤之山羊抗人類 IgG 抗體達成檢測。藉由四參數邏輯擬合使用 XLfit4 來計算濃度。利用非分室分析使用管控及分析用藥物動力學實驗室自動化軟體(PLASMA) (2.6.12 版，SParCS, AbbVie) 來計算藥物動力學參數。

表 92. huFcRn 轉基因小鼠中之 PK

檢品	公司 ID	T1/2 (d)	CL (mL/h/kg)
DVD038 (L234A、L235A)	PR-1565009	2.8	0.81
DVD038 (L234A、L235A、H435R)	PR-1564681	1.8	1.25
DVD038 (L234A、L235A、H435A)	PR-1565689	0.6	1.58

結果展示在 huFcRn 轉基因小鼠中對具有降低的或缺少 Fc 結合之 DVD 構築體增加的清除率及較短半衰期的趨勢。

實例 17.4：靜脈內投與 CD-1 小鼠中之不同格式之藥物動力學性質

根據 Abbott IACUC 指導方針來實施研究。藉由緩慢靜脈內濃注射劑量注射將 DVD038 (L234A、L235A) (PR-1565009)、DVD038 (L234A、L235A、H435R) (PR-1564681)、DVD038 (L234A、L235A、H435A) (PR-1565689)、DVD038 半 DVD-Ig (L234A、L235A) (PR-1578399)及 DVD-Fab (PR-1574215)以 6.7 mg/kg 投與 CD-1 小鼠(5 隻/組)。在投藥後 1 小時、24 小時及 96 小時以及 7 天、10 天、14 天及 21 天自每一小鼠收集血液樣品。將所有樣品儲存在-80°C 下直至分析。使用 Meso Scale Discovery (MSD)電致化學發光(ECL)配體結合分析來量測 DVD-Ig 血清濃度。將生物素化 VEGF 配體塗覆至鏈黴抗生物素蛋白 MSD 板上用於自血液樣品捕獲抗 VEGF-A/抗 PDGF-BB DVD-Ig 分子，且用帶磺基標籤之山羊抗人類 IgG 抗體達成檢測。藉由四參數邏輯擬合使用 XLfit4 來計算濃度。利用非分室分析使用管控及分析用藥物動力學實驗室自動化軟體(PLASMA) (2.6.12 版，SParCS, AbbVie)來計算藥物動力學參數。

表 93. CD-1 小鼠中之 PK

檢品	公司 ID	T1/2 (d)	CL (mL/h/kg)
DVD038 (L234A、L235A)	PR-1565009	7.6	0.46
DVD038 (L234A、L235A、H435R)	PR-1564681	6.4	0.29
DVD038 (L234A、L235A、H435A)	PR-1565689	2.7	0.73
DVD038 半 DVD-Ig (L234A、L235A)	PR-1578399	0.4	8.86
DVD038 DVD-Fab	PR-1574215	0.2	20.76

結果展示在 CD-1 小鼠中對具有降低的或缺少 Fc 結合之 DVD 構築體增加的清除率及較短半衰期的趨勢。由免疫球蛋白結構之片段構成之分子清除最快。

實例 17.5：玻璃體內投與兔中之不同格式之藥物動力學性質

根據 AbbVie IACUC 指導方針來實施研究。將雌性新西蘭白兔用

於以下格式之眼部藥物動力學表徵：DVD038 (PR-1565009，批號 2131983)、DVD038 H435A (PR-1565689，批號 2131481)、DVD038 Dhab (PR-1578399，批號 2149586)及 DVDFab (PR-1574215，批號 2143755)。將動物(4 隻動物)劃分成兩個兩者隊列用於測定眼部藥物動力學。在投藥後 48 小時、168 小時、336 小時及 504 小時獲取房水樣品。其中隊列 1 提供投藥後 48 小時及 168 小時之樣品，且隊列 2 提供投藥後 336 小時及 504 小時之樣品。根據房水中之濃度確定眼睛中之藥物含量。亦在投藥後 4 小時、24 小時、48 小時、72 小時、120 小時及 168 小時自所有動物收集、且在 336 小時及 504 小時自隊列 2 動物收集用於收穫用來估計玻璃體投藥後之全身暴露之血清的血液樣品。將檢品以 0.50 mg/眼睛及不大於 0.050 mL 之體積投至玻璃體分室中。僅向每一動物之右眼投藥。在投藥之前，用甲苯噻嗪/氯胺酮麻醉動物。藉由首先施用局部鎮痛滴劑(普魯卡因 HCl 眼用溶液，0.5%)來使眼睛做準備，然後在注射之前用飽和聚維酮-碘拭子條(等效於 1%有效碘之 10%溶液)擦拭注射位點。用 26 號針投與玻璃體內劑量。注射之進入點為距邊緣 1-2 mm 穿過鞏膜。注射後，將無菌眼棉置於注射位點上且保持 30 秒以防止滲漏。將動物麻醉以收集房水。在投藥後之所選時間點，使用穿過角膜插入之 30 號針收集房水。針前進剛經過斜面且收集房水。樣品在每個取樣時段提供約 0.05-0.1 mL 房水。在投藥後之所選時間點，自耳靜脈或動脈獲得血液樣品。藉由視需要施加人工壓力及局部凝血因子或組織膠來達成收集後止血。樣品之體積為 0.5-1 ml，且允許凝固以收穫血清。將房水、玻璃體及血清樣品儲存在-80°C 下，且提交用於藥物含量測定。

使用 GYROS 或 MSD 方法量測該等分子之血清及房水濃度。GYROS 採用生物素化 VEGF 配體來捕獲及 Alexa Flour 647 山羊抗人類 IgG 檢測。MSD 採用生物素化 VEGF 配體來捕獲及帶磺基標籤之

山羊抗人類 IgG 或帶磺基標籤之 VEGF 來檢測。結果在兩種方法之間相當。藉由四參數邏輯擬合使用 XLfit4 來計算濃度。利用非分室分析使用管控及分析用藥物動力學實驗室自動化軟體(PLASMA) (2.6.12 版, SParCS, AbbVie)來計算藥物動力學參數。實驗結果顯示於表 94 中。

表 94. 來自房水分析之兔中眼部半衰期

檢品	公司 ID	半衰期
DVD038 (L234A、L235A)	PR-1565009	151
DVD038 (L234A、L235A、H435A)	PR-1565689	157
DVD038 半 DVD-Ig (L234A、L235A)	PR-1578399	90
DVD038 DVD-Fab	PR-1574215	110

對每一劑量值下多個動物之複合特徵實施所彙集數據集之群體分析。分析提供之參數估計具有合理可變性(CV<30%)。較大分子量構築體顯示朝向較長眼部半衰期之弱趨勢。

表 95. 實例性 DVD-Ig 結合蛋白及組份亞單位

SEQ ID NO	DVD-Ig	外部 VD 名稱	連接體	內部 VD 名稱
45	PR-1563988H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	GS-H10	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)
46	PR-1563988L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	GS-L10	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)
47	PR-1563990H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	HG-短	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)
48	PR-1563990L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	LK-短	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)

49	PR-1563998H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	HG-短	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)
50	PR-1563998L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	LK-長	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)
51	PR-1564009H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	HG-長	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)
51	PR-1564009L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	LK-短	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)
53	PR-1564010H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
54	PR-1564010L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	GS-L10	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
55	PR-1564011H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	HG-短	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
56	PR-1564011L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	LK-短	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
57	PR-1564012H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	HG-短	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
58	PR-1564012L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	LK-長	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)

59	PR-1564013H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	HG-長	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
60	PR-1564013L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	LK-短	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
61	PR-1564883H (DVD3896H)a	hBDI-5H1.9 VH (PDGF) (SEQ ID NO: 3)	HG-短	hBDB-4G8.13 VH (VEGF) (SEQ ID NO: 19)
62	PR-1564883L (DVD3896L)a	hBDI-5H1.9 VL (PDGF) (SEQ ID NO: 4)	LK-長	hBDB-4G8.13 VL (VEGF) (SEQ ID NO: 20)
63	PR-1564893H (DVD3897H)a	hBDI-5H1.9 VH (PDGF) (SEQ ID NO: 3)	HG-短	hBDB-4G8.14 VH (VEGF) (SEQ ID NO: 21)
64	PR-1564893L (DVD3897L)a	hBDI-5H1.9 VL (PDGF) (SEQ ID NO: 4)	LK-長	hBDB-4G8.14 VL (VEGF) (SEQ ID NO: 22)
209	PR-1564896H (DVD3898H)a	hBDI-5H1.9 VH (PDGF) (SEQ ID NO: 3)	HG-短	hBDB-4G8.15 VH (VEGF) (SEQ ID NO: 23)
65	PR-1564896L (DVD3898L)a	hBDI-5H1.9 VL (PDGF) (SEQ ID NO: 4)	LK-長	hBDB-4G8.15 VL (VEGF) (SEQ ID NO: 24)
66	PR-1564898H (DVD3899H)a	hBDI-5H1.12 VH (PDGF) (SEQ ID NO: 211)	HG-短	hBDB-4G8.14 VH (VEGF) (SEQ ID NO: 21)
67	PR-1564898L (DVD3899L)a	hBDI-5H1.12 VL (PDGF) (SEQ ID NO: 212)	LK-長	hBDB-4G8.14 VL (VEGF) (SEQ ID NO: 22)

68	PR-1564899H (DVD3900H)a	hBDI-5H1.12 VH (PDGF) (SEQ ID NO: 211)	HG-短	hBDB-4G8.15 VH (VEGF) (SEQ ID NO: 23)
69	PR-1564899L (DVD3900L)a	hBDI-5H1.12 VL (PDGF) (SEQ ID NO: 212)	LK-長	hBDB-4G8.15 VL (VEGF) (SEQ ID NO: 24)
70	PR-1565023H (DVD3901H)a	hBDI-9E8.9 VH (PDGF) (SEQ ID NO: 7)	HG-短	hBDB-4G8.13 VH (VEGF) (SEQ ID NO: 19)
71	PR-1565023L (DVD3901L)a	hBDI-9E8.9 VL (PDGF) (SEQ ID NO: 8)	LK-長	hBDB-4G8.13 VL (VEGF) (SEQ ID NO: 20)
72	PR-1565029H (DVD3902H)a	hBDI-9E8.9 VH (PDGF) (SEQ ID NO: 7)	HG-短	hBDB-4G8.14 VH (VEGF) (SEQ ID NO: 21)
73	PR-1565029L (DVD3902L)a	hBDI-9E8.9 VL (PDGF) (SEQ ID NO: 8)	LK-長	hBDB-4G8.14 VL (VEGF) (SEQ ID NO: 22)
74	PR-1565030H (DVD3903H)a	hBDI-9E8.9 VH (PDGF) (SEQ ID NO: 7)	HG-短	hBDB-4G8.15 VH (VEGF) (SEQ ID NO: 23)
75	PR-1565030L (DVD3903L)a	hBDI-9E8.9 VL (PDGF) (SEQ ID NO: 8)	LK-長	hBDB-4G8.15 VL (VEGF) (SEQ ID NO: 24)
76	PR-1565031H (DVD3904H)a	hBDI-9E8.12 VH (PDGF) (SEQ ID NO: 9)	HG-短	hBDB-4G8.14 VH (VEGF) (SEQ ID NO: 21)
77	PR-1565031L (DVD3904L)a	hBDI-9E8.12 VL (PDGF) (SEQ ID NO: 10)	LK-長	hBDB-4G8.14 VL (VEGF) (SEQ ID NO: 22)

78	PR-1565032H (DVD3905H)a	hBDI-9E8.12 VH (PDGF) (SEQ ID NO: 5)	HG-短	hBDB-4G8.15 VH (VEGF) (SEQ ID NO: 23)
79	PR-1565032L (DVD3905L)a	hBDI-9E8.12 VL (PDGF) (SEQ ID NO: 6)	LK-長	hBDB-4G8.15 VL (VEGF) (SEQ ID NO: 24)
80	PR-1565035H (DVD3906H)a	hBDI-5H1.10 VH (PDGF) (SEQ ID NO: 9)	HG-短	hBDB-4G8.15 VH (VEGF) (SEQ ID NO: 23)
81	PR-1565035L (DVD3906L)a	hBDI-5H1.10 VL (PDGF) (SEQ ID NO: 10)	LK-長	hBDB-4G8.15 VL (VEGF) (SEQ ID NO: 24)
82	PR-1565033H (DVD3907H)a	hBDI-9E8.10 VH (PDGF) (SEQ ID NO: 9)	HG-短	hBDB-4G8.15 VH (VEGF) (SEQ ID NO: 23)
83	PR-1565033L (DVD3907L)a	hBDI-9E8.10 VL (PDGF) (SEQ ID NO: 10)	LK-長	hBDB-4G8.15 VL (VEGF) (SEQ ID NO: 24)
84	PR-1569574H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	GS-H10	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)
85	PR-1569574L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	GS-L10	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)
86	PR-1569579H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	HG-短	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)
87	PR-1569579L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	LK-長	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)

88	PR-1572102H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
89	PR-1572102L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	GS-L10	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
90	PR-1572103H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
91	PR-1572103L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	GS-L11	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
92	PR-1572104H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
93	PR-1572104L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	GS- L10(dR)	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
94	PR-1572105H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	HG-短	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
95	PR-1572105L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	LK-長	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
96	PR-1572106H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	HG-長	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
97	PR-1572106L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	LK-短	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)

210	PR-1575573H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	HG-長	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)
98	PR-1575573L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	LK-短	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)
99	PR-1575832H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	GS-H10	hBDI-9E8.4E VH (PDGF) (SEQ ID NO: 11)
100	PR-1575832L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	GS-L10	hBDI-9E8.4E VL (PDGF) (SEQ ID NO: 12)
101	PR-1575834H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	HG-短	hBDI-9E8.4E VH (PDGF) (SEQ ID NO: 11)
102	PR-1575834L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	LK-長	hBDI-9E8.4E VL (PDGF) (SEQ ID NO: 12)
103	PR-1575835H	hBDB-4G8.3 VH (VEGF) (SEQ ID NO: 17)	HG-長	hBDI-9E8.4E VH (PDGF) (SEQ ID NO: 11)
104	PR-1575835L	hBDB-4G8.3 VL (VEGF) (SEQ ID NO: 18)	LK-短	hBDI-9E8.4E VL (PDGF) (SEQ ID NO: 12)
105	PR-1577165H	hBEW-9A8.12 VH (VEGF) (SEQ ID NO: 25)	GS-H10	hBDI-9E8.4E VH (PDGF) (SEQ ID NO: 11)
106	PR-1577165L	hBEW-9A8.12 VL (VEGF) (SEQ ID NO: 26)	GS-L10	hBDI-9E8.4E VL (PDGF) (SEQ ID NO: 12)

107	PR-1577166H	hBEW-9A8.12 VH (VEGF) (SEQ ID NO: 25)	HG-短	hBDI-9E8.4E VH (PDGF) (SEQ ID NO: 11)
108	PR-1577166L	hBEW-9A8.12 VL (VEGF) (SEQ ID NO: 26)	LK-長	hBDI-9E8.4E VL (PDGF) (SEQ ID NO: 12)
109	PR-1577547H	hBEW-9A8.12 VH (VEGF) (SEQ ID NO: 25)	HG-長	hBDI-9E8.4E VH (PDGF) (SEQ ID NO: 11)
110	PR-1577547L	hBEW-9A8.12 VL (VEGF) (SEQ ID NO: 26)	LK-短	hBDI-9E8.4E VL (PDGF) (SEQ ID NO: 12)
111	PR-1577548H	hBDI-9E8.4E VH (PDGF) (SEQ ID NO: 11)	HG-短	hBEW-9A8.12 VH (VEGF) (SEQ ID NO: 25)
112	PR-1577548L	hBDI-9E8.4E VL (PDGF) (SEQ ID NO: 12)	LK-長	hBEW-9A8.12 VL (VEGF) (SEQ ID NO: 26)
113	PR-1577550H	hBDI-9E8.4E VH (PDGF) (SEQ ID NO: 11)	HG-長	hBEW-9A8.12 VH (VEGF) (SEQ ID NO: 25)
114	PR-1577550L	hBDI-9E8.4E VL (PDGF) (SEQ ID NO: 12)	LK-短	hBEW-9A8.12 VL (VEGF) (SEQ ID NO: 26)
115	PR-1578137H	hBDI-9E8.4E VH (PDGF) (SEQ ID NO: 11)	GS-H10	hBEW-9A8.12 VH (VEGF) (SEQ ID NO: 25)
116	PR-1578137L	hBDI-9E8.4E VL (PDGF) (SEQ ID NO: 12)	GS-L10	hBEW-9A8.12 VL (VEGF) (SEQ ID NO: 26)

117	PR-1598261H	hBDB-4G8.2 VH (VEGF) (SEQ ID NO: 27)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
118	PR-1598261L	hBDB-4G8.2 VL (VEGF) (SEQ ID NO: 28)	GS-L10	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
119	PR-1598262H	hBDB-4G8.4 VH (VEGF) (SEQ ID NO: 29)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
120	PR-1598262L	hBDB-4G8.4 VL (VEGF) (SEQ ID NO: 30)	GS-L10	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
121	PR-1598263H	hBDB-4G8.5 VH (VEGF) (SEQ ID NO: 31)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
122	PR-1598263L	hBDB-4G8.5 VL (VEGF) (SEQ ID NO: 32)	GS-L10	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
123	PR-1598264H	hBDB-4G8.12 VH (VEGF) (SEQ ID NO: 33)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
124	PR-1598264L	hBDB-4G8.12 VL (VEGF) (SEQ ID NO: 34)	GS-L10	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
125	PR-1598265H	hBDB-4G8.13 VH (VEGF) (SEQ ID NO: 19)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
126	PR-1598265L	hBDB-4G8.13 VL (VEGF) (SEQ ID NO: 20)	GS-L10	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)

127	PR-1598266H	hBDB-4G8.14 VH (VEGF) (SEQ ID NO: 21)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
128	PR-1598266L	hBDB-4G8.14 VL (VEGF) (SEQ ID NO: 22)	GS-L10	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
129	PR-1610560H	hBDB-4G8.5 VH (VEGF) (SEQ ID NO: 31)	GS-H10	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)
130	PR-1610560L	hBDB-4G8.5 VL (VEGF) (SEQ ID NO: 32)	GS- L10(dR)	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)
131	PR-1610561H	hBEW-9E10.1 VH (VEGF) (SEQ ID NO: 35)	GS-H10	CL-33675 VH (PDGF) (SEQ ID NO: 15)
132	PR-1610561L	hBEW-9E10.1 VL (VEGF) (SEQ ID NO: 36)	GS- L10(dR)	CL-33675 VL (PDGF) (SEQ ID NO: 16)
133	PR-1610562H	hBEW-9E10.1 VH (VEGF) (SEQ ID NO: 35)	GS-H10	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)
134	PR-1610562L	hBEW-9E10.1 VL (VEGF) (SEQ ID NO: 36)	GS- L10(dR)	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)
135	PR-1610563H	hBEW-9E10.6 VH (VEGF) (SEQ ID NO: 37)	GS-H10	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)
136	PR-1610563L	hBEW-9E10.6 VL (VEGF) (SEQ ID NO: 38)	GS- L10(dR)	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)

137	PR-1610564H	hBEW-1B10.1 VH (VEGF) (SEQ ID NO: 39)	GS-H10	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)
138	PR-1610564L	hBEW-1B10.1 VL (VEGF) (SEQ ID NO: 40)	GS- L10(dR)	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)
139	PR-1611291H	hBDB-4G8.5 VH (VEGF) (SEQ ID NO: 31)	GS-H10	CL-33675 VH (PDGF) (SEQ ID NO: 15)
140	PR-1611291L	hBDB-4G8.5 VL (VEGF) (SEQ ID NO: 32)	GS- L10(dR)	CL-33675 VL (PDGF) (SEQ ID NO: 16)
141	PR-1611292H	hBEW-1B10.1 VH (VEGF) (SEQ ID NO: 39)	GS-H10	CL-33675 VH (PDGF) (SEQ ID NO: 15)
142	PR-1611292L	hBEW-1B10.1 VL (VEGF) (SEQ ID NO: 40)	GS- L10(dR)	CL-33675 VL (PDGF) (SEQ ID NO: 16)
143	PR-1611293H	hBEW-1E3.4 VH (VEGF) (SEQ ID NO: 41)	GS-H10	CL-33675 VH (PDGF) (SEQ ID NO: 15)
144	PR-1611293L	hBEW-1E3.4 VL (VEGF) (SEQ ID NO: 42)	GS- L10(dR)	CL-33675 VL (PDGF) (SEQ ID NO: 16)
145	PR-1611294H	hBEW-1E3.4 VH (VEGF) (SEQ ID NO: 41)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
146	PR-1611294L	hBEW-1E3.4 VL (VEGF) (SEQ ID NO: 42)	GS- L10(dR)	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)

147	PR-1611295H	CL-33675 VH (PDGF) (SEQ ID NO: 15)	GS-H10	hBEW-9E10.1 VH (VEGF) (SEQ ID NO: 35)
148	PR-1611295L	CL-33675 VL (PDGF) (SEQ ID NO: 16)	GS- L10(dR)	hBEW-9E10.1 VL (VEGF) (SEQ ID NO: 36)
149	PR-1611296H	CL-33675 VH (PDGF) (SEQ ID NO: 15)	GS-H10	hBEW-9E10.6 VH (VEGF) (SEQ ID NO: 37)
150	PR-1611296L	CL-33675 VL (PDGF) (SEQ ID NO: 16)	GS- L10(dR)	hBEW-9E10.6 VL (VEGF) (SEQ ID NO: 38)
151	PR-1611297H	CL-33675 VH (PDGF) (SEQ ID NO: 15)	GS-H10	hBEW-1E3.4 VH (VEGF) (SEQ ID NO: 41)
152	PR-1611297L	CL-33675 VL (PDGF) (SEQ ID NO: 16)	GS- L10(dR)	hBEW-1E3.4 VL (VEGF) (SEQ ID NO: 42)
153	PR-1611298H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	GS-H10	hBEW-9E10.1 VH (VEGF) (SEQ ID NO: 35)
154	PR-1611298L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	GS- L10(dR)	hBEW-9E10.1 VL (VEGF) (SEQ ID NO: 36)
155	PR-1611299H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	GS-H10	hBEW-9E10.6 VH (VEGF) (SEQ ID NO: 37)
156	PR-1611299L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	GS- L10(dR)	hBEW-9E10.6 VL (VEGF) (SEQ ID NO: 38)

157	PR-1611300H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	GS-H10	hBEW-1B10.1 VH (VEGF) (SEQ ID NO: 39)
158	PR-1611300L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	GS- L10(dR)	hBEW-1B10.1 VL (VEGF) (SEQ ID NO: 40)
159	PR-1611301H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	GS-H10	hBEW-1E3.4 VH (VEGF) (SEQ ID NO: 41)
160	PR-1611301L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	GS- L10(dR)	hBEW-1E3.4 VH (VEGF) (SEQ ID NO: 42)
161	PR-1612489H	hBDB-4G8.5 VH (VEGF) (SEQ ID NO: 31)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
162	PR-1612489L	hBDB-4G8.5 VL (VEGF) (SEQ ID NO: 32)	GS- L10(dR)	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
163	PR-1612491H	hBEW-9E10.1 VH (VEGF) (SEQ ID NO: 35)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
164	PR-1612491L	hBEW-9E10.1 VL (VEGF) (SEQ ID NO: 36)	GS- L10(dR)	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
165	PR-1612492H	hBEW-9E10.6 VH (VEGF) (SEQ ID NO: 37)	GS-H10	CL-33675 VH (PDGF) (SEQ ID NO: 15)
166	PR-1612492L	hBEW-9E10.6 VL (VEGF) (SEQ ID NO: 38)	GS- L10(dR)	CL-33675 VL (PDGF) (SEQ ID NO: 16)

167	PR-1612493H	hBEW-9E10.6 VH (VEGF) (SEQ ID NO: 37)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
168	PR-1612493L	hBEW-9E10.6 VL (VEGF) (SEQ ID NO: 38)	GS- L10(dR)	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
169	PR-1612494H	hBEW-1B10.1 VH (VEGF) (SEQ ID NO: 39)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
170	PR-1612494L	BEW-1B10.1 VL (VEGF) (SEQ ID NO: 40)	GS- L10(dR)	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
171	PR-1612495H	hBEW-1E3.4 VH (VEGF) (SEQ ID NO: 41)	GS-H10	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)
172	PR-1612495L	hBEW-1E3.4 VL (VEGF) (SEQ ID NO: 42)	GS- L10(dR)	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)
173	PR-1612496H	CL-33675 VH (PDGF) (SEQ ID NO: 15)	GS-H10	hBDB-4G8.5 VH (VEGF) (SEQ ID NO: 31)
174	PR-1612496L	CL-33675 VL (PDGF) (SEQ ID NO: 16)	GS- L10(dR)	hBDB-4G8.5 VL (VEGF) (SEQ ID NO: 32)
175	PR-1612498H	CL-33675 VH (PDGF) (SEQ ID NO: 15)	GS-H10	hBEW-1B10.1 VH (VEGF) (SEQ ID NO: 39)
176	PR-1612498L	CL-33675 VL (PDGF) (SEQ ID NO: 16)	GS- L10(dR)	hBEW-1B10.1 VL (VEGF) (SEQ ID NO: 40)

177	PR-1612499H	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)	GS-H10	hBDB-4G8.5 VH (VEGF) (SEQ ID NO: 31)
178	PR-1612499L	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)	GS- L10(dR)	hBDB-4G8.5 VL (VEGF) (SEQ ID NO: 32)
179	PR-1612500H	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)	GS-H10	hBEW-9E10.1 VH (VEGF) (SEQ ID NO: 35)
180	PR-1612500L	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)	GS- L10(dR)	hBEW-9E10.1 VL (VEGF) (SEQ ID NO: 36)
181	PR-1612501H	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)	GS-H10	hBEW-9E10.6 VH (VEGF) (SEQ ID NO: 37)
182	PR-1612501L	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)	GS- L10(dR)	hBEW-9E10.6 VL (VEGF) (SEQ ID NO: 38)
183	PR-1612502H	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)	GS-H10	hBEW-1B10.1 VH (VEGF) (SEQ ID NO: 39)
184	PR-1612502L	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)	GS- L10(dR)	hBEW-1B10.1 VL (VEGF) (SEQ ID NO: 40)
185	PR-1613183H	CL-34565 VH (VEGF) (SEQ ID NO: 43)	GS-H10	CL-33675 VH (PDGF) (SEQ ID NO: 15)
186	PR-1613183L	CL-34565 VL (VEGF) (SEQ ID NO: 44)	GS- L10(dR)	CL-33675 VL (PDGF) (SEQ ID NO: 16)

187	PR-1613184H	CL-34565 VH (VEGF) (SEQ ID NO: 43)	GS-H10	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)
188	PR-1613184L	CL-34565 VL (VEGF) (SEQ ID NO: 44)	GS- L10(dR)	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)
189	PR-1613185H	CL-34565 VH (VEGF) (SEQ ID NO: 43)	GS-H10	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)
190	PR-1613185L	CL-34565 VL (VEGF) (SEQ ID NO: 44)	GS- L10(dR)	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)
191	PR-1613186H	CL-33675 VH (PDGF) (SEQ ID NO: 15)	GS-H10	CL-34565 VH (VEGF) (SEQ ID NO: 43)
192	PR-1613186L	CL-33675 VL (PDGF) (SEQ ID NO: 16)	GS- L10(dR)	CL-34565 VL (VEGF) (SEQ ID NO: 44)
193	PR-1613187H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	GS-H10	CL-34565 VH (VEGF) (SEQ ID NO: 43)
194	PR-1613187L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	GS- L10(dR)	CL-34565 VL (VEGF) (SEQ ID NO: 44)
195	PR-1613188H	hBDI-9E8.4 VH (PDGF) (SEQ ID NO: 1)	GS-H10	hBDB-4G8.5 VH (VEGF) (SEQ ID NO: 31)
196	PR-1613188L	hBDI-9E8.4 VL (PDGF) (SEQ ID NO: 2)	GS- L10(dR)	hBDB-4G8.5 VL (VEGF) (SEQ ID NO: 32)

197	PR-1613189H	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)	GS-H10	CL-34565 VH (VEGF) (SEQ ID NO: 43)
198	PR-1613189L	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)	GS- L10(dR)	CL-34565 VL (VEGF) (SEQ ID NO: 44)
199	PR-1613190H	hBFU-3E2.1 VH (PDGF) (SEQ ID NO: 13)	GS-H10	hBEW-1E3.4 VH (VEGF) (SEQ ID NO: 41)
200	PR-1613190L	hBFU-3E2.1 VL (PDGF) (SEQ ID NO: 14)	GS- L10(dR)	hBEW-1E3.4 VL (VEGF) (SEQ ID NO: 42)
201	PR-1629646H	hBEW-9E10.1 VH (VEGF) (SEQ ID NO: 35)	HG-短	CL-33675 VH (PDGF) (SEQ ID NO: 15)
202	PR-1629646L	hBEW-9E10.1 VL (VEGF) (SEQ ID NO: 36)	LK-長	CL-33675 VL (PDGF) (SEQ ID NO: 16)
203	PR-1629647H	hBEW-1B10.1 VH (VEGF) (SEQ ID NO: 39)	HG-短	CL-33675 VH (PDGF) (SEQ ID NO: 15)
204	PR-1629647L	hBEW-1B10.1 VL (VEGF) (SEQ ID NO: 40)	LK-長	CL-33675 VL (PDGF) (SEQ ID NO: 16)
205	PR-1629648H	hBEW-9E10.1 VH (VEGF) (SEQ ID NO: 35)	HG-長	CL-33675 VH (PDGF) (SEQ ID NO: 15)
206	PR-1629648L	hBEW-9E10.1 VL (VEGF) (SEQ ID NO: 36)	LK-短	CL-33675 VL (PDGF) (SEQ ID NO: 16)

207	PR-1629649H	hBEW-1B10.1 VH (VEGF) (SEQ ID NO: 39)	HG-長	CL-33675 VH (PDGF) (SEQ ID NO: 15)
208	PR-1629649L	hBEW-1B10.1 VL (VEGF) (SEQ ID NO: 40)	LK-短	CL-33675 VL (PDGF) (SEQ ID NO: 16)

表 96. 實例性 DVD-Ig 結合蛋白之序列

SEQ ID NO	DVD-Ig	序列
45	PR-1563988H	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLTMNMDPVDATATYYCARIESIGTTYSFDYWGQ GTMVTVSSGGGGSGGGGSEVQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVRQAPGQGLEWMGWINTETGKP TYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYC ARTNYYRSYIFYFDYWGQGTMVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEAL HNHYTQKSLSLSPGK

46	PR-1563988L	<p>EFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWY QOKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGGS GGGSGDVTULTQSPATLSSLSPGERATLSCRASESVSTH MHWYQOKPGQAPRLLIYGASNLESGVPARFSGSGSGTD FTLTISSLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSTYLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
47	PR-1563990H	<p>EVTTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDATYYCARIESIGTTYSFYDWGQ GTMVTVSSASTKGPEVQLVQSGSELKKPGASVKVSCKA SGYTFTNYGMYWVRQAPGQGLEWMGWINTETGKPTYAD DFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYRSYIFYFDYWGQGTMTVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSN TKVDDKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVL DSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHY TQKSLSLSPGK</p>

48	PR-1563990L	<p>EFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWY QOKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGTVA APDTVLTQSPATLSSLSPGERATLSCRASESVSTHMHWY QOKPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLT ISSLEPEDFAVYFCQQSWNDPFTFGQGKLEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDYSLSTLTLKADYK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
49	PR-1563998H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDATYYCARIESIGTTYSFDYWGO GTMVTVSSASTKGPEVQLVQSGSELKKPGASVKVSCA SGYTFTNYGMYWVRQAPGQGLEWMGWINTETGKPTYAD DFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYCARTN YYYRSYIFYFDYWGQGTMTVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSQVHTF PAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVVFSCSVMHEALHNHY TQKSLSLSPGK</p>

50	PR-1563998L	<p>EFVLTQSPGTL SLSLSPGERATL SCERSSGDIGDSYVSWY QQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGTVA APSVFIFPPDTVLTQSPATL SLSLSPGERATL SCRASESV STHMHWYQQKPGQAPRL LIYGASNLESGV PARFSGSGS GTDFTLT ISSLEPEDFAVYFCQQSWNDPFTFGQGTKLE IKRTVAAPSVFIFPPSDEQLKSGTASV VCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSK DSTYSL SSSLTL SKADYEKHKVYACEVTHQGLSSPVT KSFNRGEC</p>
51	PR-1564009H	<p>EVTLRESGPALVKPTQTLT LCTFSGFSLSTYGMGVGW IRQPPGKALEWLANI WDDDKY YNPSLKNRLTISKDTS KNQVVL TMTNMDPVD TATYYCARI ESIGTTY SFDYWGO GTMVTVSSASTKGPSVFPLAPEVQLVQSGSELKKPGAS VKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGWINTET GKPTYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAV YYCARTNYYYRSYIFYFDYWGQGTMTVTVSSASTKGPSV FPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVTV PSSSLGTQTYICN VNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPS VFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVMH EALHNHYTQKSLSLSPGK</p>

51	PR-1564009L	<p>EFVLTQSPGTL SLS PGERATL SCERS SSGDIGDSYVSWY QOKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGTVA APDTVLTQSPATL SLS PGERATL SCRASESVSTHMHWY QOKPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLT ISSLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLNNFYBREAKVQWKV DNALQSGNSQESVTEQDSKDYSL SLS STLTL SKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
53	PR-1564010H	<p>EVQLVQSGSELKKPGASVKV SCKASGYTF TNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYRSYIFYFDYWG QGTMTVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDT SKNQVVL TMTNMDPVDTATY YCARIESIGTTY SFDYWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTV PSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSGDGSFFLYSKLTVDKSRWQQGNV FSCSVMHEAL HNHYTQKSL SLS LSPGK</p>

54	PR-1564010L	<p>DTVLTQSPATLSLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRGGSGGG GSGEFVLTQSPGTLSLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKG TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSLSTLTKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
55	PR-1564011H	<p>EVQLVQSGSELKKGASVKVCKASGYTFSTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWG QGTMTVTVSSASTKGPEVTLRSGPALVKPTQTLTLTCT FSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDDDKYY NPSLKNRLTISKDTSKNQVVLTMNMDPVDATATYYCAR IESIGTTYSFYDWGQGTMTVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSCDKHTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVL DSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEALHNHY TQKSLSLSPGK</p>

56	PR-1564011L	<p>DTVLTQSPATLSLSLSPGERATLS CRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGV PARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAAPE FVLTQSPGTL SLSLSPGERATLS CERSSGDIGDSYVSWYQ QKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLTI SRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGTVAA PSVFIFPPSDEQLKSGTASVVCLLN NFYPREAKVQWKV DNALQSGNSQESVTEQDSK DSTYSL SSTLTLSKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
57	PR-1564012H	<p>EVQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFV FSLDTSV STAYLQISSLKAEDTAVYYCARTNYYRSYIFYFDYWG QGTMTVSSASTKGPEVTLRESGPALVKPTQTLTCT FSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDDDKYY NPSLKNRLTISKDT SKNQVVLTMNMDPVD TATYYCAR IESIGTTYSFDYWGQGTMTVSSASTKGPSV FPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNV FSCSVMEALHNHY TQKSLSLSPGK</p>

58	PR-1564012L	<p> DTVLTQSPATLSLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAAPS VFIFPPEFVLTQSPGTLSLSPGERATLSCERSSGDIGD SYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSG TDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVE IKGTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDYSLSTLTL SKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC </p>
59	PR-1564013H	<p> EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYSYIFDYWG QGTMVTVSSASTKGPSVFPLAPEVTLRESGPALVKPTQ TLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQVVLTMNMDPVDT ATYYCARIESIGTTYSFQYWGQGTMVTVSSASTKGPSV FPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICN VNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPS VFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN GKEYKCKVSNKALPAPIEKTIISKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVSMH EALHNHYTQKSLSLSPGK </p>

60	PR-1564013L	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAAPE FVLTQSPGTLSLSPGERATLSCERSSGDIGDSYVSWYQ QKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLTI SRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGTVAA PSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDYSLSSSTLTLSKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
61	PR-1564883H (DVD3896H) a	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTFGMGVGVW IRQPPGKALEWLANIWWDDKYYNPSLKNRLTISKDTS KNQAVLTITNMDPVDTATYYCARISTGISSYYVMDAWG QGTTVTVSSASTKGPEIQLVQSGTEVKKPGESLKI SCK ASGYTFTNYGMYWVKQMPGKGLEMYGWINTETGKPTYA DDFKGRFTFSLDKSFNTAFLQWSSLKASDTAMYFCART NYYYRSYIFYFDYWGQGMVTVSSASTKGPSVFLPLAPS SKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSKVHT FPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC KVSNAKALPAPIEKTI SKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPPV LDSGDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNNH YTQKSLSLSPGK</p>

62	PR-1564883L (DVD3896L) a	DFVLTQSPDSLAVSLGERATINCERSSGDIGDTYVSWY QOKPGQPPKNVIYGNDQRPSGVPDRFSGSGSGNSATLT ISSLQAEDVAVYFCQSYDSDIDIVFGGGTKVEIKGTVA APSVFIFPPETVLTQSPATLSVSPGERATLSCRASESV STHMHWYQOKPGQAPRLLIYGASNLESGVPARFSGSGS GTDFTLTISSLQSEDFAVYFCQQSWNDPFTFGQTRLE IKRTVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKSTYSLSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
63	PR-1564893H (DVD3897H) a	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTFGMGVGV IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQAVLTIITNMDPVDATYYCARISTGISSYYVMDAWG QGTTVTVSSASTKGPEIQLVQSGGGVVQPGGSLRLSCA ASGYTFTNYGMYWVKQAPGKGLEMGWINTETGKPTYA DDFKGRFTFSLDTSKSTAYLQLNSLRAEDTAVYFCART NYYYRSYIFYFDYWGQGLTVTVSSASTKGPSVFPLAPS SKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHT FPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC KVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPV LDSGDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALHNH YTQKSLSLSPGK

64	PR-1564893L (DVD3897L) a	DFVLTQSPDSLAVSLGERATINCERSSSGDIGDTYVSWY QQKPGQPPKNVIYGNDQRPSGVPDRFSGSGSGNSATLT ISSLQAEDVAVYFCQSYDSDIDIVFGGGTKVEIKGTVA APSVFIFPPDTVLTQSPSTLSASPGERATISCRASESV STHMHWYQQKPGQAPKLLIYGASNLESGVPSRFRSGSRS GTDFTLTISSLQPEDFAVYFCQQSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTL SKADYEK
209	PR-1564896H (DVD3898H) a	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTFGMGVGVW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQAVLTITNMDPVDATATYYCARISTGISSYYVMDAWG QGTTVTVSSASTKGPEVQLVESGGGLVQPGGSLRLSCA ASGYTFTNYGMYWVKQAPGKGLEMYGWINTETGKPTYA DDFKGRFTFSLDTSKSTAYLQMNSLRAEDTAVYFCART NYYYRSYIFYFDYWGQGLVTVSSASTKGPSVFPLAPS SKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHT FPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC KVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPPV LDSGDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALHNNH YTQKSLSLSPGK

65	PR-1564896L (DVD3898L) a	DFVLTQSPDSLAVSLGERATINCERSSGDIGDTYVSWY QQKPGQPPKNVIYGNDQRPSGVPDRFSGSGSGNSATLT ISSLQAEDVAVYFCQSYDSDIDIVFGGGTKVEIKGTVA APSVFIFPPDTQLTQSPSSLSASVGDRTVITSCRASESV STHMHWYQQKPGKAPKLLIYGASNLESGVPSRFSGSGS GTDFTLTISSLQPEDFATYFCQQSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDYSTYLSSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
66	PR-1564898H (DVD3899H) a	EVQLVESGGGLVQPGGSLRLSCAFSGFSLSTFGMGVWG IRQAPGKGLEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQAYLQINSLRAEDTAVYYCARISTGISSYYVMDAWG QGTLVTVSSASTKGPEIQLVQSGGGVVQPGGSLRLSCA ASGYTFTNYGMYWVKQAPGKGLEVMGWINTETGKPTYA DDFKGRFTFSLDTSKSTAYLQLNSLRAEDTAVYFCART NYYYSYIFYFDYWGQGTLLVTVSSASTKGPSVFPLAPS SKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHT FPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC KVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPV LDSGDGSFFLYSKLTVDKSRWQQGNVFSQSVMHHEALHNH YTQKSLSLSPGK

67	PR-1564898L (DVD3899L) a	DFQLTQSPSSLSASVGDRTTTCERSSSGDI GDTYVSWY QOKPGKAPKNVIYGNDRPSGVPSRFSGSGSGNSATLT ISSLQPEDFATYFCQSYDS DIDIVFGQGTKVEIKGTVA APSVFIFPPDTVLTQSPSTLSASPGERATISCRASESV STHMHWYQOKPGQAPKLLIYGASNLESGVPSRFSGSRS GTDFTLTISSLQPEDFAVYFCQQSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
68	PR-1564899H (DVD3900H) a	EVQLVESGGGLVQPGGSLRLSCAFSGFSLSTFGMGVGV IRQAPGKGLEWLANIWWDDKYYNPSLKNRLTISKDTS KNQAYLQINSLRAEDTAVYYCARISTGISSYYVMDAWG QGTLVTVSSASTKGPEVQLVESGGGLVQPGGSLRLSCA ASGYTFTNYGMYWVKQAPGKGLEMYGWINTETGKPTYA DDFKGRFTFSLDTSKSTAYLQMNSLRAEDTAVYFCART NYYYRSYIFYFDYWGQGLVTVSSASTKGPSVFPLAPS SKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHT FPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC KVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPV LDS DGSFFLYSKLTVDKSRWQQGNV FSCSVMHEALHNH YTQKSLSLSPGK

69	PR-1564899L (DVD3900L) a	DFQLTQSPSSLSASVGDRVTITCERSSGDIGDTYVSWY QQKPGKAPKNVIYGNDRPSGVPSRFSGSGSGNSATLT ISSLQPEDFATYFCQSYDSDIDIVFGQGTKVEIKGTVA APSVFIFPPDTQLTQSPSSLSASVGDRVTISCRASESV STHMHWYQQKPGKAPKLLIYGASNLESGVPSRFSGSGS GTDFTLTISSLQPEDFATYFCQSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKSTYSLSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
70	PR-1565023H (DVD3901H) a	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQAVLTITNMDPVDATYYCARIESIGTTYSFYDWGQ GTTVTVSSASTKGPEIQLVQSGTEVKKPGESLKISCKA SGYTFITNYGMYWVKQMPGKGLEYMGWINTETGKPTYAD DFKGRFTFSLDKSFNTAFLQWSSLKASDTAMYFCARTN YYRSYIFYFDYWGQGTMTVTVSSASTKGPSVFLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSVHTF PAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSN TKVDDKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEALHNHY TQKSLSLSPGK

71	PR-1565023L (DVD3901L) a	DFVLTQSPDSLAVSLGERATINCERSSSGDIGDSYVSWY QOKPGQPPKNVIYADDQRPSGVPDRFSGSGSGNSASLT ISSLQAEDVAVYFCQSYDINIDIVFGGGTKVEIKGTVA APSVFIFPPETVLTQSPATLSVSPGERATLSCRASESV STHMHWYQOKPGQAPRLLIYGASNLESGVPARFSGSGS GTDFTLTIISSLQSEDFAVYFCQQSWNDPFTFGQGRLE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
72	PR-1565029H (DVD3902H) a	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQAVLTITNMDPVDTATYYCARIESIGTTYSFDYWGQ GTTVTVSSASTKGPEIQLVQSGGGVVQPGGSLRLSCAA SGYTFTNYGMYWVKQAPGKLEMYMGWINTETGKPTYAD DFKGRFTFSLDTSKSTAYLQLNSLRAEDTAVYFCARTN YYRSYIFYFDYWGQGLVTVSSASTKGPSVFLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVFCSSVMHEALHNHY TQKSLSLSPGK

73	PR-1565029L (DVD3902L) a	DFVLTQSPDSLAVSLGERATINCERSSSGDIGDSYVSWY QQKPGQPPKNVIYADDQRPSGVPDRFSGSGSGNSASLT ISSLQAEDVAVYFCQSYDINIDIVFGGGTKVEIKGTVA APSVFIFPPDTVLTQSPSTLSASPGERATISCRASESV STHMHWYQQKPGQAPKLLIYGASNLESGVPSRFSGSR GTDFTLTIISSLQPEDFAVYFCQQSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDYSLSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
74	PR-1565030H (DVD3903H) a	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQAVLTIITNMDPVDTATYYCARIESIGTTYSFDYWGQ GTTVTVSSASTKGPEVQLVESGGGLVQPGGSLRLSCAA SGYFTFTNYGMYWVKQAPGKGLEWMGWINTETGKPTYAD DFKGRFTFSLDTSKSTAYLQMNLSRAEDTAVYFCARTN YYRSYIFYFDYWGQGLVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALHNHY TQKLSLSLSPGK

75	PR-1565030L (DVD3903L) a	DFVLTQSPDSLAVSLGERATINCERSSSGDIGDSYVSWY QOKPGQPPKNVIYADDQRPSGVPDRFSGSGSGNSASLT ISSLQAEDVAVYFCQSYDINIDIVFGGGTKVEIKGTVA APSVFIFPPDTQLTQSPSSLSASVGDRTISCRASESV STHMHWYQOKPGKAPKLLIYGASNLESGVPSRFSGSGS GTDFTLTISSLQPEDFATYFCQQSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
76	PR-1565031H (DVD3904H) a	EVQLVESGGGLVQPGGSLRLSCAFSGFSLSTYGMGVGW IRQAPGKGLEWLANIWWDDKYYPNPSLKNRLTISKDTS KNQAYLQINSLRAEDTAVYYCARIESIGTTYSFDYWGQ GTLVTVSSASTKGPEIQLVQSGGGVVQPGGSLRLSCAA SGYFTFTNYGMYWVKQAPGKGLEMGWINTETGKPTYAD DFKGRFTFSLDTSKSTAYLQLNSLRAEDTAVYFCARTN YYRSYIFYFDYWGQGLVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSN TKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVFSQVCSVMHEALHNHY TQKSLSLSPGK

77	PR-1565031L (DVD3904L) a	DFQLTQSPSSLSASVGDVRTITCERSSGDIGDSYVSWY QQKPGKAPKNVIYADDQRPSGVPSRFSGSGSGNSASLT ISSLQPEDFATYFCQSYDINIDIVFGQGTKVEIKGTVA APSVFIFPPDTVLTQSPSTLSASPGERATISCRASESV STHMHWYQQKPGQAPKLLIYGASNLESGVPSRFSGSRS GTDFTLTISSLQPEDFAVYFCQQSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKSTYSLSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
78	PR-1565032H (DVD3905H) a	EVQLVESGGGLVQPGGSLRLSCLAFSGFSLSTYGMGVGW IRQAPGKGLEWLANIWWDDKYYNPSLKNRLTISKDTS KNQAYLQINSLRAEDTAVYYCARIESIGTTYSFYDWGQ GTLVTVSSASTKGPEVQLVESGGGLVQPGGSLRLSCAA SGYFTFTNYGMYWVKQAPGKGLEYMGWINTETGKPTYAD DFKGRFTFSLDTSKSTAYLQMNSLRAEDTAVYFCARTN YYRSYIFYFDYWGQGTTLVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALHNHY TQKSLSLSPGK

79	PR-1565032L (DVD3905L) a	DFQLTQSPSSLSASVGDRVTITCERSSGDIGDSYVSWY QQKPGKAPKNVIYADDQRPSGVPSRFSGSGSGNSASLT ISSLQPEDFATYFCQSYDINIDIVFGQGTKVEIKGTVA APSVFIFPPDTQLTQSPSSLSASVGDRVTISCRASESV STHMHWYQQKPGKAPKLLIYGASNLESGVPSRFSGSGS GTDFTLTISSLQPEDFATYFCQOSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
80	PR-1565035H (DVD3906H) a	EVTLRESGPALVKPTQTLTLTCTFSGFSLSTFGMGVGVW IRQPPGKALEWLANIWDDDKYYNPSLKNRLTISKDTS KNQAVLTITNMDPVDTATYYCARISTGISSYYVMDAWG QGTTVTVSSASTKGPEVQLVESGGGLVQPGGSLRLSCA ASGYTFTNYGMYWVKQAPGKGLEMYGWINTETGKPTYA DDFKGRFTFSLDTSKSTAYLQMNSLRAEDTAVYFCART NYYYRSYIFYFDYWGQGLVTVSSASTKGPSVFPLAPS SKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHT FPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC KVS NKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPV LDS DGSFFLYSKLTVDKSRWQQGNV FSCSVMHEALH NH YTQKSLSLSPGK

81	PR-1565035L (DVD3906L) a	DFQLTQSPSSLSASVGDRVTITCERSSGDIGDTYVSWY QQKPGKAPKNVIYGNDQRPSGVPSRFSGSGSGNSATLT ISSLQPEDFATYFCQSYDSDIDIVFGQGTKVEIKGTVA APSVFIFPPDTQLTQSPSSLSASVGDRVTISCRASESV STHMHWYQQKPGKAPKLLIYGASNLESGVPSRFSGSGS GTDFTLTISSLQPEDFATYFCQQSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDYSLSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
82	PR-1565033H (DVD3907H) a	EVTTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQAVLTITNMDPVDTATYYCARIESIGTTYSFYDWGQ GTTVTVSSASTKGPEVQLVESGGGLVQPGGSLRLSCAA SGYFTFTNYGMYWVKQAPGKGLEMYGWINTETGKPTYAD DFKGRFTFSLDTSKSTAYLQMNSLRAEDTAVYFCARTN YYRSYIFYFDYWGQGLVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSN TKVDDKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVL DSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEALHNHY TQKSLSLSPGK

83	PR-1565033L (DVD3907L) a	<p>DFQLTQSPSSLSASVGDRVTITCERSSGDIGDSYVSWY QOKPGKAPKNVIYADDQRPSGVPSRFSGSGSGNSASLT ISSLQPEDFATYFCQSYDINIDIVFGQGTKVEIKGTVA APSVFIFPPDTVLTQSPSTLSASPGERATISCRASESV STHMHWYQQKPGQAPKLLIYGASNLESGVPSRFSGSRS GTDFTLTISSLQPEDFAVYFCQQSWNDPFTFGQGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKSTYSLSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
84	PR-1569574H	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYRSYIFYFDYWG QGTMTVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLTMTNMDPVDTATY YCARIESIGTTYSFYDWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEAL HNAYTQKSLSLSPGK</p>

85	PR-1569574L	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRGGSGGG GSGEFVLTQSPGTLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKG TVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
86	PR-1569579H	<p>EVQLVQSGSELKKPGASVKVSCKASGYTF'TNYGMWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWG QGTMTVTVSSASTKGPEVTLRESGPALVKPTQTLTLTCT FSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDDDKYY NPSLKNRLTISKDTSKNQVVLMTNMDPVDATATYYCAR IESIGTTYSFYDWGQGTMTVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSN TKVDDKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVL DSDGSFFLYSKLTVDKSRWQQGNVFSVMSVHEALHNAY TQKSLSLSPGK</p>

87	PR-1569579L	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSSTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAAPS VFIFPPEFVLTQSPGTLSSLSPGERATLSCERSSGDIGD SYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSG TDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVE IKGTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
88	PR-1572102H	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYRSYIFYFDYWG QGTMTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLTMNMDPVDATY YCARIESIGTTYSFQYWGQGTMTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNH KPSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEAL HNAYTQKSLSLSPGK</p>

89	PR-1572102L	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRGGSGGG GSGEFVLTQSPGTLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
90	PR-1572103H	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWG QGTMTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVLTMTNMDPVDATY YCARIESIGTTYSFYDWGQGTMTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVMSHEAL HNAYTQKSLSLSPGK</p>

91	PR-1572103L	<p>DTVLTQSPATLSLSLSPGERATLS CRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGV PARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRGGSGGG GSGGEFVLTQSPGTL SLSLSPGERATLS CERSSGDIGDSY VSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTD FTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIK RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAK VQWKVDNALQSGNSQESVTEQDSKDYSTYLSSTLTLSK ADYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
92	PR-1572104H	<p>EVQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYRSYIFYFDYWG QGTMTVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVDTATY YCARIESIGTTY SFDYWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTV PSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTP EVT CVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVMHEAL HNAYTQKSLSLSPGK</p>

93	PR-1572104L	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKGGSGGGG SGGEFVLTQSPGTLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
94	PR-1572105H	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWG QGTMTVSSASTKGPEVTLRESGPALVKPTQTLTLTCT FSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDDDKYY NPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCAR IESIGTTYSFYDWGQGTMTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF PAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSN TKVDDKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVL DSDGSFFLYSKLTVDKSRWQQGNVFSVMSVHEALHNAY TQKSLSLSPGK</p>

95	PR-1572105L	<p>DTVLTQSPATLSLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAAPS VFIFPPEFVLTQSPGTLSLSPGERATLSCERSSGDIGD SYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSG TDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTL SKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
96	PR-1572106H	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYRSYIFYFDYWG QGTMTVSSASTKGPSVFPLAPEVTLRESGPALVKPTQ TLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQVVLTMNMDPVDT ATYYCARIESIGTTYSFYDWGQGTMTVSSASTKGPSV FPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICN VNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPS VFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSSVMH EALHNAYTQKSLSLSPGK</p>

97	PR-1572106L	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAAPE FVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQ QKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLTI SRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLNNFYBREAKVQWKV DNALQSGNSQESVTEQDSKDYSLSSSTLTLSKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
210	PR-1575573H	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWG QGTMTVSSASTKGPSVFPLAPEVTLRESGPALVKPTQ TLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQVVLTMNMDPVDT ATYYCARIESIGTTYSFYDWGQGTMTVSSASTKGPSV FPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICN VNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPS VFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVSMH EALHNAYTQKSLSLSPGK</p>

98	PR-1575573L	<p> DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAAPE FVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWYQ QKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLTI SRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGTVAA PSVFI FPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDSTYSLSSSTLTLSKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC </p>
99	PR-1575832H	<p> EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYRSYIFYFDYWG QGTMVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWDD DKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDTATY YCARIESIGTTYSFDYWGQGTMVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEAL HNAYTQKSLSLSPGK </p>

100	PR-1575832L	DTVLTQSPATLSLSLSPGERATLSCRASESVSTHMHYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRGGSGGG GSGEFVLTQSPGTLSSLSLSPGERATLSCERSSDIGESYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC
101	PR-1575834H	EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYRSYIFYFDYWG QGTMTVSSASTKGPEVTLRESGPALVKPTQTLTLTCT FSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDDDKYY NPSLKNRLTISKDTSKNQVVLMTNMDPVDATYYCAR IESIGTTYSFYDWGQGTMTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSVHTF PAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSN TKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFPYPSDIAVEWESNGQPENNYKTTTPVL DSDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALHNAY TQKSLSLSPGK

102	PR-1575834L	<p>DTVLTQSPATLSLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAAPS VFIFPPEFVLTQSPGTLSSLSPGERATLSCERSSGDIGE SYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSG TDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDYSLSTLTL SKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
103	PR-1575835H	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYRSYIFYFDYWG QGTMTVTVSSASTKGPSVFPLAPEVTLRESGPALVKPTQ TLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIW WDDDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDT ATYYCARIESIGTTYSFYDWGQGTMTVTVSSASTKGPSV FPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGAL TSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICN VNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPS VFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNW YVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN GKEYKCKVSNKALPAPIEKTIKAKGQPREPQVYTLPP SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQVSMH EALHNAYTQKSLSLSPGK</p>

104	PR-1575835L	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRTVAAPE FVLTQSPGTLSLSPGERATLSCERSSGDIGESYVSWYQ QKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLTI SRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKRTVAA PSVFI FPPSDEQLKSGTASVVCLLNNFYBREAKVQWKV DNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
105	PR-1577165H	<p>EVQLVQSGAEVKKPGASVKV SCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPIYADDFKGRVTMTTDTST STAYMELRSLRSDDTAVYYCARVDYDGSFWFAYWGQGT LVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLLTLC TFSGFSLS TYGMGVGWIRQPPGKALEWLANIWWDDDKY YNPSLKNRLTISKDT SKNQVVL TMTNMDPVD TATYYCA RIESIGTTYSFDYWGQGT MVTVSSASTKGPSVFPLAPS SKSTSGGTAALGCLVKDYFPEPVT VSWNSGALTSGVHT FPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC KVS NKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPV LDS DGSFFLYSKLTVDKSRWQQGNV FSCSVMHEALHNA YTQKSLSLSPGK</p>

106	PR-1577165L	<p>DTQLTQSPSSLSASVGDRTITCRASESVSTVIHWYQQ KPGKQPKLLIHGASNLESGVPSRFSGSGSGTDFTLTIS SLQPEDFATYFCQQHWNDPPTFGQGTKLEIKRGGSGGG GSGEFVLTQSPGTLSPGERATLSCERSSGDIGESYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
107	PR-1577166H	<p>EVQLVQSGAEVKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPIYADDFKGRVTMTTDTST STAYMELRSLRSDDTAVYYCARVDYDGSFWFAYWGQGT LVTVSSASTKGPEVTLRESGPALVKPTQTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLANIWDDDKYYNPS LKNRLTISKDTSKNQVVLTMNMDPVDATYYCARIES IGTTYSFDYWGQGTMTVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAV LQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKV DKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPKD TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNA KTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQV SLTCLVKGIFYPSDIAVEWESNGQPENNYKTTPVLDSD GSFFLYSKLTVDKSRWQQGNVFSQVMHEALHNAITQK SLSLSPGK</p>

108	PR-1577166L	<p>DTQLTQSPSSLSASVGDRTITCRASESVSTVIHWYQQ KPGKQPKLLIHGASNLESGVPSRFSGSGSGTDFTLTIS SLQPEDFATYFCQQHWNDPPTFGQGTKLEIKRTVAAPS VFIFPPEFVLTQSPGTLSSLSPGERATLSCERSSSGDIGE SYVSWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSG TDFTLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDYSTYLSLSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
109	PR-1577547H	<p>EVQLVQSGAEVKKPGASVKVSCKASGYTF'TNYGMYWVR QAPGQGLEWMGWINTETGKPIYADDFKGRVTMTTDTST STAYMELRSLRSDDTAVYYCARVDYDGSFWFAYWGQGT LVTVSSASTKGPSVFPLAPEVTLRESGPALVKPTQTTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVLTMTNMDPVDATY YCARIESIGTTYSDYWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVMSHEAL HNAYTQKSLSLSPGK</p>

110	PR-1577547L	<p>DTQLTQSPSSLSASVGDRTITCRASESVSTVIHWYQQ KPGKQPKLLIHGASNLESGVPSRFSGSGSGTDFTLTIS SLQPEDFATYFCQQHWNDPPTFGQGTKLEIKRTVAAPE FVLTQSPGTLSSLSPGERATLSCERSSGDIGESYVSWYQ QKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLTI SRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDYSLSSSTLTLKADYK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
111	PR-1577548H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDKYYPNPSLKNRLTISKDTS KNQVVLMTNMDPVDTATYYCARIESIGTTYSFDYWGQ GTMVTVSSASTKGPEVQLVQSGAEVKKPGASVKVSCKA SGYTFFTNYGMYWVRQAPGQGLEWMGWINTETGKPIYAD DFKGRVTMTTDTSTSTAYMELRSLRSDDTAVYYCARVD YDGSFWFAYWGQTLVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAV LQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSNTKV DKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPKD TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNA KTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQV SLTCLVKGFPYPSDIAVEWESNGQPENNYKTTPVLDSD GSFFLYSKLTVDKSRWQQGNVFSQVCSVMHEALHNAYTQK SLSLSPGK</p>

112	PR-1577548L	<p>EFVLTQSPGTL SLS PGERATL SCERSSGDIGESYVSWY QKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKRTVA APSVFIFPPDTQLTQSPSSLSASVGDRVTITCRASESV STVIHWYQQKPGKQPKLLIHGASNLESGVPSRFSGSGS GTDFTLT ISSLQPEDFATYFCQQHWNDPPTFGQGTKLE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDYSLSTLTL SKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
113	PR-1577550H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVD TATYYCARIESIGTTY SFDYWGQ GTMVTVSSASTKGPSVFPLAPEVQLVQSGAEVKKPGAS VKVSCKASGYTFTNYGMYWVRQAPGQGLEWMGWINTET GKPIYADDFKGRVTMTTDTSTSTAYMELRSLRSDDTAV YYCARVDYDGSFWFAYWGQGLVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVMHEAL HNAYTQKSL SLS PGK</p>

114	PR-1577550L	<p>EFVLTQSPGTL SLS PGERATL SCERSSGDIGESYVSWY QKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKRTVA APDTQLTQSPSSLSASVGDRTITCRASESVSTVIHWY QKPGKQPKLLIHGASNLESGVPSRFSGSGSGTDFTLT ISSLQPEDFATYFCQQHWNDPPTFGQGTKLEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDYSLSSSTLTLSKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
115	PR-1578137H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDTATYYCARIESIGTTYSFDYWGQ GTMVTVSSGGGGSGGGGSEVQLVQSGAEVKKPGASVKV SCKASGYTFTNYGMYWVRQAPGQGLEWMGWINTETGKP IYADDFKGRVTMTTDTSTSTAYMELRSLRSDDTAVYYC ARVDYDGSFWFAYWGQGLVTVSSASTKGPSVFPLAPS SKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSKVHT FPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC KVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPV LDSGDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNA YTQKSLSLSPGK</p>

116	PR-1578137L	<p>EFVLTQSPGTL SLS PGERATL SCERSSGDIGESYVSWY QOKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKRGG GGGSGDTQLTQSPSSLSASVGDRVTITCRASESVSTV IHWYQOKPGKQPKLLIHGASNLESGVPSRFSGSGSGTD FTLTISSLOPEDFATYFCQQHWNDPPTFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
117	PR-1598261H	<p>EVQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVR QAPGQGLEWMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYYRSYIFYFDYWG QGTMTVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVL TMTNMDPVD TATY YCARIESIGTTY SFDYWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVMHEAL HNHYTQKSLSLSPGK</p>

118	PR-1598261L	<p>ATQLTQSPSLSASVGDVRTITCRASESVSTHMHWYQOK PGKQPKLLIYGASNLESGVPSRFSGSGSGTDFTLTISS LQPEDFATYFCQQSWNDPFTFGQGTKLEIKRGGSGGGG SGEFVLTQSPGTLSPGERATLSCERSSGDIGDSYVS WYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF LTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKRT VAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ WKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
119	PR-1598262H	<p>EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEYMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYFCARTNYYRSYIFYFDYWG QGTMTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDTATY YCARIESIGTTYSFYWGQGTMTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSGDGSFFLYSKLTVDKSRWQQGNVFSQVMSHEAL HNHYTQKSLSLSPGK</p>

120	PR-1598262L	<p>AIQLTQSPSSLSASVGDRTITCRASESVSTHMHWYQQ KPGKAPKLLIYGASNLESGVPSRFSGSGSGTDFTLTIS SLQPEDFATYYCQQSWNDPFTFGQGTKLEIKRGGSGGG GSGEFVLTQSPGTLSSLSPGERATLSCERSSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSTYLSSTLTLKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
121	PR-1598263H	<p>EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEMYMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYFCARTNYYYRSYIFYFDYWG QGTMTVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTTLT LTCTFSGFSLSTYGMVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLTMNMDPVDATY YCARIESIGTTYSFYDWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEAL HNHYTQKSLSLSPGK</p>

122	PR-1598263L	<p>ATQLTQSPSLSASVGDRVTITCRASESVSTHMHWYQOK PGKQPKLLIYGASNLESGVPSRFSGSGSGTDFTLTISS LQPEDFATYFCQQSWNDPFTFGQGTKLEIKRGGSGGGG SGEFVLTQSPGTLSPGERATLSCERSSGDIGDSYVS WYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF LTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKRT VAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ WKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLKAD YEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
123	PR-1598264H	<p>EIQLVQSGAEVKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEVMGWINTETGKPTYADDFKGRFTFTLDTST STAYMELRSLRSDDTAVYFCARTNYYRSYIFYFDYWG QGTMTVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDTATY YCARIESIGTTYSFYDWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNH KPSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQVMSHEAL HNHYTQKSLSLSPGK</p>

124	PR-1598264L	<p>DTVLTQSPATLSLSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPFTFGQGTKLEIKRGGSGGG GSGEFVLTQSPGTLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
125	PR-1598265H	<p>EIQLVQSGTEVKKPGESLKISCKASGYTFTNYGMYWVK QMPGKGLEYMGWINTETGKPTYADDFKGRFTFSLDKSF NTAFLQWSSLKASDTAMYFCARTNYYYRSYIFYFDYWG QGTMTVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLTMNMDPVDTATY YCARIESIGTTYSFDYWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVSMHEAL HNHYTQKSLSLSPGK</p>

126	PR-1598265L	<p>ETVLTQSPATLSVSPGERATLSCRASESVSTHMHWYQQ KPGQAPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLQSEDFAVYFCQQSWNDPFTFGQGTRLEIKRGGSGGG GSGEFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
127	PR-1598266H	<p>EIQLVQSGGGVVQPGGSLRLSCAASGYTFTNYGMYWVK QAPGKGLEYMGWINTETGKPTYADDFKGRFTFSLDTSK STAYLQLNSLRAEDTAVYFCARTNYYYRSYIFYFDYWG QGTLVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDTATY YCARIESIGTTYSFQDYWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEAL HNHYTQKSLSLSPGK</p>

128	PR-1598266L	DTVLTQSPSTLSASPGERATISCRASESVSTHMHWYQQ KPGQAPKLLIYGASNLESGVPSRFSGSRSGTDFTLTIS SLQPEDFAVYFCQQSWNDPFTFGQGTKVEIKRGGSGGG GSGEFVLTQSPGTLSSLSPGERATLSCERSSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYQCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSLSTLTLTKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC
129	PR-1610560H	EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEMYGWINTETGKPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYFCARTNYYYRSYIFYFDYWG QGTMTVTVSSGGGGSGGGGSEVQLVQSGAEVKKPGSSVK VSCKASGYTFTESYMYWVKQAPGQGLELIGRIDPEDGS TDYVEKFKNKATLTADKSTSTAYMELSSLRSEDVAVYF CARFGARSYFYPMDAWGQGTTVTVSSASTKGPSVFPLA PSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSKV HTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHK PSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFLF PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDG VEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTP PVLDSGDGFFLYSKLTVDKSRWQQGNVFSVCSVMHEALH NAYTQKSLSLSPGK

130	PR-1610560L	<p>ATQLTQSPSLSASVGDVRTITCRASESVSTHMHWYQOK PGKQPKLLIYGASNLESGVPSRFSGSGSGTDFTLTISS LQPEDFATYFCQOSWNDPFTFGQGTKLEIKGGSGGGGS GGETVLTQSPATLSLSPGERATLS CRASESVSTLMHWY QOKPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTLTISS ISSLEPEDFAVYFCQOSWNDPWTFGGGTKVEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDYSLSSSTLTLSKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
131	PR-1610561H	<p>EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVK QAPGQGLEYMGWIDTETGRPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYFCARWSGD TTGIRGPWFAYW GQGLVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTL TLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWD DDKYYNPSLKNRLTISKDTSKNQVLTMTNMDPVD TAT YYCARIESSGPKYSFDYWGQGMVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVN HKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTI SKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVMHEA LHNAYTQKSLSLSPGK</p>

132	PR-1610561L	DIRMTQSPSSLSASVGDRTIECLASEDIYSDLAWYQQ KPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYSLTIS SLQPEDVATYFCQQYNYFPGTFGQGTKLEIKGGSGGGG SGGEIVLTQSPGTLSPGERATLSCRASSGSIWYSFV SWYQQKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYGINIDVVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC
133	PR-1610562H	EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVK QAPGQGLEMYMGWIDTETGRPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYFCARWSGDTTGIRGPWFAYW GQGTLVTVSSGGGGSGGGGSEVQLVQSGAEVKKPGSSV KVSCKASGYTFTESYMYWVKQAPGQGLELIGRIDPEDG STDYVEKFKNKATLTADKSTSTAYMELSSLRSEDTAVY FCARFGARSYFYPMDAWGQGTTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEAL HNAYTQKSLSLSPGK

134	PR-1610562L	DIRMTQSPSSLSASVGDRVTIECLASEDIYSDLAWYQQ KPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYSLTIS SLQPEDVATYFCQQYNYFPGTFGQGTKLEIKGGSGGGG SGGETVLTQSPATLSLSPGERATLSCRASESVSTLMHW YQQKPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTL TISSLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC
135	PR-1610563H	EVQLVQSGAEVKKPGSSVKVSCKASGYTFTNYGMYWVR QAPGQGLEWMGWIDTETGRPTYADDFKGRFTFTADKST STAYMELSSLRSEDVAVYYCARWSGDTTGIRGPFAYW GQGLTVTVSSGGGGSGGGGSEVQLVQSGAEVKKPGSSV KVSCKASGYTFTESYMYWVKQAPGQGLELIGRIDPEDG STDYVEKFKNKATLTADKSTSTAYMELSSLRSEDVAVY FCARFGARSYFYPMDAWGQGTTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSGDGSFFLYSKLTVDKSRWQQGNVFSQVMSHEAL HNAYTQKSLSLSPGK

136	PR-1610563L	DIRMTQSPSSLSASVGDRTITCLASEDIYSDLAWYQQ KPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYTLTIS SLQPEDVATYFCQQYNYFPGTFGQGTKLEIKGGSGGGG SGGETVLTQSPATLSLSPGERATLSCRASESVSTLMHW YQQKPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTL TISSLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKDYSLSTLTLKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC
137	PR-1610564H	EVQLVESGGGLVQPGGSLRLSCAASGFSTSKYDMAWFR QAPGKGLEWVASITTSVGTYYRDSVKGRTVSRDNAK STLYLQMNSLRAEDTAVYYCARGYGAMDAWGQGTTVTV SSGGGGSGGGGSEVQLVQSGAEVKKPGSSVKVSCKASG YTFTESYMYWVKQAPGQGLELIGRIDPEDGSTDYVEKF KNKATLTADKSTSTAYMELSSLRSEDVAVYFCARFGAR SYFYPMDAWGQGTTVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVL QSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVD KKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPKDT LMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVS LTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDG SFFLYSKLTVDKSRWQQGNVFSQSVMHEALHNAYTQKS LSLSPGK

138	PR-1610564L	<p>DIQMTQSPSSLSASVGDRVITITCKASQDIDDYLSWYQQ KPGKSPKLVIIYAATRLADGVPSRFSGSGSGTDYTLTIS SLQPEDFATYYCLQSSSTPWTFGGGTKVEIKGGSGGGG SGGETVLTQSPATLSLSPGERATLSCRASESVSTLMHW YQOKPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTL TISSLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC</p>
139	PR-1611291H	<p>EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEVMGWINTETGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYFCARTNYYRSYIFYFDYWG QGTMTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLTMNMDPVDATY YCARISSGPKYSFDYWGQGTMTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSGDGFFLYSKLTVDKSRWQQGNVFCSSVMHEAL HNAYTQKSLSLSPGK</p>

140	PR-1611291L	<p>ATQLTQSPSLSASVGDRVTITCRASESVSTHMHWYQOK PGKQPKLLIYGASNLESGVPSRFSGSGSGTDFTLTISS LQPEDFATYFCQQSWNDPFTFGQGTKLEIKGGSGGGGS GGEIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVS WYQOKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDFT LTISRLEPEDFAVYYCQSYGINIDVVFGGGKVEIKRT VAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ WKVDNALQSGNSQESVTEQDSKDYSLSTLTKAD YEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
141	PR-1611292H	<p>EVQLVESGGGLVQPGGSLRLSCAASGFSF'SKYDMAWFR QAPGKGLEWVASITTSVGTYYRDSVKGFRFTVSRDNAK STLYLQMNSLRAEDTAVYYCARGYGAMDAWGQTTVTV SSGGGGSGGGGSEVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLANIWWDDDKYYNPS LKNRLTISKDTSKNQVVLTMNMDPVDATYYCARIES SGPKYSFDYWGQGMVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAV LQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKV DKKVEPKSCDKHTHTCPPCPAPEAAGGPSVFLFPPKPKD TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNA KTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQV SLTCLVKGFPYPSDIAVEWESNGQPENNYKTTTPVLDSD GSFFLYSKLTVDKSRWQQGNVFSQSVMHEALHNAYTQK SLSLSPGK</p>

142	PR-1611292L	<p>DIQMTQSPSSLSASVGDRVITITCKASQDIDDYLSWYQQ KPGKSPKLVIIYAATRLADGVPSRFSGSGSGTDYTLTIS SLQPEDFATYYCLQSSSTPWTFFGGGTKVEIKGGSGGGG SGGEIVLTQSPGTLSPGERATLSCRASSGSIWYSFV SWYQQKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYGINIDVVFVGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
143	PR-1611293H	<p>EIQLVQSGSELKKPGASVKVSCKASGYPTNSGMYWVK QAPGQGLEVMGWINTEAGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYFCARWGYISDNSYGFWDYWG QGTLLTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDATY YCARISSGPKYSFDYWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNH KPSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSGDGFFLYSKLTVDKSRWQQGNVFSQSVMHEAL HNAYTQKSLSLSPGK</p>

144	PR-1611293L	<p>ATQLTQSPSSLSASVGDRVTISCRASEGVYSYMHWYQQ KPGKQPKLLIYKASNLASGVPSRFSGSGSGTDFTLTIS SLQPEDFATYFCHQNWNDPLTFGQGTKLEIKGGSGGGG SGGEIVLTQSPGTLSPGERATLSCRASSGSIWYSFV SWYQQKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYGINIDVVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSTYLSSTLTLTKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
145	PR-1611294H	<p>EIQLVQSGSELKKPGASVKVSCKASGYPFTNSGMYWVK QAPGQGLEVMGWINTEAGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYFCARWGYISDNSYGFWDYWG QGTLVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLTMNMDPVDATY YCARIESIGTTYSFYDWGQGMVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVMSVHEAL HNAYTQKSLSLSPGK</p>

146	PR-1611294L	<p>ATQLTQSPSSLSASVGDRVTISCRASEGVVSYMHWYQQ KPGKQPKLLIYKASNLASGVPSRFSGSGSGTDFTLTIS SLQPEDFATYFCHQNWNDPLTFGQGTKLEIKGSGGGG SGGEFVLTQSPGTLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
147	PR-1611295H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDATYYCARISSGPKYSFDYWGQ GTMVTVSSGGGGSGGGGSEIQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVKQAPGQGLEVMGWIDTETGRP TYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYFC ARWSGDTTGIRGPWFAYWGQGLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVN HKPSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEA LHNAYTQKSLSLSPGK</p>

148	PR-1611295L	<p>EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWY QOKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYGINIDVVFSGGKTKVEIKGGSG GGSGGDIRMTQSPSSLSASVGDRTIECLASEDIYSD LAWYQOKPGKSPKLLIYNANGLQNGVPSRFSGSGSGTD YSLTISSLQPEDVATYFCQQYNYFPGTFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
149	PR-1611296H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNP SLKNRLTISKDTS KNQVVLMTNMDPVDATYYCARISSGPKYSFDYWGO GTMVTVSSGGGGSGGGGSEVQLVQSGAEVKKPGSSVKV SCKASGYTFTNYGMYWVRQAPGQGLEWMGWIDTETGRP TYADDFKGRFTFTADKSTSTAYMELSSLRSEDYAVYYC ARWSDTTGIRGPWFAYWGQGLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVN HKPSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEA LHNAYTQKSLSLSPGK</p>

150	PR-1611296L	<p>EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWY QKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYGINIDVVFGGGTKVEIKGGSG GGSGGDIRMTQSPSSLSASVGDRVTITCLASEDIYSD LAWYQQKPGKSPKLLIYNANGLQNGVPSRFSGSGSGTD YTLTISSLQPEDVATYFCQQYNYFPGTFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
151	PR-1611297H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLTMNMDPVDATYYCARISSGPKYSFDYWGQ GTMVTVSSGGGGSGGGGSEIQLVQSGSELKKPGASVKV SCKASGYPTNSGMYWVKQAPGQGLEVMGWINTEAGKP TYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYFC ARWGYISDNSYGFWDYWGQGLTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNH KPSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEAL HNAYTQKSLSLSPGK</p>

152	PR-1611297L	<p>EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWY QOKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYGINIDVVFGGGTKVEIKGGSG GGGSGGATQLTQSPSSLSASVGDRVTISCRASEGVYSY MHWYQQKPGKQPKLLIYKASNLASGVPSRFSGSGSGTD FTLTISLQPEDFATYFCHQNWNDPLTFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSTYLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
153	PR-1611298H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDATYYCARIESIGTTYSFYWGQ GTMVTVSSGGGGSGGGGSEIQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVKQAPGQGLEVMGWIDTETGRP TYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYFC ARWSGDTTGIRGPWFAYWGQGLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVN HKPSNTKVDKVEPKSCDKTHTCPPCPAPEAAGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEA LHNAYTQKSLSLSPGK</p>

154	PR-1611298L	<p>EFVLTQSPGTL SLSLSPGERATL SCERSSGDIGDSYVSWY QKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGSG GGSGGDIRMTQSPSSLSASVGDRVTIECLASEDIYSD LAWYQQKPGKSPKLLIYNANGLQNGVPSRFSGSGSGTD YSLTISSLQPEDVATYFCQQYNYFPGTFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDSTYLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
155	PR-1611299H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVD TATYYCARIESIGTTYSFDYWGQ GTMVTVSSGGGGSGGGGSEVQLVQSGAEVKKPGSSVKV SCKASGYTFTNYGMYWVRQAPGQGLEWMGWIDTETGRP TYADDFKGRFTFTADKSTSTAYMELSSLRSED TAVYYC ARWSGDTTGIRGPWFAYWGQGLVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVN HKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVMHEA LHNAYTQKSL SLSLSPGK</p>

156	PR-1611299L	<p>EFVLTQSPGTL SLS PGERATL SCERSSGDIGDSYVSWY QOKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGSG GGSGGDIRMTQSPSSLSASVGDRVTITCLASEDIYSD LAWYQOKPGKSPKLLIYNANGLQNGVPSRFSGSGSGTD YTLTISSLQPEDVATYFCQQYNYFPGTFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
157	PR-1611300H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVD TATYYCARIESIGTTY SFDYWGQ GTMVTVSSGGGGSGGGGSEVQLVESGGGLVQPGGSLRL SCAASGFSFSKYDMAWFRQAPGKGLEWVASITTSVGT YYRDSVKGRFTVSRDNAKSTLYLQMNSLRAEDTAVYYC ARGYGAMDAWGQGT TTVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVT VSWNSGALTSGVHTFPAV LQSSGLYSLSSVTV PSSSLGTQTYICNVNHKPSNTKV DKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPKD TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNA KTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQV SLTCLVKG FYP SDI AVEWESNGQPENNYKTTTPVLDSD GSFFLYSKLTVDKSRWQQGNV FSC SVMHEALHNAYTQK SLSLSPGK</p>

158	PR-1611300L	<p>EFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWY QOKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGSG GGSGGDIQMTQSPSSLASVGDVRTITCKASQDIDDY LSWYQOKPGKSPKLVIIYAATRLADGVPSRFSGSGSGTD YTLTISSLOPEDFATYYCLQSSSTPWTFGGGKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
159	PR-1611301H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDATATYYCARIESIGTTYSFDYWGQ GTMVTVSSGGGGSGGGGSEIQLVQSGSELKKPGASVKV SCKASGYPFTNSGMYWVKQAPGQGLEVMGWINTEAGKP TYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYFC ARWGYISDNSYGFWDYWGQGLVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNH KPSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQVMSHEAL HNAYTQKSLSLSPGK</p>

160	PR-1611301L	<p>EFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWY QOKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGSG GGGSGGATQLTQSPSSLSASVGDVRTISCRASEGVYSY MHWYQOKPGKQPKLLIYKASNLASGVPSRFSGSGSGTD FTLTISSLQPEDFATYFCHQNWNDPLTFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSTYSLSSTLTLKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
161	PR-1612489H	<p>EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVR QAPGQGLEVMGWINTETGKPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYFCARTNYYYRSYIFYFDYWG QGTMTVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVVLTMNMDPVDATY YCARIESIGTTYSFYDWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEAL HNAYTQKSLSLSPGK</p>

162	PR-1612489L	<p>ATQLTQSPSLSASVGDRTITCRASESVSTHMHWYQQK PGKQPKLLIYGASNLESGVPSRFSGSGSGTDFTLTISS LQPEDFATYFCQQSWNDPFTFGQGTKLEIKGGSGGGGS GGEFVLTQSPGTLSPGERATLSCERSSGDIGDSYVS WYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFT LTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKRT VAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ WKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
163	PR-1612491H	<p>EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVK QAPGQGLEVMGWIDTETGRPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYFCARWSGDTTGIRGPWFAYW GQGTLVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTL TLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWW DDKYYNPSLKNRLTISKDTSKNQVLTMTNMDPVDAT YYCARIESIGTTYSFQYWGQGMVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVN HKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEA LHNAYTQKSLSLSPGK</p>

164	PR-1612491L	DIRMTQSPSSLSASVGDRTIECLASEDIYSDLAWYQQ KPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYSLTIS SLQPEDVATYFCQQYNYFPGTFGQGTKLEIKGGSGGGG SGGEFVLTQSPGTLSSLSPGERATLSCERSSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSTLTLKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC
165	PR-1612492H	EVQLVQSGAEVKKPGSSVKVSCKASGYTFITNYGMYWVR QAPGQGLEWMGWIDTETGRPTYADDFKGRFTFTADKST STAYMELSSLRSEDVAVYYCARWSGDTTGIRGPWFAYW GQGTLLTVSSGGGGSGGGGSEVTLRESGPALVKPTQTL TLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWW DDKYYNPSLKNRLTISKDTSKNQVLTMTNMDPVDTAT YYCARISSGPKYSFDYWGQGMVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVN HKPSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEA LHNAYTQKSLSLSPGK

166	PR-1612492L	DIRMTQSPSSLSASVGDRVTITCLASEDIYSDLAWYQQ KPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYTLTIS SLQPEDVATYFCQQYNYFPGTFGQGTKLEIKGGSGGGG SGGEIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFV SWYQQKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYGINIDVVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC
167	PR-1612493H	EVQLVQSGAEVKKPGSSVKVSKASGYTFTNYGMYWVR QAPGQGLEWMGWIDTETGRPTYADDFKGRFTFTADKST STAYMELSSLRSEDVAVYYCARWSGDTTGIRGPFAYW GQGLVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTL TLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLNIWWD DDKYYNPSLKNRLTISKDTSKNQVVLMTNMDPVDAT YYCARIESIGTTYSFQYWGQGMVTVSSASTKGPSVFP LAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVN HKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVF LFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK EYKCKVSNKALPAPIEKTIISKAKGQPREPQVYTLPPSR EEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQVMSHEA LHNAYTQKSLSLSPGK

168	PR-1612493L	DIRMTQSPSSLSASVGDRTITCLASEDIYSDLAWYQQ KPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYTLTIS SLQPEDVATYFCQQYNYFPGTFGQGTKLEIKGGSGGGG SGGEFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC
169	PR-1612494H	EVQLVESGGGLVQPGGSLRLSCAASGFSF'SKYDMAWFR QAPGKGLEWVASITTSVGTYYRDSVKGRFTVSRDNAK STLYLQMNSLRAEDTAVYYCARGYGAMDAWGQGT'TVTV SSGGGGSGGGGSEVTLRESGPALVKPTQTLTLTCTFSG FSLSTYGMGVGWIRQPPGKALEWLANIWWDDDKYYNPS LKNRLTISKDTSKNQVVLTMNMDPVDATATYYCARIES IGTTYSFYDWGQGMVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSVHTFPAV LQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSNTKV DKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPKD TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNA KTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQV SLTCLVKGFPYPSDIAVEWESNGQPENNYKTTPVLDSD GSFFLYSKLTVDKSRWQQGNVFSQSVMHEALHNAYTQK SLSLSPGK

170	PR-1612494L	<p>DIQMTQSPSSLSASVGDRVITITCKASQDIDDYLSWYQQ KPGKSPKLVIIYAATRLADGVPSRFSGSGSGTDYTLTIS SLQPEDFATYYCLQSSSTPWTFGGGTKVEIKGSGGGG SGGEFVLTQSPGTLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
171	PR-1612495H	<p>EIQLVQSGSELKKPGASVKVSCKASGYPFTNSGMYWVK QAPGQGLEYMGWINTEAGKPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYFCARWGYISDNSYGWFDYWG QGTLVTVSSGGGGSGGGGSEVQLVQSGAEVKKPGSSVK VSCKASGYTFTESYMYWVKQAPGQGLELIGRIDPEDGS TDYVEKFKNKATLTADKSTSTAYMELSSLRSEDVAVYF CARFGARSYFYPMDAWGQGTTVTVSSASTKGPSVFPLA PSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGV HTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNPK PSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFLF PPKPKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDG VEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTP PVLDSGDSFFLYSKLTVDKSRWQQGNVFSVSMHEALH NAYTQKSLSLSPGK</p>

172	PR-1612495L	<p>ATQLTQSPSSLSASVGDVRTISCRASEGVYSYMHWYQQ KPGKQPKLLIYKASNLASGVPSRFSGSGSGTDFTLTIS SLQPEDFATYFCHQNWNDPLTFGQGTKLEIKGGSGGGG SGGETVLTQSPATLSLSPGERATLSCRASESVSTLMHW YQQKPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTL TISSLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKDYSLSTLTLTKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC</p>
173	PR-1612496H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLTMTNMDPVDATYYCARISSGPKYSFDYWGO GTMVTVSSGGGGSGGGGSEIQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVRQAPGQGLEVMGWINTETGKP TYADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYFC ARTNYYYRSYIFYFDYWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEAL HNAYTQKSLSLSPGK</p>

174	PR-1612496L	<p>EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWY QQKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYGINIDVVFVGGGTKVEIKGGSG GGGSGGATQLTQSPSLASVGDRTITCRASESVSTHM HWYQQKPGKQPPELLIYGASNLESGVPSRFSGSGSGTDF TLTISSLQPEDFATYFCQQSWNDPFTFGQGTKLEIKRT VAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ WKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
175	PR-1612498H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLTMNMDPVDATYYCARISSGPKYSFDYWGQ GTMVTVSSGGGGSGGGGSEVQLVESGGGLVQPGGSLRL SCAASGFSFSKYDMAWFRQAPGKGLEWVASITTSVGT YYRDSVKGRFTVSRDNAKSTLYLQMNSLRAEDTAVYYC ARGYGAMDAWGQGTTVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAV LQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKV DKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPKD TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNA KTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQV SLTCLVKGFIYPSDIAVEWESNGQPENNYKTTPVLDSD GSFFLYSKLTVDKSRWQQGNVVFSCSVMHEALHNAYTQK SLSLSPGK</p>

176	PR-1612498L	<p>EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWY QOKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYGINIDVVFSGGKTKVEIKGGSG GGSGGGDIQMTQSPSSLSASVGRVTITCKASQDIDDY LSWYQOKPGKSPKLVIIYAATRLADGVPSRFSGSGSGTD YTLTISSSLQPEDFATYYCLQSSSTPWTFGGKTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
177	PR-1612499H	<p>EVQLVQSGAEVKKPGSSVKVSCKASGYTFTESYMYWVK QAPGQGLELIGRIDPEDGSTDYVEKFKNKATLTADKST STAYMELSSLRSEDTAVYFCARFGARSYFYPMDAWGQG TTVTVSSGGGGSGGGGSEIQLVQSGSELKKPGASVKVS CKASGYTFITNYGMYWVRQAPGQGLEVMGWINTETGKPT YADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYFCA RTNYYYRSYIFYFDYWGQGMVTVSSASTKGPSVFPLA PSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSKV HTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHK PSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFLF PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDG VEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPP PVLDSGDGFFLYSKLTVDKSRWQQGNVFSCSVMHEALH NAYTQKSLSLSPGK</p>

178	PR-1612499L	<p>ETVLTQSPATLSLSLSPGERATLSCRASESVSTLMHWYQQ KPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKGSGGGG SGGATQLTQSPSLSASVGDVRTITCRASESVSTHMHWY QQKPGKQPKLLIYGASNLESGVPSRFSGSGSGTDFTLT ISSLQPEDFATYFCQQSWNDPFTFGQGTKLEIKRTVAA PSVFIFFPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDSTYSLSSSTLTLSKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC</p>
179	PR-1612500H	<p>EVQLVQSGAEVKKPGSSVKVSCKASGYTFTESYMYWVK QAPGQGLELIGRIDPEDGSTDYVEKFKNKATLTADKST STAYMELSSLRSEDVAVYFCARFGARSYFYPMDAWGQG TTVTVSSGGGGSGGGGSEIQLVQSGSELKKPGASVKVS CKASGYTFTNYGMYWVKQAPGQGLELYMGWIDTETGRPT YADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYFCA RWSGDTTGIRGPWFAYWGQGLVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEAL HNAYTQKSLSLSPGK</p>

180	PR-1612500L	<p>ETVLTQSPATLSLSPGERATLSCRASESVSTLMHWYQQ KPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKGGSGGGG SGGDIRMTQSPSSLSASVGDRVTIECLASEDIYSDLAW YQQKPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYSL TISSLQPEDVATYFCQQYNYFPGTFGQGTKLEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKDYSLSTLTLKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC</p>
181	PR-1612501H	<p>EVQLVQSGAEVKKPGSSVKVSCKASGYTFTESYMYWVK QAPGQGLELIGRIDPEDGSTDYVEKFKNKATLTADKST STAYMELSSLRSEDVAVYFCARFGARSYFYPMDAWGQG TTVTVSSGGGGSGGGGSEVQLVQSGAEVKKPGSSVKVS CKASGYTFITNYGMYWVRQAPGQGLEWMGWIDTETGRPT YADDFKGRFTFTADKSTSTAYMELSSLRSEDVAVYYCA RWSGDTTGIRGPWFAYWGQGLVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVVFSCSVMHEAL HNAYTQKSLSLSPGK</p>

182	PR-1612501L	ETVLTQSPATLSLSLSPGERATLSCRASESVSTLMHWYQQ KPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKGGSGGGG SGGDIRMTQSPSSLSASVGDRVTITCLASEDIYSDLAW YQKPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYTL TISSLQPEDVATYFCQQYNYFPGTFGQGTKLEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKSTYSLSTLTLSKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC
183	PR-1612502H	EVQLVQSGAEVKKPGSSVKVSCKASGYTFTESYMYWVK QAPGQGLELIGRIDPEDGSTDYVEKFKNKATLTADKST STAYMELSSLRSEDVAVYFCARFGARSYFYPMDAWGQG TTVTVSSGGGGSGGGGSEVQLVESGGGLVQPGGSLRLS CAASGFSFSKYDMAWFRQAPGKGLEWVASITTSVGTY YRDSVKGRFTVSRDNAKSTLYLQMNSLRAEDTAVYYCA RGYGAMDAWGQGT'TVTVSSASTKGPSVFPLAPSSKSTS GGTAALGCLVKDYFPEPVTVSWNSGALTSVHTFPAVL QSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVD KKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPKDT LMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNK ALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVS LTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDG SFFLYSKLTVDKSRWQQGNVFSVCSVMHEALHNAYTQKS LSLSPGK

184	PR-1612502L	<p>ETVLTQSPATLSLSPGERATLSCRASESVSTLMHWYQQ KPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKGSGGGG SGGDIQMTQSPSSLSASVGDRTITCKASQDIDDYLSW YQQKPGKSPKLVIIYAATRLADGVPSRFSGSGSGTDYTL TISSLQPEDFATYYCQSSSTPWTFGGGTKVEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKSTYSLSTLTLSKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC</p>
185	PR-1613183H	<p>EVQLVQSGSELKKPGASVKVSCKASGYTFTDYGMWVR QAPGQGLEWMGWIDTETGDPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYYCARTNYYYRNYMFYFDYWG QGTMTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVLTMTNMDPVDATY YCARIESSGPKYSFDYWGQGTMTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEAL HNAYTQKSLSLSPGK</p>

186	PR-1613183L	<p>EIVLTQSPATLSLSPGERATLFCRASQSVSNMHMHWYQQ KPGQAPRLLIYGASILESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYYCQQSWYDPITFGQGTKLEIKGSGGGG SGGEIVLTQSPGTLSLSPGERATLSCRASSGSIWYSFV SWYQQKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYGINIDVVFVGGGKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKSTYSLSTLTLKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
187	PR-1613184H	<p>EVQLVQSGSELKKGASVKVSCKASGYTFDTYGMWVR QAPGQGLEWMGWIDTETGDPTYADDFKGRFVFSLDTSV STAYLQISSLKAEDTAVYYCARTNYYYRNYMFYFDYWG QGTMTVTVSSGGGGSGGGGSEVTLRESGPALVKPTQTLT LTCTFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDD DKYYNPSLKNRLTISKDTSKNQVLTMTNMDPVDATY YCARIESIGTTYSFYDWGQGTMTVTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNH KPSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPETCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSSVMHEAL HNAYTQKSLSLSPGK</p>

188	PR-1613184L	<p>EIVLTQSPATLSLSPGERATLFCRASQSVSNMHMHWYQQ KPGQAPRLLIYGASILESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYYCQQSWYDPITFGQGTKLEIKGGSGGGG SGGEFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYV SWYQQKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDF TLTISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSTYLSSTLTLSKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
189	PR-1613185H	<p>EVQLVQSGSELKKGASVQVSKASGYTFTDYGMWVR QAPGQGLEWMGWIDTETGDPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYYCARTNYYYRNYMFYFDYWG QGTMTVTVSSGGGGSGGGGSEVQLVQSGAEVKKPGSSVK VSKKASGYTFTESYMYWVKQAPGQGLELIGRIDPEDGS TDYVEKFKNKATLTADKSTSTAYMELSSLRSEDYAVYF CARFGARSYFYPMDAWGQGTITVTVSSASTKGPSVFPLA PSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGV HTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHK PSNTKVDKKEPKSCDKTHTCPPCPAPEAAAGGPSVFLF PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDG VEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTP PVLDSGDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALH NAYTQKSLSLSPGK</p>

190	PR-1613185L	<p>EIVLTQSPATLSLSLSPGERATLFCRASQSVSNMHMHWYQQ KPGQAPRLLIYGASILESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYYCQQSWYDPITFGQGTKLEIKGGSGGGG SGGETVLTQSPATLSLSLSPGERATLSCRASESVSTLMHW YQQKPGQQPRLIYGASNLESGVPARFSGSGSGTDFTL TISSLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKSTYSLSSSTLTLSKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC</p>
191	PR-1613186H	<p>EVTLRESGPALVKPTQTLLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDATATYYCARISSGPKYSFDYWGQ GTMVTVSSGGGGSGGGGSEVQLVQSGSELKKPGASVKV SCKASGYTFTDYGMYWVRQAPGQGLEWMGWIDTETGDP TYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYC ARTNYYYRNYMFYFDYWGQGTMTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSSVMHEAL HNAYTQKSLSLSPGK</p>

192	PR-1613186L	<p>EIVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWY QOKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYGINIDVVFSGGKTKVEIKGGSG GGSGGGEIVLTQSPATLSSLSPGERATLFCRASQSVSNH MHWYQOKPGQAPRLLIYGASILESGVPARFSGSGSGTD FTLTISSLEPEDFAVYYCQOSWYDPITFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSLSTLTLTKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
193	PR-1613187H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDATYYCARIESIGTTYSFYDWGQ GTMVTVSSGGGGSGGGGSEVQLVQSGSELKKPGASVKV SCKASGYTFTDYGMVWRQAPGQGLEWGWIDTETGDP TYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYYC ARTNYYYRNYMFYFDYWGQGTMTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEAL HNAYTQKSLSLSPGK</p>

194	PR-1613187L	<p>EFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWY QOKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGSG GGSGGGEIVLTQSPATLSSLSPGERATLFCRASQSVSNH MHWYQOKPGQAPRLLIYGASILESGVPARFSGSGSGTD FTLTISSLEPEDFAVYYCQOSWYDPITFGQGTKLEIKR TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDYSLSTLTLTKA DYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
195	PR-1613188H	<p>EVTLRESGPALVKPTQTLTLTCTFSGFSLSTYGMGVGW IRQPPGKALEWLANIWWDDDKYYNPSLKNRLTISKDTS KNQVVLMTNMDPVDATYYCARIESIGTTYSFDYWGQ GTMVTVSSGGGGSGGGGSEIQLVQSGSELKKPGASVKV SCKASGYTFTNYGMYWVRQAPGQGLEVMGWINTETGKP TYADDFKGRFVFLDTSVSTAYLQISSLKAEDTAVYFC ARTNYYYRSYIFYFDYWGQGTMTVSSASTKGPSVFPL APSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSG VHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNH KPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFL FPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKE YKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRE EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEAL HNAYTQKSLSSLSPGK</p>

196	PR-1613188L	<p>EFVLTQSPGTLSSLSPGERATLSCERSSGDIGDSYVSWY QOKPGQAPRLVIYADDQRPSGIPDRFSGSGSGTDFTLT ISRLEPEDFAVYYCQSYDINIDIVFGGGTKVEIKGGSG GGSGGATQLTQSPSLASVGDVRTITCRASESVSTHM HWYQQKPGKQPKLLIYGASNLESGVPSRFSGSGSGTDF TLTISSLQPEDFATYFCQQSWNDPFTFGQGTKLEIKRT VAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ WKVDNALQSGNSQESVTEQDSKDYSTYLSSTLTLSKAD YEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
197	PR-1613189H	<p>EVQLVQSGAEVKKPGSSVKVSCKASGYTFTESYMYWVK QAPGQGLELIGRIDPEDGSTDYVEKFKNKATLTADKST STAYMELSSLRSEDVAVYFCARFGARSYFYPMDAWGQG TTVTVSSGGGGSGGGGSEVQLVQSGSELKKPGASVKVS CKASGYTFTDYGMVWRQAPGQGLEWMGWIDTETGDPT YADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYYCA RTNYYRNYMFYFDYWGQGMVTVSSASTKGPSVFPLA PSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGV HTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHK PSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFLF PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDG VEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREE MTKNQVSLTCLVKGFPYPSDIAVEWESNGQPENNYKTP PVLDSGDSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALH NAYTQKSLSLSPGK</p>

198	PR-1613189L	<p>ETVLTQSPATLSLSLSPGERATLSCRASESVSTLMHWYQQ KPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPWTFFGGGTKVEIKGGSGGGG SGGEIVLTQSPATLSLSLSPGERATLFCRASQSVSNHMHW YQKPGQAPRLLIYGASILESGVPARFSGSGSGTDFTL TISSLEPEDFAVYYCQQSWYDPITFGQGTKLEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKSTYSLSSTLTLSKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC</p>
199	PR-1613190H	<p>EVQLVQSGAEVKKPGSSVKVSCKASGYTFTESYMYWVK QAPGQGLELIGRIDPEDGSTDYVEKFKNKATLTADKST STAYMELSSLRSEDVAVYFCARFGARSYFYPMDAWGQG TTVTVSSGGGGSGGGGSEIQLVQSGSELKKPGASVKVS CKASGYPFTNSGMYWVKQAPGQGLEVMGWINTEAGKPT YADDFKGRFVFSLDTSVSTAYLQISSLKAEDTAVYFCA RWGYISDNSYGFWDYWGQGLVTVSSASTKGPSVFPLA PSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSKV HTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHK PSNTKVDKKEPKSCDKTHTCPPCPAPEAAGGPSVFLF PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDG VEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEY KCKVSNKALPAPIEKTISKAKGQPREPQVYITLPPSREE MTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTP PVLDSGDGSFFLYSKLTVDKSRWQQGNVFCSSVMHEALH NAYTQKSLSLSPGK</p>

200	PR-1613190L	<p>ETVLTQSPATLSLSPGERATLSCRASESVSTLMHWYQQ KPGQQPRLLIYGASNLESGVPARFSGSGSGTDFTLTIS SLEPEDFAVYFCQQSWNDPWTFGGGTKVEIKGSGGGG SGGATQLTQSPSSLSASVGDRVTISCRASEGVYSYMHW YQQKPGKQPKLLIYKASNLASGVPSRFSGSGSGTDFTL TISSLQPEDFATYFCHQNWNDPLTFGQGTKLEIKRTVA APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWK VDNALQSGNSQESVTEQDSKDYSLSTLTLTKADYE KHKVYACEVTHQGLSSPVTKSFNRGEC</p>
201	PR-1629646H	<p>EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVK QAPGQGLEVMGWIDTETGRPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYFCARWSGDTTGIRGPWFAYW GQGLVTVSSASTKGPEVTLRESGPALVKPTQTLTLTLC TFSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDDDKY YNPSLKNRLTISKDTSKNQVVLTMNMDPVDATATYYCA RIESSGPKYSFDYWGQGMVTVSSASTKGPSVFPLAPS SKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHT FPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPS NTKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVE VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKC KVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSREEMT KNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPV LDSGDGSFFLYSKLTVDKSRWQQGNVFSVCSVMHEALHNA YTQKSLSLSPGK</p>

202	PR-1629646L	DIRMTQSPSSLSASVGDRTIECLASEDIYSDLAWYQQ KPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYSLTIS SLQPEDVATYFCQQYNYFPGTFGQGTKLEIKRTVAAPS VFIFPPEIVLTQSPGTLSPGERATLSCRASSGSIWY SFVSWYQQKPGQAPRLLIYADDQRASGIPDRFSGSGSG TDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGGKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC
203	PR-1629647H	EVQLVESGGGLVQPGLSLRSLSCAASGFSFSKYDMAWFR QAPGKGLEWVASITTSVGTYYRDSVKGRFTVSRDNAK STLYLQMNSLRAEDTAVYYCARGYGAMDAWGQTTVTV SSASTKGPEVTLRESGPALVKPTQTLTLCTFSGFSL TYGMGVGWIRQPPGKALEWLANIWWDDDKYYPNPSLKNR LTISKDTSKNQVLTMTNMDPVDATYYCARISSGPK YSFDYWGQGMVTVSSASTKGPSVFPLAPSSKSTSGGT AALGCLVKDYFPEPVTVSWNSGALTSQVHTFPAVLQSS GLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKV EPKSCDKTHTCPPCPAPEAAGGPSVFLFPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP REEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALP APIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTC LVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFF LYSKLTVDKSRWQQGNVFSVCSVMHEALHNAYTQKSLSL SPGK

204	PR-1629647L	<p>DIQMTQSPSSLSASVGDRTITCKASQDIDDYLSWYQQ KPGKSPKLVIYAATRLADGVPSRFSGSGSGTDYTLTIS SLQPEDFATYYCLQSSSTPWTFGGGTKVEIKRTVAAPS VFIFPPEIVLTQSPGTLSPGERATLSCRASSGSIWY SFVSWYQQKPGQAPRLLIYADDQRASGIPDRFSGSGSG TDFTLTISRLEPEDFAVYYCQSYGINIDVVFSGGTKVE IKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE AKVQWKVDNALQSGNSQESVTEQDSKSTYSLSSSTLTL SKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC</p>
205	PR-1629648H	<p>EIQLVQSGSELKKPGASVKVSCKASGYTFTNYGMYWVK QAPGQGLEVMGWIDTETGRPTYADDFKGRFVFLDTSV STAYLQISSLKAEDTAVYFCARWSGDTTGIRGPWFAYW GQGTLLTVSSASTKGPSVFPLAPEVTLRESGPALVKPT QTLTLTCTFSGFSLSTYGMGVGWIRQPPGKALEWLNI WDDDKYYNPSLKNRLTISKDTSKNQVLTMTNMDPVD TATYYCARISSGPKYSFDYWGQGTMTVTVSSASTKGPS VFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGA LTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYIC NVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPEAAGGP SVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWL NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLP PSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENN YKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQSV HEALHNAVYTKSLSLSPGK</p>

206	PR-1629648L	DIRMTQSPSSLSASVGRVTIECLASEDIYSDLAWYQQ KPGKSPKLLIYNANGLQNGVPSRFSGSGSGTDYSLTIS SLQPEDVATYFCQQYNYFPGTFGQGTKLEIKRTVAAPE IVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQ QKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDFTLTI SRLEPEDFAVYYCQSYGINIDVVFGGGTKVEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDYSLSSSTLTLKADYK HKVYACEVTHQGLSSPVTKSFNRGEC
207	PR-1629649H	EVQLVESGGGLVQPGGSLRLSCAASGFSFSKYDMAWFR QAPGKGLEWVASITTSVGTYYRDSVVKGRFTVSRDNAK STLYLQMNSLRAEDTAVYYCARGYGAMDAWGQTTVTV SSASTKGPSVFPLAPEVTLRESGPALVKPTQTLTLTCT FSGFSLSTYGMGVGWIRQPPGKALEWLANIWWDDDKYY NPSLKNRLTISKDTSKNQVVLTMNMDPVDATYYCAR IESSGPKYSFDYWGQGTMTVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSVHTF PAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSN TKVDKKVEPKSCDKTHTCPPCPAPEAAGGPSVFLFPPK PKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCK VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTK NQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVL DSDGSFFLYSKLTVDKSRWQQGNVFSQVMSHEALHNAY TQKSLSLSPGK

208	PR-1629649L	DIQMTQSPSSLSASVGRVTITCKASQDIDDYLSWYQQ KPGKSPKLVIIYAATRLADGVPSRFSGSGSGTDYTLTIS SLQPEDFATYYCLQSSSTPWTFGGGTKVEIKRTVAAPE IVLTQSPGTLSSLSPGERATLSCRASSGSIWYSFVSWYQ QKPGQAPRLLIYADDQRASGIPDRFSGSGSGTDFTLTI SRLEPEDFAVYYCQSYGINIDVVFGGGTKVEIKRTVAA PSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKV DNALQSGNSQESVTEQDSKDYSLSSSTLTLSKADYEK HKVYACEVTHQGLSSPVTKSFNRGEC
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實例18：PR-1610561細胞系

使用 pHybE 載體來表現嵌合、人類化及親和力成熟抗體以及 DVD-Ig 結合蛋白。亦使用類似於 pHybE-hCg1,z,non-a,mu(234,235) V2 之載體來達成 PR-1610561 在 HEK 細胞中之瞬時表現。參見美國專利第 8,187,836 號。

已產生產生 PR-1610561 之 CHO 細胞系。CHO 細胞系之生長及生產力類似於其他 DVD-Ig 分子之彼等。藉由 MS、SEC 及 CIEX，所有細胞系通過對可接受之產物品質之篩選。CHO 細胞系係使用編碼 PR-1610561 之胺基酸序列之 pBJ 及 pCD 質體載體來產生。參見 US 2014/0295497。

實例19：表位分倉

在基於細胞之無標記競爭分析中測試本文所揭示之抗體及結合蛋白以確定哪些抗體及結合蛋白能夠同時結合至同一抗原(例如，VEGF、PDGF 或其受體中之一者)。若抗體或結合蛋白無法同時結合(因此可競爭相同或相似表位)，則將彼等抗體或結合蛋白指配給同一「表位倉」。若抗體或結合蛋白能夠同時結合且因此不競爭抗原結合，則將彼等抗體或結合蛋白指配給不同表位倉。

以引用方式併入

可貫穿本申請案引用之所有引用參考文獻(包括參考文獻、專利、專利申請案及網站)之內容係全文以引用方式明確地併入本文中，如其中所引用參考文獻一般。就彼等參考文獻與本申請案中之任何陳述相矛盾或不一致而言，以本申請案之內容為準。除非另外指明，否則本發明將採用業內所熟知之免疫學、分子生物學及細胞生物學等習用技術。

等效內容

本發明可在不背離其精神或基本特徵下以其他特定形式體現。因此，應在所有態樣上皆將上述實施例視為說明性而非限制本文所述之本發明。因此，本發明之範疇係由隨附申請專利範圍而非由上述描述來指示，且因此本文意欲涵蓋申請專利範圍等效內容之含義及範圍內的所有變化。

【符號說明】

無

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<140> TW 105118453

<141> 2016-06-13

<150> 62/291,964

<151> 2016-02-05

<150> 62/175,546

<151> 2015-06-15

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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
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Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
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20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
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 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
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Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe

50

55

60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
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Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Thr Val Thr Val Ser Ser
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Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

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 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Leu Val Thr Val Ser Ser
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Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
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Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
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Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Glu Ser
20 25 30

Tyr Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Leu Ile
35 40 45

Gly Arg Ile Asp Pro Glu Asp Gly Ser Thr Asp Tyr Val Glu Lys Phe
50 55 60

Lys Asn Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

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 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr Leu
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys Tyr Ser Phe Asp Tyr Trp
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Gly Gln Gly Thr Met Val Thr Val Ser Ser
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser Gly Ser Ile Trp Tyr
 20 25 30

Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly Ile Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
 65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Gly Ile Asn
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Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr

20

25

30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
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Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
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Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

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Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

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 Ser Leu Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30
 Gly Met Tyr Trp Val Lys Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45
 Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Thr Phe Ser Leu Asp Lys Ser Phe Asn Thr Ala Phe
 65 70 75 80
 Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Phe Cys
 85 90 95
 Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
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 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
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 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
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 Asp Thr Val Leu Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
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 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
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Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
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Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
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Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
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Gly Thr Leu Val Thr Val Ser Ser
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1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 27

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 27

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 28

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 28

Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
1 5 10 15Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
20 25 30His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
35 40 45Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
85 90 95Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 29

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 29

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr

<400> 31

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 32

<211> 106

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 32

Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
 1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
 65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 33
<211> 123
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 33
Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 34
<211> 107
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 34

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 35

<211> 124

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 35

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 36
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 36
 Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 37
 <211> 124
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 37
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 38

<211> 107

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 38

Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 39
 <211> 116
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 39
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Ser Lys Tyr
 20 25 30

Asp Met Ala Trp Phe Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ala Ser Ile Thr Thr Ser Gly Val Gly Thr Tyr Tyr Arg Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Val Ser Arg Asp Asn Ala Lys Ser Thr Leu Tyr
 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Tyr Gly Ala Met Asp Ala Trp Gly Gln Gly Thr Thr Val
 100 105 110

Thr Val Ser Ser
 115

<210> 40
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 40
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asp Asp Tyr

20

25

30

Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Val Ile
 35 40 45

Tyr Ala Ala Thr Arg Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln Ser Ser Ser Thr Pro Trp
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 41

<211> 123

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 41

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asn Ser
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Ala Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Gly Tyr Ile Ser Asp Asn Ser Tyr Gly Trp Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser

115

120

<210> 42
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 42
 Ala Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Glu Gly Val Tyr Ser Tyr
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

Tyr Lys Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys His Gln Asn Trp Asn Asp Pro Leu
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 43
 <211> 123
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 43
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Asp Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Asn Tyr Met Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 44
 <211> 107
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 44
 Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Phe Cys Arg Ala Ser Gln Ser Val Ser Asn His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Ile Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Ser Trp Tyr Asp Pro Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 45
 <211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 45

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys
 130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
 145 150 155 160

Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly
 165 170 175

Leu Glu Trp Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr
 180 185 190

Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val
 195 200 205

Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala
 210 215 220

Val Tyr Tyr Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe
 225 230 235 240

Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln

85

90

95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Gly
 100 105 110

Gly Ser Gly Gly Gly Gly Ser Gly Asp Thr Val Leu Thr Gln Ser Pro
 115 120 125

Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg
 130 135 140

Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro
 145 150 155 160

Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser
 165 170 175

Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 180 185 190

Leu Thr Ile Ser Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys
 195 200 205

Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 47
 <211> 581
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 47
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
 115 120 125

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 130 135 140

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 145 150 155 160

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 165 170 175

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 180 185 190

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 195 200 205

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 210 215 220

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
565 570 575

Leu Ser Pro Gly Lys
580

<210> 48

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 48

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Thr
100 105 110

Val Ala Ala Pro Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser
115 120 125

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser
130 135 140

Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
145 150 155 160

Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
180 185 190

Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp
195 200 205

Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 49
 <211> 581
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 49
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
 115 120 125

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 130 135 140

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 145 150 155 160

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 165 170 175

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 180 185 190

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 195 200 205

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 210 215 220

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala

450

455

460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
565 570 575

Leu Ser Pro Gly Lys
580

<210> 50

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 50

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu

65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Thr
 100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Val Leu Thr
 115 120 125

Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu
 130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn
 165 170 175

Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr
 180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu Asp Phe Ala Val
 195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
 210 215 220

Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 51
 <211> 588
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 51
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
 115 120 125

Ser Val Phe Pro Leu Ala Pro Glu Val Gln Leu Val Gln Ser Gly Ser
 130 135 140

Glu Leu Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser
 145 150 155 160

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro
 165 170 175

Gly Gln Gly Leu Glu Trp Met Gly Trp Ile Asn Thr Glu Thr Gly Lys
 180 185 190

Pro Thr Tyr Ala Asp Asp Phe Lys Gly Arg Phe Val Phe Ser Leu Asp
 195 200 205

Thr Ser Val Ser Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu
 210 215 220

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser
 225 230 235 240

Tyr Ile Phe Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val
 245 250 255

Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser
 260 265 270

Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys
 275 280 285

Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu
 290 295 300

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu
 305 310 315 320

Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr
 325 330 335

Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val
 340 345 350

Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro
 355 360 365

Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe
 370 375 380

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 385 390 395 400

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
 405 410 415

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
 420 425 430

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
 435 440 445

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
 450 455 460

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
 465 470 475 480

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
 485 490 495

Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
 500 505 510

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
 515 520 525

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
 530 535 540

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
 545 550 555 560

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
 565 570 575

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 52

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 52

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Thr
100 105 110

Val Ala Ala Pro Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser
115 120 125

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser
130 135 140

Val Ser Thr His Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
145 150 155 160

Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
180 185 190

Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp
195 200 205

Asn Asp Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 53
 <211> 585
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 53
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu

420

425

430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 54

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 54

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 55
 <211> 581
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 55
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
 130 135 140

Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr
 145 150 155 160

Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu
165 170 175

Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro
180 185 190

Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln
195 200 205

Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr
210 215 220

Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 565 570 575

Leu Ser Pro Gly Lys
 580

<210> 56

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 56

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
115 120 125

Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly
130 135 140

Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
145 150 155 160

Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg
165 170 175

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
180 185 190

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile
195 200 205

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly
210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 57

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 57

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
 130 135 140

Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr
 145 150 155 160

Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu
165 170 175

Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro
180 185 190

Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln
195 200 205

Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr
210 215 220

Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val

405

410

415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 565 570 575

Leu Ser Pro Gly Lys
 580

<210> 58

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 58

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 59
 <211> 588
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 59
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Glu Val Thr Leu Arg Glu Ser Gly
130 135 140

Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe
145 150 155 160

Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg
165 170 175

Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp
180 185 190

Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser
195 200 205

Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp
210 215 220

Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly
225 230 235 240

Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val
245 250 255

Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser
260 265 270

Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys
275 280 285

Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu
290 295 300

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu
305 310 315 320

Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr
325 330 335

Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val
340 345 350

Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro
355 360 365

Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe
370 375 380

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
385 395 400

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
405 410 415

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
420 425 430

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
435 440 445

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
450 455 460

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
465 470 475 480

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
485 490 495

Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
500 505 510

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
515 520 525

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
530 535 540

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
545 550 555 560

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
565 570 575

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 60

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 60

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
 115 120 125

Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly
 130 135 140

Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
 145 150 155 160

Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg
 165 170 175

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
 180 185 190

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile
 195 200 205

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly
 210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
 225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
 260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
 275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 61
 <211> 582
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注释=「人工序列之描述：合成多肽」

<400> 61
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Ile Gln Leu Val Gln Ser Gly Thr Glu Val Lys Lys Pro Gly
130 135 140

Glu Ser Leu Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn
145 150 155 160

Tyr Gly Met Tyr Trp Val Lys Gln Met Pro Gly Lys Gly Leu Glu Tyr
165 170 175

Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp
180 185 190

Phe Lys Gly Arg Phe Thr Phe Ser Leu Asp Lys Ser Phe Asn Thr Ala
195 200 205

Phe Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Phe
210 215 220

Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp
225 230 235 240

Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys
245 250 255

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
260 265 270

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
275 280 285

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
290 295 300

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
305 310 315 320

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
325 330 335

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
340 345 350

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
355 360 365

Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp

370

375

380

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
385 390 395 400

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
405 410 415

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
420 425 430

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
435 440 445

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
450 455 460

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
465 470 475 480

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
485 490 495

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
500 505 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
515 520 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
530 535 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
545 550 555 560

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
565 570 575

Ser Leu Ser Pro Gly Lys
580

<210> 62

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 62

Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Thr
 100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Glu Thr Val Leu Thr
 115 120 125

Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly Glu Arg Ala Thr Leu
 130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
 145 150 155 160

Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn
 165 170 175

Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr
 180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser Glu Asp Phe Ala Val
 195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
 210 215 220

Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 63

<211> 582

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 63

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Ile Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly
 130 135 140

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn
 145 150 155 160

Tyr Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr
 165 170 175

Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp
 180 185 190

Phe Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala
 195 200 205

Tyr Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe
 210 215 220

Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp
 225 230 235 240

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
 245 250 255

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
 260 265 270

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
 275 280 285

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
 290 295 300

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 305 310 315 320

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
 325 330 335

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
 340 345 350

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
 355 360 365

Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 370 375 380

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 385 390 395 400

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
 405 410 415

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
 420 425 430

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
 435 440 445

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
 450 455 460

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
 465 470 475 480

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
 485 490 495

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 500 505 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
 515 520 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
 530 535 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
 545 550 555 560

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
 565 570 575

Ser Leu Ser Pro Gly Lys
 580

<210> 64
 <211> 311

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 64

Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Thr
 100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Val Leu Thr
 115 120 125

Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly Glu Arg Ala Thr Ile
 130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
 145 150 155 160

Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn
 165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
 180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Val
 195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
 210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys
 305 310

<210> 65

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 65

Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
 85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Thr
 100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Gln Leu Thr
 115 120 125

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
 130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
 145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn
 165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
 180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
 195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
 210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 66

<211> 582
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 66
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Ile Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly
 130 135 140

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn
 145 150 155 160

Tyr Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr
 165 170 175

Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp
 180 185 190

Phe Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala
 195 200 205

Tyr Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe

210

215

220

Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp
 225 230 235 240

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
 245 250 255

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
 260 265 270

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
 275 280 285

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
 290 295 300

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 305 310 315 320

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
 325 330 335

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
 340 345 350

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
 355 360 365

Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 370 375 380

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 385 390 395 400

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
 405 410 415

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
 420 425 430

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
 435 440 445

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
 450 455 460

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
465 470 475 480

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
485 490 495

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
500 505 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
515 520 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
530 535 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
545 550 555 560

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
565 570 575

Ser Leu Ser Pro Gly Lys
580

<210> 67

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 67

Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Thr
100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Val Leu Thr
115 120 125

Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly Glu Arg Ala Thr Ile
130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn
165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Val
195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
325 330 335

Cys

<210> 68

<211> 582

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 68

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
 85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
 130 135 140

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn
 145 150 155 160

Tyr Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr
 165 170 175

Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp
 180 185 190

Phe Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala
195 200 205

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe
210 215 220

Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp
225 230 235 240

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
245 250 255

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
260 265 270

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
275 280 285

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
290 295 300

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
305 310 315 320

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
325 330 335

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
340 345 350

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
355 360 365

Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
370 375 380

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
385 390 395 400

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
405 410 415

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
420 425 430

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
435 440 445

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
 450 455 460

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
 465 470 475 480

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
 485 490 495

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 500 505 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
 515 520 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
 530 535 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
 545 550 555 560

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
 565 570 575

Ser Leu Ser Pro Gly Lys
 580

<210> 69

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 69

Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Thr Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Thr Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ser Asp
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Thr
100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Gln Leu Thr
115 120 125

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn
165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr

305 310 315 320
 His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 70
 <211> 581
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 70
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
 115 120 125

Glu Ile Gln Leu Val Gln Ser Gly Thr Glu Val Lys Lys Pro Gly Glu
 130 135 140

Ser Leu Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 145 150 155 160

Gly Met Tyr Trp Val Lys Gln Met Pro Gly Lys Gly Leu Glu Tyr Met

165

170

175

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 180 185 190

Lys Gly Arg Phe Thr Phe Ser Leu Asp Lys Ser Phe Asn Thr Ala Phe
 195 200 205

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Phe Cys
 210 215 220

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 565 570 575

Leu Ser Pro Gly Lys
 580

<210> 71

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 71

Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Thr
100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Glu Thr Val Leu Thr
115 120 125

Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly Glu Arg Ala Thr Leu
130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Asn
165 170 175

Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser Glu Asp Phe Ala Val
195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
210 215 220

Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 72

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 72

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
 115 120 125

Glu Ile Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 130 135 140

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
145 150 155 160

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
165 170 175

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
180 185 190

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
195 200 205

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
210 215 220

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
225 230 235 240

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 565 570 575

Leu Ser Pro Gly Lys
 580

<210> 73

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 73

Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Thr
100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Val Leu Thr
115 120 125

Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly Glu Arg Ala Thr Ile
130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn
165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Val
195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys

260

265

270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 74

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 74

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 565 570 575

Leu Ser Pro Gly Lys
 580

<210> 75

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 75

Asp Phe Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly Thr
100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Gln Leu Thr
115 120 125

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn
165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 76

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 76

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
 65 70 75 80

Tyr Leu Gln Ile Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
 115 120 125

Glu Ile Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
 130 135 140

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 145 150 155 160

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
 165 170 175

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 180 185 190

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
 195 200 205

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
 210 215 220

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 225 230 235 240

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 565 570 575

Leu Ser Pro Gly Lys
 580

<210> 77

<211> 337
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 77
 Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
 50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
 65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
 85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Thr
 100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Val Leu Thr
 115 120 125

Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly Glu Arg Ala Thr Ile
 130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
 145 150 155 160

Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn
 165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
 180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Val
 195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly

210

215

220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 78

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 78

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
 530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
 545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 565 570 575

Leu Ser Pro Gly Lys
580

<210> 79
<211> 337
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 79
Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Thr
100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Gln Leu Thr
115 120 125

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn
165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
 195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
 210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 80
 <211> 582
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 80
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Phe
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Ala
65 70 75 80

Val Leu Thr Ile Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ile Ser Thr Gly Ile Ser Ser Tyr Tyr Val Met Asp Ala
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly
115 120 125

Pro Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
130 135 140

Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn
145 150 155 160

Tyr Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr
165 170 175

Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp
180 185 190

Phe Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala
195 200 205

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe
210 215 220

Cys Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp
225 230 235 240

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
245 250 255

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
260 265 270

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
275 280 285

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
290 295 300

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 305 310 315 320

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
 325 330 335

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
 340 345 350

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
 355 360 365

Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 370 375 380

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
 385 390 395 400

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
 405 410 415

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
 420 425 430

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
 435 440 445

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
 450 455 460

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
 465 470 475 480

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
 485 490 495

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 500 505 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
 515 520 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
 530 535 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys

165

170

175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
 180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
 195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
 210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 82

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 82

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
 450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
 485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
545 550 555 560

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
565 570 575

Leu Ser Pro Gly Lys
580

<210> 83

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 83

Asp Phe Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Glu Arg Ser Ser Gly Asp Ile Gly Asp
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Asn
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Val Pro Ser Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Asn Ser Ala Ser Leu Thr Ile Ser Ser Leu
65 70 75 80

Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Gly Thr
100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Val Leu Thr
115 120 125

Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly Glu Arg Ala Thr Ile
130 135 140

Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His Met His Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu Ile Tyr Gly Ala Ser Asn
165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Arg Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Val
195 200 205

Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr Phe Gly Gln Gly
210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
325 330 335

Cys

<210> 84
<211> 585
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 84

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro

500

505

510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 85

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 85

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly
 100 105 110

Gly Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu

<400> 86

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
 130 135 140

Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr
 145 150 155 160

Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu
 165 170 175

Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro
 180 185 190

Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln
 195 200 205

Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr
 210 215 220

Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
545 550 555 560

Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser
565 570 575

Leu Ser Pro Gly Lys
580

<210> 87

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 87

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Glu Phe Val Leu Thr Gln Ser Pro
 115 120 125

Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu
 130 135 140

Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln
 145 150 155 160

Lys Pro Gly Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg
 165 170 175

Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
 180 185 190

Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
 195 200 205

Tyr Cys Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly
 210 215 220

Thr Lys Val Glu Ile Lys Gly Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 88
 <211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 88

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln

85

90

95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly
 100 105 110

Gly Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 130 135 140

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 90
 <211> 585
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 90
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 91
<211> 335
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 91
Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly
100 105 110

Gly Gly Gly Ser Gly Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr
115 120 125

Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser
130 135 140

Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro
145 150 155 160

Gly Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser
165 170 175

Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
180 185 190

Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys
195 200 205

Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys
210 215 220

Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
225 230 235 240

Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu
245 250 255

Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp
260 265 270

Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp
275 280 285

Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys
290 295 300

Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln
305 310 315 320

Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330 335

<210> 92
 <211> 585
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 92
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys

450

455

460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 93

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 93

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 94
 <211> 581
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 94
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
 130 135 140

Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr
 145 150 155 160

Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu
 165 170 175

Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro
 180 185 190

Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln
 195 200 205

Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr
 210 215 220

Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
 275 280 285

Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
 290 295 300

Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
 305 310 315 320

Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val
 325 330 335

Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys
 340 345 350

Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
 355 360 365

Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 370 375 380

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 385 390 395 400

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
 405 410 415

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
 420 425 430

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 435 440 445

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
450 455 460

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
465 470 475 480

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
485 490 495

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
500 505 510

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
515 520 525

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
545 550 555 560

Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser
565 570 575

Leu Ser Pro Gly Lys
580

<210> 95

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 95

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Glu Phe Val Leu Thr Gln Ser Pro
115 120 125

Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu
130 135 140

Arg Ser Ser Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln
145 150 155 160

Lys Pro Gly Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg
165 170 175

Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
180 185 190

Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
195 200 205

Tyr Cys Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly
210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 96
 <211> 588
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 96
 Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Glu Val Thr Leu Arg Glu Ser Gly
 130 135 140

Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe
 145 150 155 160

Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg
 165 170 175

Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp
 180 185 190

Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser
 195 200 205

Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp
 210 215 220

Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly
 225 230 235 240

Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val
 245 250 255

Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser
 260 265 270

Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys
 275 280 285

Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu
 290 295 300

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu
 305 310 315 320

Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr
 325 330 335

Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val
 340 345 350

Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro
 355 360 365

Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe
 370 375 380

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 385 390 395 400

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
 405 410 415

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro

420

425

430

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
 435 440 445

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
 450 455 460

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
 465 470 475 480

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
 485 490 495

Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
 500 505 510

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
 515 520 525

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
 530 535 540

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
 545 550 555 560

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala
 565 570 575

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 97

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 97

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile

35

40

45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
115 120 125

Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly
130 135 140

Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
145 150 155 160

Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg
165 170 175

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
180 185 190

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile
195 200 205

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 98

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 98

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
 115 120 125

Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly
 130 135 140

Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
 145 150 155 160

Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg
 165 170 175

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
 180 185 190

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile
 195 200 205

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Gly
 210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
 225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
 260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
 275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 99

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 99

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 100

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 100

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly
100 105 110

Gly Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
130 135 140

Gly Asp Ile Gly Glu Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 101

<211> 581

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 101

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 115 120 125

Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr
 130 135 140

Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr
 145 150 155 160

Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu
 165 170 175

Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro
 180 185 190

Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln
 195 200 205

Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr
 210 215 220

Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr
 225 230 235 240

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
 245 250 255

Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly
 260 265 270

Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
530 535 540

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
545 550 555 560

Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser
565 570 575

Leu Ser Pro Gly Lys
580

<210> 102

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 102

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Glu Phe Val Leu Thr Gln Ser Pro
115 120 125

Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu
130 135 140

Arg Ser Ser Gly Asp Ile Gly Glu Ser Tyr Val Ser Trp Tyr Gln Gln
145 150 155 160

Lys Pro Gly Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg
165 170 175

Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
180 185 190

Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
195 200 205

Tyr Cys Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly
210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
325 330 335

Cys

<210> 103
<211> 588
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 103

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly
115 120 125

Pro Ser Val Phe Pro Leu Ala Pro Glu Val Thr Leu Arg Glu Ser Gly
130 135 140

Pro Ala Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe
145 150 155 160

Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg
165 170 175

Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp
180 185 190

Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser
195 200 205

Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp
210 215 220

Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly
225 230 235 240

Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val
245 250 255

Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser
260 265 270

Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys
275 280 285

Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu
290 295 300

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu
305 310 315 320

Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr
325 330 335

Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val
340 345 350

Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro
355 360 365

Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe
370 375 380

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
385 390 395 400

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
405 410 415

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
420 425 430

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
435 440 445

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
450 455 460

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
465 470 475 480

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
485 490 495

Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
500 505 510

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
 515 520 525

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
 530 535 540

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
 545 550 555 560

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala
 565 570 575

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 104

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 104

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
 115 120 125

Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly
 130 135 140

Glu Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
 145 150 155 160

Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg
 165 170 175

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
 180 185 190

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile
 195 200 205

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
 210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
 225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
 260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
 275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 105

<211> 582

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 105

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
 115 120 125

Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro
 130 135 140

Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser
 145 150 155 160

Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala
 165 170 175

Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn
 180 185 190

Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn
 195 200 205

Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr
 210 215 220

Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp
 225 230 235 240

Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 500 505 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
 515 520 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
 530 535 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
 545 550 555 560

Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu
 565 570 575

Ser Leu Ser Pro Gly Lys
 580

<210> 106

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 106

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly
 100 105 110

Gly Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 130 135 140

Gly Asp Ile Gly Glu Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 107

<211> 578

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 107

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Glu Val
115 120 125

Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln Thr Leu
130 135 140

Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr Gly Met
145 150 155 160

Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu
165 170 175

Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser Leu Lys
180 185 190

Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu
195 200 205

Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala
210 215 220

Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp Gly Gln
225 230 235 240

Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
 485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
 500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
 515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
 530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
 545 550 555 560

Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
 565 570 575

Gly Lys

<210> 108

<211> 337

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 108

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
 20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
 35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Glu Phe Val Leu Thr Gln Ser Pro
 115 120 125

Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu
 130 135 140

Arg Ser Ser Gly Asp Ile Gly Glu Ser Tyr Val Ser Trp Tyr Gln Gln
 145 150 155 160

Lys Pro Gly Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg
 165 170 175

Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
 180 185 190

Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
 195 200 205

Tyr Cys Gln Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly
 210 215 220

Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
 225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
 245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
 260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
 275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
 290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
 305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu
 325 330 335

Cys

<210> 109

<211> 585
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 109
 Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 115 120 125

Phe Pro Leu Ala Pro Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp

210

215

220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 110

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 110

Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val
20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile
35 40 45

His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro
115 120 125

Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly
130 135 140

Glu Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
145 150 155 160

Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg
165 170 175

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
180 185 190

Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile
195 200 205

Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 111
 <211> 578
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 111
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
 115 120 125

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 130 135 140

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 145 150 155 160

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 165 170 175

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr Ala Asp Asp Phe
 180 185 190

Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr Ser Thr Ala Tyr
 195 200 205

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
 210 215 220

Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala Tyr Trp Gly Gln
 225 230 235 240

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
 245 250 255

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
 260 265 270

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
 275 280 285

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
 290 295 300

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
 305 310 315 320

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
 325 330 335

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp
 340 345 350

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Gly
 355 360 365

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
 370 375 380

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
 385 390 395 400

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
 405 410 415

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
 420 425 430

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
 435 440 445

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
 450 455 460

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
465 470 475 480

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
485 490 495

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
500 505 510

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
515 520 525

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
530 535 540

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
545 550 555 560

Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
565 570 575

Gly Lys

<210> 112
<211> 337
<212> PRT
<213> 人工序列

<220>
<221> source
<223> /注釋=「人工序列之描述：合成多肽」

<400> 112
Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr
100 105 110

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Asp Thr Gln Leu Thr
115 120 125

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
130 135 140

Thr Cys Arg Ala Ser Glu Ser Val Ser Thr Val Ile His Trp Tyr Gln
145 150 155 160

Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile His Gly Ala Ser Asn
165 170 175

Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
180 185 190

Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
195 200 205

Tyr Phe Cys Gln Gln His Trp Asn Asp Pro Pro Thr Phe Gly Gln Gly
210 215 220

Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile
225 230 235 240

Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val
245 250 255

Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys
260 265 270

Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu
275 280 285

Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu
290 295 300

Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr
305 310 315 320

His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu.

325

330

335

Cys

<210> 113
 <211> 585
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 113
 Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
 115 120 125

Ser Val Phe Pro Leu Ala Pro Glu Val Gln Leu Val Gln Ser Gly Ala
 130 135 140

Glu Val Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser
 145 150 155 160

Gly Tyr Thr Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro
 165 170 175

Gly Gln Gly Leu Glu Trp Met Gly Trp Ile Asn Thr Glu Thr Gly Lys

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 114

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 114

Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr
100 105 110

Val Ala Ala Pro Asp Thr Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser
115 120 125

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser
130 135 140

Val Ser Thr Val Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro
145 150 155 160

Lys Leu Leu Ile His Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser
165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
180 185 190

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln His Trp
195 200 205

Asn Asp Pro Pro Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 115

<211> 582

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 115

Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30

Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45

Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys Tyr Tyr Asn Pro Ser
 50 55 60

Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95

Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr Ser Phe Asp Tyr Trp
 100 105 110

Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
 115 120 125

Gly Gly Gly Ser Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys
 130 135 140

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
 145 150 155 160

Phe Thr Asn Tyr Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly
 165 170 175

Leu Glu Trp Met Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Ile Tyr
180 185 190

Ala Asp Asp Phe Lys Gly Arg Val Thr Met Thr Thr Asp Thr Ser Thr
195 200 205

Ser Thr Ala Tyr Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala
210 215 220

Val Tyr Tyr Cys Ala Arg Val Asp Tyr Asp Gly Ser Phe Trp Phe Ala
225 230 235 240

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys
245 250 255

Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
260 265 270

Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
275 280 285

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
290 295 300

Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
305 310 315 320

Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn
325 330 335

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
340 345 350

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
355 360 365

Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
370 375 380

Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp
385 390 395 400

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
405 410 415

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn
420 425 430

Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp
 435 440 445

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro
 450 455 460

Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu
 465 470 475 480

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
 485 490 495

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 500 505 510

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
 515 520 525

Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
 530 535 540

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
 545 550 555 560

Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys Ser Leu
 565 570 575

Ser Leu Ser Pro Gly Lys
 580

<210> 116
 <211> 334
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注釋=「人工序列之描述：合成多肽」

<400> 116
 Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly Asp Ile Gly Glu
 20 25 30

Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu
 35 40 45

Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile Pro Asp Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu
65 70 75 80

Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser Tyr Asp Ile Asn
85 90 95

Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Gly
100 105 110

Gly Ser Gly Gly Gly Gly Ser Gly Asp Thr Gln Leu Thr Gln Ser Pro
115 120 125

Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg
130 135 140

Ala Ser Glu Ser Val Ser Thr Val Ile His Trp Tyr Gln Gln Lys Pro
145 150 155 160

Gly Lys Gln Pro Lys Leu Leu Ile His Gly Ala Ser Asn Leu Glu Ser
165 170 175

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
180 185 190

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Phe Cys
195 200 205

Gln Gln His Trp Asn Asp Pro Pro Thr Phe Gly Gln Gly Thr Lys Leu
210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala

290

295

300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 117

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 117

Glu Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 118
 <211> 333
 <212> PRT
 <213> 人工序列

<220>
 <221> source
 <223> /注释=「人工序列之描述：合成多肽」

<400> 118
 Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
 1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
 20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
 35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
 50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
 65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
 85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser
 115 120 125

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly
 130 135 140

Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln
 145 150 155 160

Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile
 165 170 175

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
 180 185 190

Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser
 195 200 205

Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu
 210 215 220

Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
 225 230 235 240

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
 245 250 255

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
 260 265 270

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
 275 280 285

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
 290 295 300

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
 305 310 315 320

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 119

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 119

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
 385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 120

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 120

Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly
 100 105 110

Gly Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 130 135 140

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser

275

280

285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 121

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 121

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 122

<211> 333

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 122

Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
 1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly Gly
100 105 110

Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu Ser
115 120 125

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser Gly
130 135 140

Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln
145 150 155 160

Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly Ile
165 170 175

Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
180 185 190

Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Ser
195 200 205

Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val Glu
210 215 220

Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
225 230 235 240

Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
245 250 255

Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
260 265 270

Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
 275 280 285

Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
 290 295 300

Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
 305 310 315 320

Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 123

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 123

Glu Ile Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Thr Leu Asp Thr Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
 405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
 420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
 435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
 450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
 465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
 485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
 500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
 515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
 530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
 545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
 565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 124

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 124

Asp Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Gly Gly Ser Gly
 100 105 110

Gly Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 130 135 140

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn

260

265

270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 125

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 125

Glu Ile Gln Leu Val Gln Ser Gly Thr Glu Val Lys Lys Pro Gly Glu
 1 5 10 15

Ser Leu Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Met Pro Gly Lys Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Lys Ser Phe Asn Thr Ala Phe
 65 70 75 80

Leu Gln Trp Ser Ser Leu Lys Ala Ser Asp Thr Ala Met Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser
 115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu

130

135

140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 126

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 126

Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Gly Gly Ser Gly
 100 105 110

Gly Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 130 135 140

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 245 250 255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
325 330

<210> 127

<211> 585

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 127

Glu Ile Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Tyr Met
35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
50 55 60

Lys Gly Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr
65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Phe Cys
85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala Leu
 130 135 140

Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe
 145 150 155 160

Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro Pro
 165 170 175

Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp Lys
 180 185 190

Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp Thr
 195 200 205

Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val Asp
 210 215 220

Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ile Gly Thr Thr Tyr
 225 230 235 240

Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala
 245 250 255

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser
 260 265 270

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
 275 280 285

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
 290 295 300

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
 305 310 315 320

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 325 330 335

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
 340 345 350

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
 355 360 365

Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
 370 375 380

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
385 390 395 400

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
405 410 415

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
420 425 430

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
435 440 445

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
450 455 460

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
465 470 475 480

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
485 490 495

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
500 505 510

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
515 520 525

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
530 535 540

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
545 550 555 560

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
565 570 575

Lys Ser Leu Ser Leu Ser Pro Gly Lys
580 585

<210> 128

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 128

Asp Thr Val Leu Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly
 1 5 10 15

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Ser Thr His
 20 25 30

Met His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Gly Gly Ser Gly
 100 105 110

Gly Gly Gly Ser Gly Glu Phe Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Glu Arg Ser Ser
 130 135 140

Gly Asp Ile Gly Asp Ser Tyr Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Val Ile Tyr Ala Asp Asp Gln Arg Pro Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Asp Ile Asn Ile Asp Ile Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 225 230 235 240

Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu

245

250

255

Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 260 265 270

Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 275 280 285

Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 290 295 300

Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 305 310 315 320

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 129

<211> 584

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 129

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asn Thr Glu Thr Gly Lys Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Thr Asn Tyr Tyr Tyr Arg Ser Tyr Ile Phe Tyr Phe Asp Tyr
 100 105 110

Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser

Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 370 375 380

Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 385 390 395 400

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 405 410 415

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
 420 425 430

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 435 440 445

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 450 455 460

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
 465 470 475 480

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
 485 490 495

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
 500 505 510

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 515 520 525

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
 530 535 540

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 545 550 555 560

Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr Gln Lys
 565 570 575

Ser Leu Ser Leu Ser Pro Gly Lys
 580

<210> 130

<211> 330

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 130

Ala Thr Gln Leu Thr Gln Ser Pro Ser Leu Ser Ala Ser Val Gly Asp
1 5 10 15

Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Ser Val Ser Thr His Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Lys Gln Pro Lys Leu Leu Ile Tyr
35 40 45

Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
65 70 75 80

Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ser Trp Asn Asp Pro Phe Thr
85 90 95

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly Gly
100 105 110

Gly Ser Gly Gly Glu Thr Val Leu Thr Gln Ser Pro Ala Thr Leu Ser
115 120 125

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Glu Ser
130 135 140

Val Ser Thr Leu Met His Trp Tyr Gln Gln Lys Pro Gly Gln Gln Pro
145 150 155 160

Arg Leu Leu Ile Tyr Gly Ala Ser Asn Leu Glu Ser Gly Val Pro Ala
165 170 175

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
180 185 190

Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ser Trp
195 200 205

Asn Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
210 215 220

Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
225 230 235 240

Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 245 250 255

Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
 260 265 270

Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
 275 280 285

Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 290 295 300

His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 305 310 315 320

Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 325 330

<210> 131

<211> 586

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注释=「人工序列之描述：合成多肽」

<400> 131

Glu Ile Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Gly Met Tyr Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Tyr Met
 35 40 45

Gly Trp Ile Asp Thr Glu Thr Gly Arg Pro Thr Tyr Ala Asp Asp Phe
 50 55 60

Lys Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser Thr Ala Tyr
 65 70 75 80

Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Trp Ser Gly Asp Thr Thr Gly Ile Arg Gly Pro Trp Phe Ala
 100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly
 115 120 125

Ser Gly Gly Gly Gly Ser Glu Val Thr Leu Arg Glu Ser Gly Pro Ala
 130 135 140

Leu Val Lys Pro Thr Gln Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly
 145 150 155 160

Phe Ser Leu Ser Thr Tyr Gly Met Gly Val Gly Trp Ile Arg Gln Pro
 165 170 175

Pro Gly Lys Ala Leu Glu Trp Leu Ala Asn Ile Trp Trp Asp Asp Asp
 180 185 190

Lys Tyr Tyr Asn Pro Ser Leu Lys Asn Arg Leu Thr Ile Ser Lys Asp
 195 200 205

Thr Ser Lys Asn Gln Val Val Leu Thr Met Thr Asn Met Asp Pro Val
 210 215 220

Asp Thr Ala Thr Tyr Tyr Cys Ala Arg Ile Glu Ser Ser Gly Pro Lys
 225 230 235 240

Tyr Ser Phe Asp Tyr Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 245 250 255

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
 260 265 270

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 275 280 285

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 290 295 300

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 305 310 315 320

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 325 330 335

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 340 345 350

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 355 360 365

Pro Ala Pro Glu Ala Ala Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 370 375 380

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 385 390 395 400

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 405 410 415

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 420 425 430

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 435 440 445

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 450 455 460

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 465 470 475 480

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
 485 490 495

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 500 505 510

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 515 520 525

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 530 535 540

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 545 550 555 560

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Ala Tyr Thr
 565 570 575

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 580 585

<210> 132

<211> 334

<212> PRT

<213> 人工序列

<220>

<221> source

<223> /注釋=「人工序列之描述：合成多肽」

<400> 132

Asp Ile Arg Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1 5 10 15

Asp Arg Val Thr Ile Glu Cys Leu Ala Ser Glu Asp Ile Tyr Ser Asp
 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Asn Ala Asn Gly Leu Gln Asn Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Val Ala Thr Tyr Phe Cys Gln Gln Tyr Asn Tyr Phe Pro Gly
 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Ser Gly Gly
 100 105 110

Gly Gly Ser Gly Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu
 115 120 125

Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Ser
 130 135 140

Gly Ser Ile Trp Tyr Ser Phe Val Ser Trp Tyr Gln Gln Lys Pro Gly
 145 150 155 160

Gln Ala Pro Arg Leu Leu Ile Tyr Ala Asp Asp Gln Arg Ala Ser Gly
 165 170 175

Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
 180 185 190

Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln
 195 200 205

Ser Tyr Gly Ile Asn Ile Asp Val Val Phe Gly Gly Gly Thr Lys Val
 210 215 220

Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro

201710286

發明摘要

※ 申請案號：105-118753

※ 申請日：105. 6. 13

※IPC 分類：

C07K $\frac{14}{485.52}$ (2006.01)A61K $\frac{39}{60}$ (2006.01)A61K $\frac{47}{48}$ (2006.01)G01N $\frac{33}{53}$ (2006.01)

【發明名稱】

抗VEGF、PDGF及/或其受體之結合蛋白

BINDING PROTEINS AGAINST VEGF, PDGF, AND/OR THEIR RECEPTORS

【中文】

本發明揭示結合VEGF、PDGF及/或其受體中之一或多者之結合蛋白，包括抗體、CDR移植抗體、人類化抗體、結合片段、融合蛋白及其雙特異性或多特異性蛋白質。本發明亦揭示製造及使用該等結合蛋白之方法。

【英文】

Binding proteins that bind one or more of VEGF, PDGF and/or their receptors, including antibodies, CDR-grafted antibodies, humanized antibodies, binding fragments, fusion proteins, and bispecific or multispecific proteins thereof are disclosed. Also disclosed are methods of making and using the binding proteins.

【代表圖】

【本案指定代表圖】：第（1A）圖。

【本代表圖之符號簡單說明】：

無

【本案若有化學式時，請揭示最能顯示發明特徵的化學式】：

無

申請專利範圍

1. 一種結合蛋白，其包含第一及第二多肽鏈，該等多肽鏈各自獨立地包含VD1-(X1)_n-VD2-C-X2，其中

VD1係第一可變結構域；

VD2係第二可變結構域；

C係恆定結構域；

X1係連接體；

X2係Fc區；且

n係0或1，

其中該等第一及第二多肽鏈上之該等VD1結構域形成第一功能性靶結合位點，且該等第一及第二多肽鏈上之該等VD2結構域形成第二功能性靶結合位點，

其中該結合蛋白能夠結合VEGF，其中形成VEGF之功能性靶結合位點之該等可變結構域包含：

(i) CDR-H1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀ (SEQ ID NO: >>)，其中

X₁係G；

X₂係Y；

X₃係T；

X₄係F；

X₅係T、Q、D、E、N、A、G、H、K、M、L、R、I、Y或V；

X₆係N、S、K、Y、T、M、G、A、I、L、E、P、Q或F；

X₇係Y；

X₈係G、S、D、K、C、V、E、L、W、P、Y、M、N或
T；

X₉係M；且

X₁₀係Y；

(ii) CDR-H2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-
X₁₂-X₁₃-X₁₄-X₁₅-X₁₆-X₁₇ (SEQ ID NO: >>)，其中

X₁係W；

X₂係I；

X₃係N；

X₄係T；

X₅係E、Y、L、V、W、A、Q、H、G、K、N、M、T或
P；

X₆係T；

X₇係G；

X₈係K、N、D、T、P、W、Y、V、S、M、A、I、G、R
或L；

X₉係P；

X₁₀係T、I、M、K、A、N、P、L、V、W、D、Y、G或
E；

X₁₁係Y；

X₁₂係A；

X₁₃係D、Y或H；

X₁₄係D；

X₁₅係F；

X₁₆係K或N；且

X₁₇係G；

(iii) CDR-H3，其包含 X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄ (SEQ ID NO: >>)，其中

X₁係 T、Y、G、I、S、K、N、P、L、W、M、F、R 或 Q；

X₂係 N、H、I、T、D、F、L、E、V、Y、A、G、W、Q 或 R；

X₃係 Y；

X₄係 Y；

X₅係 Y；

X₆係 R、S、N、E、M、L、T、W、Q、G、I、A、C 或 V；

X₇係 S、N、T、K、M、Y、C、I、F、L、D、W、X 或 V；

X₈係 Y；

X₉係 I、L、N、T、V、A、R、F、D 或 S；

X₁₀係 F；

X₁₁係 Y；

X₁₂係 F；

X₁₃係 D；且

X₁₄係 Y；

(iv) CDR-L1，其包含 X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁ (SEQ ID NO: >>)，其中

X₁係 R；

X₂係 A；

X₃係 S；

X₄係 E；

X₅係S；

X₆係V；

X₇係S、N、D、T、R、H、E、I、L、Q、C、M、Y、K
或V；

X₈係T、S、R、A、E、D、M、P、Y、I、W或F；

X₉係H、A、D、C、P、R、Y、L、Q或K；

X₁₀係M；且

X₁₁係H、A或P；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，其中；

X₁係G、W、V、I、E、S或D；

X₂係A；

X₃係S；

X₄係N、H、Y、M、T、F、V、R、Q、A、S、E、G、
C、D或P；

X₅係L；

X₆係E；且

X₇係S或Y；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID NO: >>)，其中

X₁係Q；

X₂係Q；

X₃係S、C、G、I、W、R、N、A、Y、K、Q或F；

X₄係W、C、L、G、E、S；

X₅係N、I、T、D、G、M、S、H、A、R、V、L、F、K

或Q；

X₆係D、N、Y、A、L、M、P、G、H、F或K；

X₇係P；

X₈係F、M、G、Y、A、W、S、V、C或P；且

X₉係T。

2. 如請求項1之結合蛋白，其中該結合蛋白亦能夠結合PDGF。
3. 如請求項2之結合蛋白，其中形成PDGF之功能性靶結合位點之該等可變結構域包含：

(i) CDR-H1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂ (SEQ ID NO: >>)，其中

X₁係G；

X₂係F；

X₃係S、I或R；

X₄係L；

X₅係S、Y、A、D、T、M、R、L、C、F、W或P；

X₆係T；

X₇係Y或S；

X₈係G或E；

X₉係M或V；

X₁₀係G、S或R；

X₁₁係V或I；且

X₁₂係G、D、L、A、C、V、Y、R、T、E或S；

(ii) CDR-H2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄-X₁₅-X₁₆ (SEQ ID NO: >>)，其中

X₁係N或L；

X₂係I；

X₃係W、D、C或G；

X₄係W或C；

X₅係D、Y、N、H、V、E、I、P、A、C或G；

X₆係D、G、N或H；

X₇係D、E、G、V、A、H、Y、N、Q、S或L；

X₈係K、E、T、I、Q、V、N、R、Y、L、M或C；

X₉係Y、H、C、D、N、S、A、F或G；

X₁₀係Y；

X₁₁係N或S；

X₁₂係P、L或T；

X₁₃係S；

X₁₄係L；

X₁₅係K或N；且

X₁₆係N、S或T；

(iii) CDR-H3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂

(SEQ ID NO: >>)，其中

X₁係I、Y、N、L、M、V、R、K、F、C、T或E；

X₂係E、Q、V、K、Y、L、D、G、A、M、R或S；

X₃係S、T、A、Y、W、P、L、V、E、K、F或C；

X₄係I、G、S、M、V、L、F、N、D、H、Y、T、R、Q、
K、E或P；

X₅係G、W、P、F、C、Y、A、E、L、V、S、D或R；

X₆係T、P、W、R、I、F、A、M、Y、S、L、G、D、K、
V、N或E；

X₇係T、N、S、K、R、M、A、E、I、V、L、W、P或Q；

X₈係Y；

X₉係S、E、D、Y、A、C、N、M、W、T、Q、G、I、L或

P；

X₁₀係F；

X₁₁係D或Y；且

X₁₂係Y；

(iv) CDR CDR-L1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁ (SEQ ID NO: >>)，其中

X₁係E、R或K；

X₂係R、A或E；

X₃係S或Y；

X₄係S；

X₅係G、C、V或S；

X₆係D、S或Y；

X₇係I、N、T或M；

X₈係G、W、Y、S、M、H、D、R、E、N、C、A、L、V、F、T或Q；

X₉係D、Y、Q、N、H、G、E、S、K、F、R、L、C、A或P；

X₁₀係S、T、Y、M、K、A、C、F、L、E、W、D、P或G；

且

X₁₁係Y、F、L、R、H、N、C、A、D、S或T；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，其中

X₁係I或M；

X₂係Y或H；

X₃係A、G、S、W、T、L、V、F、N、P、E或D；

X₄係D、Y、A或V；

X₅係D或G；

X₆係Q、L、R、H、W、Y、M、K、D、A、E、N、V、S、
F或P；且

X₇係R、Q或P；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID
NO: >>)，其中

X₁係Y；

X₂係C或R；

X₃係Q或K；

X₄係S、P、Q或H；

X₅係Y；

X₆係D或G；

X₇係I、L、V、E、T、S、Q、R、N、K、G或A；

X₈係N、F、D、E、T、I、Y、C、V、S、R或A；且

X₉係I、T、S、V、D、R、E、M、L、P、F、N。

4. 如請求項1至3中任一項之結合蛋白，其進一步包含人類框架序列。
5. 一種結合蛋白，其包含第一及第二多肽鏈，該等多肽鏈各自獨立地包含VD1-(X1)_n-VD2-C-X2，其中

VD1係第一可變結構域；

VD2係第二可變結構域；

C係恆定結構域；

X1係連接體；

X2係Fc區；且

n係0或1，

其中該等第一及第二多肽鏈上之該等VD1結構域形成第一功能性靶結合位點，且該等第一及第二多肽鏈上之該等VD2結構域形成第二功能性靶結合位點，

其中該結合蛋白能夠結合PDGF，其中形成PDGF之功能性靶結合位點之該等可變結構域包含：

(i) CDR-H1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂ (SEQ ID NO: >>)，其中

X₁係G；

X₂係F；

X₃係S、I或R；

X₄係L；

X₅係S、Y、A、D、T、M、R、L、C、F、W或P；

X₆係T；

X₇係Y或S；

X₈係G或E；

X₉係M或V；

X₁₀係G、S或R；

X₁₁係V或I；且

X₁₂係G、D、L、A、C、V、Y、R、T、E或S；

(ii) CDR-H2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄-X₁₅-X₁₆ (SEQ ID NO: >>)，其中

X₁係N或L；

X₂係I；

X₃係W、D、C或G；

X₄係W或C；

X₅係D、Y、N、H、V、E、I、P、A、C或G；

X₆係D、G、N或H；

X₇係D、E、G、V、A、H、Y、N、Q、S或L；

X₈係K、E、T、I、Q、V、N、R、Y、L、M或C；

X₉係Y、H、C、D、N、S、A、F或G；

X₁₀係Y；

X₁₁係N或S；

X₁₂係P、L或T；

X₁₃係S；

X₁₄係L；

X₁₅係K或N；且

X₁₆係N、S或T；

(iii) CDR-H3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂ (SEQ ID NO: >>)，其中

X₁係I、Y、N、L、M、V、R、K、F、C、T或E；

X₂係E、Q、V、K、Y、L、D、G、A、M、R或S；

X₃係S、T、A、Y、W、P、L、V、E、K、F或C；

X₄係I、G、S、M、V、L、F、N、D、H、Y、T、R、Q、K、E或P；

X₅係G、W、P、F、C、Y、A、E、L、V、S、D或R；

X₆係T、P、W、R、I、F、A、M、Y、S、L、G、D、K、V、N或E；

X₇係T、N、S、K、R、M、A、E、I、V、L、W、P或Q；

X₈係Y；

X₉係S、E、D、Y、A、C、N、M、W、T、Q、G、I、L

或P；

X₁₀係F；

X₁₁係D或Y；且

X₁₂係Y；

(iv) CDR CDR-L1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁ (SEQ ID NO: >>)，其中

X₁係E、R或K；

X₂係R、A或E；

X₃係S或Y；

X₄係S；

X₅係G、C、V或S；

X₆係D、S或Y；

X₇係I、N、T或M；

X₈係G、W、Y、S、M、H、D、R、E、N、C、A、L、V、F、T或Q；

X₉係D、Y、Q、N、H、G、E、S、K、F、R、L、C、A或P；

X₁₀係S、T、Y、M、K、A、C、F、L、E、W、D、P或G；且

X₁₁係Y、F、L、R、H、N、C、A、D、S或T；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，其中

X₁係I或M；

X₂係Y或H；

X₃係A、G、S、W、T、L、V、F、N、P、E或D；

X₄係D、Y、A或V；

X₅係D或G；

X₆係Q、L、R、H、W、Y、M、K、D、A、E、N、V、
S、F或P；且

X₇係R、Q或P；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID
NO: >>)，其中

X₁係Y；

X₂係C或R；

X₃係Q或K；

X₄係S、P、Q或H；

X₅係Y；

X₆係D或G；

X₇係I、L、V、E、T、S、Q、R、N、K、G或A；

X₈係N、F、D、E、T、I、Y、C、V、S、R或A；且

X₉係I、T、S、V、D、R、E、M、L、P、F、N。

6. 如請求項5之結合蛋白，其中該結合蛋白亦能夠結合VEGF。

7. 如請求項6之結合蛋白，其中形成VEGF之功能性靶結合位點之該等可變結構域包含：

(i) CDR-H1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀ (SEQ ID
NO: >>)，其中

X₁係G；

X₂係Y；

X₃係T；

X₄係F；

X₅係T、Q、D、E、N、A、G、H、K、M、L、R、I、Y或

V ;

X₆係N、S、K、Y、T、M、G、A、I、L、E、P、Q或F；

X₇係Y；

X₈係G、S、D、K、C、V、E、L、W、P、Y、M、N或T；

X₉係M；且

X₁₀係Y；

(ii) CDR-H2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄-X₁₅-X₁₆-X₁₇ (SEQ ID NO: >>)，其中

X₁係W；

X₂係I；

X₃係N；

X₄係T；

X₅係E、Y、L、V、W、A、Q、H、G、K、N、M、T或P；

X₆係T；

X₇係G；

X₈係K、N、D、T、P、W、Y、V、S、M、A、I、G、R或

L；

X₉係P；

X₁₀係T、I、M、K、A、N、P、L、V、W、D、Y、G或E；

X₁₁係Y；

X₁₂係A；

X₁₃係D、Y或H；

X₁₄係D；

X₁₅係F；

X₁₆係K或N；且

X₁₇係G；

(iii) CDR-H3，其包含 X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄ (SEQ ID NO: >>)，其中

X₁係T、Y、G、I、S、K、N、P、L、W、M、F、R或Q；

X₂係N、H、I、T、D、F、L、E、V、Y、A、G、W、Q或

R；

X₃係Y；

X₄係Y；

X₅係Y；

X₆係R、S、N、E、M、L、T、W、Q、G、I、A、C或V；

X₇係S、N、T、K、M、Y、C、I、F、L、D、W、X或V；

X₈係Y；

X₉係I、L、N、T、V、A、R、F、D或S；

X₁₀係F；

X₁₁係Y；

X₁₂係F；

X₁₃係D；且

X₁₄係Y；

(iv) CDR-L1，其包含 X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁ (SEQ ID NO: >>)，其中

X₁係R；

X₂係A；

X₃係S；

X₄係E；

X₅係S；

X₆係V；

X₇係S、N、D、T、R、H、E、I、L、Q、C、M、Y、K或

V ;

X₈係T、S、R、A、E、D、M、P、Y、I、W或F；

X₉係H、A、D、C、P、R、Y、L、Q或K；

X₁₀係M；且

X₁₁係H、A或P；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，

其中；

X₁係G、W、V、I、E、S或D；

X₂係A；

X₃係S；

X₄係N、H、Y、M、T、F、V、R、Q、A、S、E、G、C、

D或P；

X₅係L；

X₆係E；且

X₇係S或Y；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID NO: >>)，其中

X₁係Q；

X₂係Q；

X₃係S、C、G、I、W、R、N、A、Y、K、Q或F；

X₄係W、C、L、G、E、S；

X₅係N、I、T、D、G、M、S、H、A、R、V、L、F、K或

Q；

X₆係D、N、Y、A、L、M、P、G、H、F或K；

X₇係P；

X_8 係F、M、G、Y、A、W、S、V、C或P；且

X_9 係T。

8. 如請求項5至7中任一項之結合蛋白，其進一步包含人類框架序列。
9. 一種結合蛋白，其包含第一及第二多肽鏈，該等多肽鏈各自獨立地包含VD1-(X1) n -VD2-C-X2，其中

VD1係第一可變結構域；

VD2係第二可變結構域；

C係恆定結構域；

X1係連接體；

X2係Fc區；且

n 係0或1，

其中該等第一及第二多肽鏈上之該等VD1結構域形成第一功能性靶結合位點，且該等第一及第二多肽鏈上之該等VD2結構域形成第二功能性靶結合位點，

其中該結合蛋白能夠結合VEGF，其中形成VEGF之功能性靶結合位點之該等可變結構域包含選自表A、27或38至42中所列示CDR組中之任一者的重鏈CDR 1-3與配對輕鏈CDR 1-3之CDR組。

10. 如請求項9之結合蛋白，其中形成VEGF之功能性靶結合位點之該等可變結構域包含選自表A、27或38至42中所列示重鏈與配對輕鏈中之任一者的重鏈與配對輕鏈。
11. 如請求項9或10之結合蛋白，其中該結合蛋白亦能夠結合PDGF。
12. 如請求項9之結合蛋白，其中形成PDGF之功能性靶結合位點之該等可變結構域包含選自表A、28或46至50中所列示CDR組中之任一者的重鏈CDR 1-3與配對輕鏈CDR 1-3之CDR組。

13. 如請求項9或10之結合蛋白，其中形成PDGF之功能性靶結合位點之該等可變結構域包含選自表A、28或46至50中所列示重鏈與配對輕鏈中之任一者的重鏈與配對輕鏈。
14. 一種結合蛋白，其包含第一及第二多肽鏈，該等多肽鏈各自獨立地包含VD1-(X1)_n-VD2-C-X2，其中
 - VD1係第一可變結構域；
 - VD2係第二可變結構域；
 - C係恆定結構域；
 - X1係連接體；
 - X2係Fc區；且
 - n係0或1，其中該等第一及第二多肽鏈上之該等VD1結構域形成第一功能性靶結合位點，且該等第一及第二多肽鏈上之該等VD2結構域形成第二功能性靶結合位點，
 - 其中該結合蛋白能夠結合PDGF，其中形成PDGF之功能性靶結合位點之該等可變結構域包含選自表A、28或46至50中所列示CDR組中之任一者的重鏈CDR 1-3與配對輕鏈CDR 1-3之CDR組。
15. 如請求項14之結合蛋白，其中形成PDGF之功能性靶結合位點之該等可變結構域包含選自表A、28或46至50中所列示重鏈與配對輕鏈中之任一者的重鏈與配對輕鏈。
16. 如請求項14或15之結合蛋白，其中該結合蛋白亦能夠結合VEGF。
17. 如請求項14之結合蛋白，其中形成VEGF之功能性靶結合位點之該等可變結構域包含選自表A、27或38至42中所列示CDR組中之任一者的重鏈CDR 1-3與配對輕鏈CDR 1-3之CDR組。

18. 如請求項14或15之結合蛋白，其中形成VEGF之功能性靶結合位點之該等可變結構域包含選自表A、27或38至42中所列示重鏈與配對輕鏈中之任一者的重鏈與配對輕鏈。
19. 一種結合蛋白，其包含第一及第二多肽鏈，該等多肽鏈各自獨立地包含VD1-(X1)_n-VD2-C-X2，其中

VD1係第一可變結構域；

VD2係第二可變結構域；

C係恆定結構域；

X1係連接體；

X2係Fc區；且

n係0或1，

其中該等第一及第二多肽鏈上之該等VD1結構域形成第一功能性靶結合位點，且該等第一及第二多肽鏈上之該等VD2結構域形成第二功能性靶結合位點，

其中該結合蛋白能夠結合VEGF及PDGF，其中

- a. 形成VEGF之功能性靶結合位點之該等可變結構域包含：

SEQ ID NO: 17之CDR 1-3及SEQ ID NO: 18之CDR-1-3，

SEQ ID NO: 19之CDR 1-3及SEQ ID NO: 20之CDR-1-3，

SEQ ID NO: 21之CDR 1-3及SEQ ID NO: 22之CDR-1-3，

SEQ ID NO: 23之CDR 1-3及SEQ ID NO: 24之CDR-1-3，

SEQ ID NO: 25之CDR 1-3及SEQ ID NO: 26之CDR-1-3，

SEQ ID NO: 27之CDR 1-3及SEQ ID NO: 28之CDR-1-3，

SEQ ID NO: 29之CDR 1-3及SEQ ID NO: 30之CDR-1-3，

SEQ ID NO: 31之CDR 1-3及SEQ ID NO: 32之CDR-1-3，

SEQ ID NO: 33之CDR 1-3及SEQ ID NO: 34之CDR-1-3，

SEQ ID NO: 35之CDR 1-3及SEQ ID NO: 36之CDR-1-3，

SEQ ID NO: 37之CDR 1-3及SEQ ID NO: 38之CDR-1-3，
 SEQ ID NO: 39之CDR 1-3及SEQ ID NO: 40之CDR-1-3，
 SEQ ID NO: 41之CDR 1-3及SEQ ID NO: 42之CDR-1-3，或
 SEQ ID NO: 43之CDR 1-3及SEQ ID NO: 44之CDR-1-3，及

b. 形成PDGF之功能性靶結合位點之該等可變結構域包含：

SEQ ID NO: 1之CDR 1-3及SEQ ID NO: 2之CDR-1-3，
 SEQ ID NO: 3之CDR 1-3及SEQ ID NO: 4之CDR-1-3，
 SEQ ID NO: 5之CDR 1-3及SEQ ID NO: 6之CDR-1-3，
 SEQ ID NO: 7之CDR 1-3及SEQ ID NO: 8之CDR-1-3，
 SEQ ID NO: 9之CDR 1-3及SEQ ID NO: 10之CDR-1-3，
 SEQ ID NO: 11之CDR 1-3及SEQ ID NO: 12之CDR-1-3，
 SEQ ID NO: 13之CDR 1-3及SEQ ID NO: 14之CDR-1-3，
 SEQ ID NO: 15之CDR 1-3及SEQ ID NO: 16之CDR-1-3，或
 SEQ ID NO: 211之CDR 1-3及SEQ ID NO: 212之CDR-1-3。

20. 一種結合蛋白，其包含第一及第二多肽鏈，該等多肽鏈各自獨立地包含VD1-(X1)_n-VD2-C-X2，其中

VD1係第一可變結構域；

VD2係第二可變結構域；

C係恆定結構域；

X1係連接體；

X2係Fc區；且

n係0或1，

其中該等第一及第二多肽鏈上之該等VD1結構域形成第一功能性靶結合位點，且該等第一及第二多肽鏈上之該等VD2結構域形成第二功能性靶結合位點，且其中該結合蛋白能夠結合VEGF及PDGF，其中

- a. 形成VEGF之功能性靶結合位點之該等可變結構域包含選自由SEQ ID NO: 17-44組成之群之序列，及
- b. 形成PDGF之功能性靶結合位點之該等可變結構域包含選自由SEQ ID NO: 1-16、211及212組成之群之序列。

21. 如請求項19至20中任一項之結合蛋白，其中：

- a. 形成VEGF之功能性靶結合位點之該等可變結構域包含：

SEQ ID NO: 17及SEQ ID NO: 18，
SEQ ID NO: 19及SEQ ID NO: 20，
SEQ ID NO: 21及SEQ ID NO: 22，
SEQ ID NO: 23及SEQ ID NO: 24，
SEQ ID NO: 25及SEQ ID NO: 26，
SEQ ID NO: 27及SEQ ID NO: 28，
SEQ ID NO: 29及SEQ ID NO: 30，
SEQ ID NO: 31及SEQ ID NO: 32，
SEQ ID NO: 33及SEQ ID NO: 34，
SEQ ID NO: 35及SEQ ID NO: 36，
SEQ ID NO: 37及SEQ ID NO: 38，
SEQ ID NO: 39及SEQ ID NO: 40，
SEQ ID NO: 41及SEQ ID NO: 42，或
SEQ ID NO: 43及SEQ ID NO: 44，及

- b. 形成PDGF之功能性靶結合位點之該等可變結構域包含：

SEQ ID NO: 1及SEQ ID NO: 2，
SEQ ID NO: 3及SEQ ID NO: 4，
SEQ ID NO: 5及SEQ ID NO: 6，
SEQ ID NO: 7及SEQ ID NO: 8，
SEQ ID NO: 9及SEQ ID NO: 10，

SEQ ID NO: 11及SEQ ID NO: 12，
 SEQ ID NO: 13及SEQ ID NO: 14，
 SEQ ID NO: 15及SEQ ID NO: 16，或
 SEQ ID NO: 211及SEQ ID NO: 212。

22. 如請求項1至21中任一項之結合蛋白，其中該第一多肽鏈包含第一VD1-(X1)_n-VD2-C-X2，其中

VD1係第一重鏈可變結構域；

VD2係第二重鏈可變結構域；

C係重鏈恆定結構域；

X1係連接體；

X2係Fc；

n係0或1，且

其中該第二多肽鏈包含第二VD1-(X1)_n-VD2-C，其中

VD1係第一輕鏈可變結構域；

VD2係第二輕鏈可變結構域；

C係輕鏈恆定結構域；

X1係連接體；

n係0或1；且

該第二多肽鏈不包含Fc，

其中該等第一及第二多肽鏈上之該等VD1結構域形成第一功能性靶結合位點，且該等第一及第二多肽鏈上之該等VD2結構域形成第二功能性靶結合位點。

23. 如請求項1至22中任一項之結合蛋白，其中該等第一及第二多肽鏈上之該等X1連接體獨立地包含表55中所列示序列中之任一者或多者。

24. 如請求項19至22中任一項之結合蛋白，其中該結合蛋白能夠結

合 VEGF 及 PDGF，且其中該結合蛋白包含以下各項中之任一者：

PR-1563988 (包含 SEQ ID NO: 45 及 46)，
PR-1563990 (包含 SEQ ID NO: 47 及 48)，
PR-1563998 (包含 SEQ ID NO: 49 及 50)，
PR-1564009 (包含 SEQ ID NO: 51 及 52)，
PR-1564010 (包含 SEQ ID NO: 53 及 54)，
PR-1564011 (包含 SEQ ID NO: 55 及 56)，
PR-1564012 (包含 SEQ ID NO: 57 及 58)，
PR-1564013 (包含 SEQ ID NO: 59 及 60)，
PR-1564896 (包含 SEQ ID NO: 209 及 65)，
PR-1565031 (包含 SEQ ID NO: 76 及 77)，
PR-1565032 (包含 SEQ ID NO: 78 及 79)，
PR-1565035 (包含 SEQ ID NO: 80 及 81)，
PR-1572102 (包含 SEQ ID NO: 88 及 89)，
PR-1572103 (包含 SEQ ID NO: 90 及 91)，
PR-1572104 (包含 SEQ ID NO: 92 及 93)，
PR-1572105 (包含 SEQ ID NO: 94 及 95)，
PR-1572106 (包含 SEQ ID NO: 96 及 97)，
PR-1575573 (包含 SEQ ID NO: 210 及 98)，
PR-1575832 (包含 SEQ ID NO: 99 及 100)，
PR-1575834 (包含 SEQ ID NO: 101 及 102)，
PR-1575835 (包含 SEQ ID NO: 103 及 104)，
PR-1577165 (包含 SEQ ID NO: 105 及 106)，
PR-1577166 (包含 SEQ ID NO: 107 及 108)，
PR-1577547 (包含 SEQ ID NO: 109 及 110)，

PR-1577548 (包含SEQ ID NO: 111及112) ,
PR-1577550 (包含SEQ ID NO: 113及114) ,
PR-1578137 (包含SEQ ID NO: 116及117) ,
PR-1610560 (包含SEQ ID NO: 129及130) ,
PR-1610561 (包含SEQ ID NO: 131及132) ,
PR-1610562 (包含SEQ ID NO: 133及134) ,
PR-1610563 (包含SEQ ID NO: 135及136) ,
PR-1611291 (包含SEQ ID NO: 139及140) ,
PR-1611292 (包含SEQ ID NO: 141及142) ,
PR-1612489 (包含SEQ ID NO: 161及162) ,
PR-1612491 (包含SEQ ID NO: 163及164) ,
PR-1612492 (包含SEQ ID NO: 165及166) ,
PR-1612495 (包含SEQ ID NO: 171及172) ,
PR-1612496 (包含SEQ ID NO: 173及174) ,
PR-1612499 (包含SEQ ID NO: 177及178) ,
PR-1612500 (包含SEQ ID NO: 179及180) ,
PR-1612501 (包含SEQ ID NO: 181及182) ,
PR-1612502 (包含SEQ ID NO: 183及184) ,
PR-1613183 (包含SEQ ID NO: 185及186) ,
PR-1613184 (包含SEQ ID NO: 187及188) ,
PR-1613185 (包含SEQ ID NO: 189及190) ,
PR-1613190 (包含SEQ ID NO: 199及200) ,
PR-1565040 (包含SEQ ID NO: 209及210) ,
PR-1565042 (包含SEQ ID NO: XX及YY) ,
PR-1565044 (包含SEQ ID NO: 213及214) ,
PR-1565051 (包含SEQ ID NO: 215及216) ,

PR-1565083 (包含SEQ ID NO: 217及218) ,
PR-1565084 (包含SEQ ID NO: 219及220) ,
PR-1565085 (包含SEQ ID NO: 221及222) ,
PR-1565086 (包含SEQ ID NO: 223及224) ,
PR-1571821 (包含SEQ ID NO: 225及226) ,
PR-1571823 (包含SEQ ID NO: 227及228) ,
PR-1575521 (包含SEQ ID NO: 229及230) ,
PR-1571824 (包含SEQ ID NO: 231及232) ,
PR-1571825 (包含SEQ ID NO: 233及234) ,
PR-1571826 (包含SEQ ID NO: 235及236) ,
PR-1571827 (包含SEQ ID NO: 237及238) ,
PR-1571828 (包含SEQ ID NO: 239及240) ,
PR-1571830 (包含SEQ ID NO: 241及242) ,
PR-1571831 (包含SEQ ID NO: 243及244) ,
PR-1571832 (包含SEQ ID NO: 245及246) ,
PR-1571836 (包含SEQ ID NO: 247及248) ,
PR-1577053 (包含SEQ ID NO: 249及250) , 或
PR-1577056 (包含SEQ ID NO: 251及252) 。

25. 如請求項19至24中任一項之結合蛋白，其中：

(i) 該結合蛋白能夠以至多約 1.5×10^{-11} M之 K_D 結合VEGF，如藉由表面電漿子共振所量測，或能夠以至多約0.213 nM之IC50抑制人類VEGF，如在VEGF中和分析中所量測，及/或

(ii) 該結合蛋白能夠以至多約 2.1×10^{-10} M之 K_D 結合PDGF，如藉由表面電漿子共振所量測，或能夠以至多約0.035 nM之IC50抑制PDGF，如在PDGF中和分析中所量測。

26. 如請求項1至25中任一項之結合蛋白，其中該Fc區係變體序列Fc

區。

27. 如請求項1至26中任一項之結合蛋白，其中該結合蛋白包含：
 - a) 該第一多肽鏈上之重鏈恆定區，其包含藉由一或多個胺基酸變化修飾之人類IgG1重鏈序列，其中該等變化包含在位置234及235處用丙胺酸取代白胺酸，且視情況亦包含在位置435處用丙胺酸取代組胺酸，其中該等胺基酸位置係使用EU索引編號來編號；及
 - (b) 該第二多肽鏈上之輕鏈恆定區，其包含人類κ輕鏈恆定區序列。
28. 如請求項19之結合蛋白，其中該結合蛋白能夠結合VEGF及PDGF，其中
 - a. 形成VEGF之功能性靶結合位點之該等可變結構域包含：
SEQ ID NO: 35之CDR 1-3及SEQ ID NO: 36之CDR-1-3，及
 - b. 形成PDGF之功能性靶結合位點之該等可變結構域包含：
SEQ ID NO: 15之CDR 1-3及SEQ ID NO: 16之CDR 1-3。
29. 如請求項28之結合蛋白，其中該結合蛋白能夠結合VEGF及PDGF，其中
 - a. 形成VEGF之功能性靶結合位點之該等可變結構域包含：
SEQ ID NO: 35及SEQ ID NO: 36，及
 - b. 形成PDGF之功能性靶結合位點之該等可變結構域包含：
SEQ ID NO: 15及SEQ ID NO: 16。
30. 如請求項28或29之結合蛋白，其中該結合蛋白能夠結合VEGF及PDGF，且其中該結合蛋白包含PR-1610561 (包含SEQ ID NO: 131及132)。
31. 如請求項28至30中任一項之結合蛋白，其中該結合蛋白包含：
 - a) 該第一多肽鏈上之重鏈恆定區，其包含藉由一或多個胺基

酸變化修飾之人類IgG1重鏈序列，其中該等變化包含在位置234及235處用丙胺酸取代白胺酸，且視情況亦包含在位置435處用丙胺酸取代組胺酸，其中該等胺基酸位置係使用EU索引編號來編號；及

(b) 該第二多肽鏈上之輕鏈恆定區，其包含人類κ輕鏈恆定區序列。

32. 如請求項28至31中任一項之結合蛋白，其中該結合蛋白能夠結合：

(i) VEGF且 K_D 為至多約 1.8×10^{-12} M，如藉由表面電漿子共振所量測，或能夠抑制人類VEGF且在VEGF中和分析中所量測之IC50為至多約0.097 nM，及/或

(ii) PDGF且 K_D 為至多約 4.5×10^{-13} M，如藉由表面電漿子共振所量測，或能夠抑制PDGF且IC50為至多約0.032 nM，如在PDGF中和分析中所量測。

33. 如請求項19之結合蛋白，其中該結合蛋白能夠結合VEGF及PDGF，其中

a. 形成VEGF之功能性靶結合位點之該等可變結構域包含：

SEQ ID NO: 17之CDR 1-3及SEQ ID NO: 18之CDR-1-3，及

b. 形成PDGF之功能性靶結合位點之該等可變結構域包含：

SEQ ID NO: 1之CDR 1-3及SEQ ID NO: 2之CDR-1-3。

34. 如請求項33之結合蛋白，其中該結合蛋白能夠結合VEGF及PDGF，其中

a. 形成VEGF之功能性靶結合位點之該等可變結構域包含：

SEQ ID NO: 17及SEQ ID NO: 18，及

b. 形成PDGF之功能性靶結合位點之該等可變結構域包含：

SEQ ID NO: 1及SEQ ID NO: 2。

35. 如請求項33或34之結合蛋白，其中該結合蛋白能夠結合VEGF及PDGF，且其中該結合蛋白包含PR-1572102 (包含SEQ ID NO: 88及89)。
36. 如請求項33至35中任一項之結合蛋白，其中該結合蛋白包含：
- a) 該第一多肽鏈上之重鏈恆定區，其包含藉由一或多個胺基酸變化修飾之人類IgG1重鏈序列，其中該等變化包含在位置234及235處用丙胺酸取代白胺酸，且視情況亦包含在位置435處用丙胺酸取代組胺酸，其中該等胺基酸位置係使用EU索引編號來編號；及
 - (b) 該第二多肽鏈上之輕鏈恆定區，其包含人類κ輕鏈恆定區序列。
37. 如請求項33至36中任一項之結合蛋白，其中該結合蛋白能夠結合：
- (i) VEGF且 K_D 為至多約 1.3×10^{-11} M，如藉由表面電漿子共振所量測，或能夠抑制人類VEGF且在VEGF中和分析中所量測之IC50為至多約0.182 nM，及/或
 - (ii) PDGF且 K_D 為至多約 1.3×10^{-11} M，如藉由表面電漿子共振所量測，或能夠抑制PDGF且IC50為至多約0.139 nM，如在PDGF中和分析中所量測。
38. 如請求項33或34之結合蛋白，其中該結合蛋白能夠結合VEGF及PDGF，且其中該結合蛋白包含PR-1572105 (包含SEQ ID NO: 94及95)。
39. 如請求項38之結合蛋白，其中該結合蛋白包含：
- a) 該第一多肽鏈上之重鏈恆定區，其包含藉由一或多個胺基酸變化修飾之人類IgG1重鏈序列，其中該等變化包含在位置234及235處用丙胺酸取代白胺酸，且視情況亦包含在位置435處用

丙胺酸取代組胺酸，其中該等胺基酸位置係使用EU索引編號來編號；及

(b) 該第二多肽鏈上之輕鏈恆定區，其包含人類 κ 輕鏈恆定區序列。

40. 如請求項33至34或38至39中任一項之結合蛋白，其中該結合蛋白能夠結合：

(i) VEGF且 K_D 為至多約 1.1×10^{-11} M，如藉由表面電漿子共振所量測，或能夠抑制人類VEGF且在VEGF中和分析中所量測之IC50為至多約0.139 nM，及/或

(ii) PDGF且 K_D 為至多約 1.3×10^{-11} M，如藉由表面電漿子共振所量測，或能夠抑制PDGF且IC50為至多約0.096 nM，如在PDGF中和分析中所量測。

41. 如請求項1至40中任一項之結合蛋白，其包含兩條第一多肽鏈及兩條第二多肽鏈以及四個功能性靶結合位點。

42. 如請求項1至41中任一項之結合蛋白，其中 X_1 不為CH1或CL。

43. 如請求項1至42中任一項之結合蛋白，其中該Fc區係IgG1、IgG2、IgG3、IgG4、IgA、IgM、IgE或IgD或其變體之Fc區。

44. 如請求項1至43中任一項之結合蛋白，其中該結合蛋白係結晶結合蛋白。

45. 一種結合蛋白偶聯物，其包含如請求項1至44中任一項之結合蛋白，該結合蛋白偶聯物進一步包含免疫黏附分子、顯影劑、治療劑或細胞毒性劑。

46. 如請求項45之結合蛋白偶聯物，其中該顯影劑係放射標記、酶、螢光標記、發光標記、生物發光標記、磁性標記或生物素。

47. 如請求項46之結合蛋白偶聯物，其中該放射標記係 ^3H 、 ^{14}C 、

^{35}S 、 ^{90}Y 、 ^{99}Tc 、 ^{111}In 、 ^{125}I 、 ^{131}I 、 ^{177}Lu 、 ^{166}Ho 及 ^{153}Sm 。

48. 如請求項45之結合蛋白偶聯物，其中該治療或細胞毒性劑係抗代謝物、烷基化劑、抗生素、生長因子、細胞介素、抗血管生成劑、抗有絲分裂劑、蔥環、毒素或細胞凋亡劑。
49. 一種經分離核酸，其編碼如請求項1至44中任一項之結合蛋白胺基酸序列。
50. 一種載體，其包含如請求項49之經分離核酸。
51. 如請求項50之載體，其中該載體包含pcDNA、pTT、pTT3、pEFBOS、pBV、pJV、pcDNA3.1 TOPO、pEF6、pHybE、TOPO或pBJ。
52. 一種宿主細胞，其包含如請求項50或51之載體。
53. 如請求項52之宿主細胞，其中該宿主細胞係原核細胞、大腸桿菌(*Escherichia coli*)、真核細胞、原生生物細胞、動物細胞、植物細胞、真菌細胞、酵母細胞、Sf9細胞、哺乳動物細胞、禽類細胞、昆蟲細胞、CHO細胞或COS細胞。
54. 一種產生結合蛋白之方法，其包含在足以產生該結合蛋白之條件下在培養基中培養如請求項52或53之宿主細胞。
55. 一種醫藥組合物，其包含如請求項1至44中任一項之結合蛋白及醫藥上可接受之載劑。
56. 如請求項55之醫藥組合物，其進一步包含至少一種其他治療劑。
57. 如請求項56之醫藥組合物，其中該其他治療劑係顯影劑、細胞毒素劑、血管生成抑制劑、激酶抑制劑、共刺激分子阻斷劑、黏附分子阻斷劑、抗細胞介素抗體或其功能片段、胺甲喋呤(methotrexate)、環孢素、雷帕黴素(rapamycin)、FK506、可檢測標記或報導基因、TNF拮抗劑、抗風濕藥、肌肉鬆弛劑、麻醉

藥、非類固醇消炎藥(NSAID)、鎮痛藥、麻醉劑、鎮靜劑、局部麻醉劑、神經肌肉阻斷劑、抗微生物劑、抗牛皮癬藥、皮質類固醇、同化類固醇、促紅血球生成素、免疫劑、免疫球蛋白、免疫抑制劑、生長激素、激素替代藥物、放射性醫藥、抗抑鬱藥、抗精神病藥、刺激劑、氣喘藥劑、 β 激動劑、吸入性類固醇、腎上腺素或類似物、細胞介素或細胞介素拮抗劑。

58. 一種治療個體疾病或病症之方法，其係藉由向該個體投與如請求項1至44中任一項之結合蛋白來實施。
59. 如請求項58之方法，其中該病症係關節炎、骨關節炎、幼年型慢性關節炎、敗血性關節炎、萊姆關節炎(Lyme arthritis)、牛皮癬性關節炎、反應性關節炎、脊椎關節疾病、全身性紅斑狼瘡、克羅恩氏病(Crohn's disease)、潰瘍性結腸炎、發炎性腸病、胰島素依賴性糖尿病、甲狀腺炎、氣喘、過敏性疾病、牛皮癬、皮炎硬皮病、移植物抗宿主疾病、器官移植排斥、與器官移植相關之急性或慢性免疫疾病、結節病、動脈粥樣硬化、散播性血管內凝血、川崎病(Kawasaki's disease)、格雷氏病(Grave's disease)、腎病症候群、慢性疲勞症候群、華格納氏肉芽病(Wegener's granulomatosis)、亨諾-許蘭二氏紫癍(Henoch-Schoenlein purpura)、腎之微觀血管炎、慢性活動性肝炎、眼色素層炎、敗血性休克、中毒性休克症候群、敗血症症候群、惡病質、傳染病、寄生蟲病、急性橫貫性脊髓炎、亨庭頓氏舞蹈症(Huntington's chorea)、帕金森氏病(Parkinson's disease)、阿茲海默氏病(Alzheimer's disease)、中風、原發性膽汁性肝硬化、溶血性貧血、惡性病、心臟衰竭、心肌梗塞、阿狄森氏病(Addison's disease)、散發性I型多腺缺陷症及II型多腺缺陷症、施密特氏症候群(Schmidt's syndrome)、成人(急性)呼吸窘迫症候

群、禿髮、斑禿、血清陰性關節病、關節病、賴特爾病(Reiter's disease)、牛皮癬性關節病、潰瘍性結腸炎性關節病、腸病性滑膜炎、衣原體、耶爾森菌(yersinia)及沙門桿菌屬(salmonella)相關之關節病、脊椎關節病、動脈粥樣硬化疾病/動脈硬化、特應性過敏症、自體免疫性大疱病、尋常天皰瘡、落葉型天皰瘡、類天皰瘡、線性IgA病、自體免疫性溶血性貧血、庫柏(Coombs)陽性溶血性貧血、後天性惡性貧血、幼年型惡性貧血、肌痛性腦炎/良性肌痛性腦脊髓炎(Royal Free Disease)、慢性黏膜皮膚念珠菌病、巨細胞動脈炎、原發性硬化性肝炎、隱原性自體免疫性肝炎、後天性免疫缺陷症候群、後天性免疫缺陷相關疾病、B型肝炎、C型肝炎、常見變異型免疫缺陷症(常見易變低伽瑪球蛋白血症)、擴張型心肌病、女性不育、卵巢功能衰竭、卵巢功能早衰、纖維化肺疾病、隱原性纖維化肺泡炎、發炎後間質性肺病、間質性肺炎、結締組織病相關之間質性肺病、混合結締組織病相關之肺病、全身性硬化症相關之間質性肺病、類風濕性關節炎相關之間質性肺病、全身性紅斑狼瘡相關之肺病、皮肌炎/多發性肌炎相關之肺病、休格倫氏病(Sjögren's disease)相關之肺病、強直性脊柱炎相關之肺病、血管炎瀰漫性肺病、含鐵血紅素沈積症相關之肺病、藥物誘發之間質性肺病、纖維化、輻射纖維化、閉塞性細支氣管炎、慢性嗜酸性球性肺炎、淋巴球性浸潤性肺病、感染後間質性肺病、痛風性關節炎、自體免疫性肝炎、1型自體免疫性肝炎(典型自體免疫或類狼瘡性肝炎)、2型自體免疫性肝炎(抗LKM抗體肝炎)、自體免疫調介之低血糖、患有黑棘皮症之B型胰島素抗性、副甲狀腺功能減退症、與器官移植相關之急性免疫疾病、與器官移植相關之慢性免疫疾病、骨關節病、原發性硬化性膽管炎、1型牛皮癬、2型牛皮

癬、特發性白血球減少症、自體免疫性嗜中性球減少症、NOS腎病、腎小球性腎炎、腎之微觀血管炎、萊姆病、盤狀紅斑狼瘡、特發性或NOS男性不育、精子自體免疫病、多發性硬化(所有亞型)、交感性眼炎、繼發於結締組織病之肺動脈高血壓、古巴士德氏症候群(Goodpasture's syndrome)、結節性多動脈炎之肺表現、急性風濕熱、類風濕性脊柱炎、斯提耳病(Still's disease)、全身性硬化症、休格倫氏症候群、高安氏症(Takayasu's disease)/動脈炎、自體免疫性血小板減少症、特發性血小板減少症、自體免疫性甲狀腺疾病、甲狀腺功能亢進症、甲狀腺腫自體免疫性甲狀腺功能減退症(橋本氏病(Hashimoto's disease))、萎縮性自體免疫性甲狀腺功能減退症、原發性黏液性水腫、晶狀體源性眼色素層炎、原發性血管炎、白癜風、急性肝病、慢性肝病、酒精性肝硬化、酒精誘發之肝損傷、膽汁淤積、特應性肝病、藥物誘發之肝炎、非酒精性脂肪性肝炎、過敏症及氣喘、B群鏈球菌(group B streptococci) (GBS)感染、精神病症(例如，抑鬱症及精神分裂症)、Th2型及Th1型調介之疾病、急性及慢性疼痛(不同形式之疼痛)、及諸如肺癌、乳癌、胃癌、膀胱癌、結腸癌、胰臟癌、卵巢癌、前列腺癌及直腸癌等癌症及血液惡性病(白血病及淋巴瘤)、無 β 脂蛋白血症、手足發紺、急性及慢性寄生性或感染性過程、急性白血病、急性淋巴母細胞性白血病(ALL)、急性髓樣白血病(AML)、急性或慢性細菌感染、急性胰臟炎、急性腎衰竭、腺癌、心房異位性搏動、AIDS癡呆複合症、酒精誘發之肝炎、過敏性結膜炎、過敏性接觸性皮炎、過敏性鼻炎、同種異體移植物排斥、 α -1-抗胰蛋白酶缺陷症、肌萎縮性脊髓側索硬化症、貧血、心絞痛、前角細胞變性、抗cd3療法、抗磷脂症候群、抗受體超敏性反應、主動脈及

外周動脈瘤、主動脈壁夾層形成、動脈性高血壓、動脈硬化、動靜脈瘤、共濟失調、心房顫動(持續性或突發性)、心房撲動、房室傳導阻滯、B細胞淋巴瘤、骨移植排斥、骨髓移植(BMT)排斥、束支傳導阻滯、伯基特氏淋巴瘤(Burkitt's lymphoma)、燒傷、心律不整、心臟頓抑症候群、心臟腫瘤、心肌病、體外循環發炎反應、軟骨移植排斥、小腦皮質變性、小腦病症、紊亂性或多源性房性心動過速、化學療法相關之病症、慢性骨髓性白血病(CML)、慢性酒精中毒、慢性發炎性病狀、慢性淋巴球性白血病(CLL)、慢性阻塞性肺病(COPD)、慢性柳酸中毒、結腸直腸癌、充血性心臟衰竭、結膜炎、接觸性皮炎、肺源性心臟病、冠狀動脈疾病、庫賈氏病(Creutzfeldt-Jakob disease)、培養陰性敗血症、囊性纖維化、細胞介素療法相關之病症、拳擊員癡呆、脫髓鞘疾病、登革出血熱(dengue hemorrhagic fever)、皮炎、皮膚病、糖尿病(diabetes、diabetes mellitus)、糖尿病性動脈硬化病、瀰漫性路易體疾病(Diffuse Lewy body disease)、擴張型充血性心肌病、基底神經節病症、中年人唐氏症候群(Down's Syndrome)、由阻斷CNS多巴胺(dopamine)受體之藥物誘發之藥物誘發之運動障礙、藥物敏感、濕疹、腦脊髓炎、心內膜炎、內分泌病、會厭炎、艾伯斯坦-巴爾病毒感染(epstein-barr virus infection)、紅斑性肢痛病、錐體束外及小腦病症、家族性嗜血細胞性淋巴組織細胞增多症、胎兒胸腺移植排斥、弗裡德賴希共濟失調(Friedreich's ataxia)、功能性外周動脈病症、真菌敗血症、氣性壞疽、胃潰瘍、任何器官或組織之移植物排斥、革蘭氏(gram)陰性敗血症、革蘭氏陽性敗血症、因細胞內有機體引起之肉芽腫、毛細胞白血病、哈勒沃登-施帕茨病(Hallerrorden-Spatz disease)、橋本氏甲狀腺炎、花粉熱、心臟移植排斥、血色

素沉著症、血液透析、溶血性尿毒癥症候群/溶血性血小板減少性紫癥、出血、A型肝炎、希氏束心率失常(His bundle arrhythmias)、HIV感染/HIV神經病、霍奇金氏病、運動過度性運動障礙、超敏反應、超敏性肺炎、高血壓、運動機能減退性運動障礙、下視丘-垂體-腎上腺軸評估、特發性阿狄森氏病、特發性肺纖維化、抗體調介之細胞毒性、虛弱、嬰兒脊髓性肌萎縮、主動脈發炎、a型流感、電離輻射暴露、虹膜睫狀體炎/眼色素層炎/視神經炎、缺血-再灌注損傷、缺血性中風、幼年型類風濕性關節炎、幼年型脊髓性肌萎縮、卡波西氏肉瘤、腎移植排斥、退伍軍人病桿菌(*legionella*)、利什曼病(*leishmaniasis*)、麻風、皮質脊髓系統病灶、脂肪水腫、肝移植排斥、淋巴水腫、瘧疾、惡性淋巴瘤、惡性組織細胞增多症、惡性黑色素瘤、腦膜炎、腦膜炎球菌血症、代謝性/特發性偏頭痛、線粒體多系統病症、混合性結締組織病、單株丙種球蛋白病、多發性骨髓瘤、多系統變性(Mencel、Dejerine-Thomas、Shy-Drager及Machado-Joseph)、重症肌無力、胞內鳥型分枝桿菌、結核分枝桿菌、骨髓增生異常症候群、心肌缺血性病症、鼻咽癌、新生兒慢性肺病、腎炎、腎病、神經變性疾病、神經源性I型肌萎縮、嗜中性球低下發燒、非霍奇金氏淋巴瘤、腹主動脈及其分枝阻塞、阻塞性動脈病症、okt3療法、睪丸炎/子癱、睪丸炎/輸精管切除術逆轉程序、器官巨大症、骨質疏鬆症、胰臟移植排斥、胰臟癌、腫瘤伴生徵候群/惡性腫瘤之高鈣血症、副甲狀腺移植排斥、盆腔發炎性疾病、常年性鼻炎、心包疾病、外周動脈粥樣硬化性疾病、外周血管病症、腹膜炎、惡性貧血、卡氏肺囊蟲肺炎(*pneumocystis carinii pneumonia*)、肺炎、POEMS症候群(多神經病、器官巨大症、內分泌病、單株丙種球蛋白病及

皮膚變化症候群)、灌注後症候群、泵送後症候群、MI心切開術後症候群、先兆子癇、進行性核上性麻痺、原發性肺動脈高血壓、輻射療法、雷諾氏現象(Raynaud's phenomenon)及疾病、雷諾病(Raynaud's disease)、雷夫蘇姆病(Refsum's disease)、規則性窄QRS心動過速、腎血管性高血壓、再灌注損傷、限制性心肌病、肉瘤、硬皮病、老年舞蹈症、路易體型老年性癡呆、血清陰性關節病、休克、鐮狀細胞貧血、皮膚同種異體移植物排斥、皮膚變化症候群、小腸移植排斥、實體腫瘤、特異性心率失常、脊柱共濟失調、脊髓小腦變性、鏈球菌肌炎、小腦結構損傷、亞急性硬化性全腦炎、暈厥、心血管系統梅毒、全身性過敏反應、全身性發炎性反應症候群、全身性發作幼年型類風濕性關節炎、T細胞或FAB ALL、毛細管擴張、閉塞性血栓性脈管炎、血小板減少症、毒性、移植、創傷/出血、III型超敏反應、IV型超敏反應、不穩定型心絞痛、尿毒癥、尿敗血症、蕁麻疹、心臟瓣膜病、靜脈曲張、血管炎、靜脈疾病、靜脈血栓形成、心室顫動、病毒及真菌感染、病毒性腦炎/無菌腦膜炎、病毒相關之噬血細胞症候群、魏尼凱-科爾薩科夫症候群(Wernicke-Korsakoff syndrome)、威爾森氏病(Wilson's disease)、任何器官或組織之異種移植物排斥、急性冠脈症候群、急性特發性多神經炎、急性發炎性脫髓鞘多發性神經根神經病、急性缺血、成人斯提耳病、過敏反應、抗磷脂抗體症候群、再生障礙性貧血、異位性濕疹、異位性皮膚炎、自體免疫性皮炎、與鏈球菌感染相關之自體免疫性病變、自體免疫性腸病變、自體免疫性聽力損失、自體免疫性淋巴增生症候群(ALPS)、自體免疫性心肌炎、自體免疫性卵巢功能早衰、眼瞼炎、支氣管擴張症、大胞性類天皰瘡、心血管疾病、災難性抗

磷脂症候群、乳糜瀉、頸椎病、慢性缺血、癍痕性類天皰瘡、具有多發性硬化風險之臨床單一症候群(cis)、兒童期發病性精神病、淚囊炎、皮膚炎、糖尿病視網膜病變、椎間盤突出、椎間盤脫垂、藥物誘發之免疫性溶血性貧血、子宮內膜異位症、眼內炎、鞏膜外層炎、多形紅斑、重型多形紅斑、妊娠性類天皰瘡、格林-巴利症候群(Guillain-Barré syndrome) (GBS)、花粉熱、休斯症候群(Hughes syndrome)、特發性帕金森氏病、特發性間質性肺炎、IgE調介之過敏症、免疫溶血性貧血、包涵體肌炎、感染型眼部發炎性疾病、發炎性脫髓鞘疾病、發炎性心臟疾病、發炎性腎病、IPF/UIP、虹膜炎、角膜炎、乾性角膜結膜炎、庫斯毛耳病(Kussmaul disease)或庫斯毛耳-邁埃爾病(Kussmaul-Meier disease)、蘭德里麻痺(Landry's paralysis)、郎格罕細胞(Langerhan's cell)組織細胞增多症、網狀青斑、黃斑變性、微觀多血管炎、白赫鐵列夫症(morbus bechterev)、運動神經元病症、黏膜性類天皰瘡、多器官功能衰竭、骨髓增生異常症候群、心肌炎、神經根病症、神經病、非A非B型肝炎、視神經炎、骨質溶解、卵巢癌、少關節性JRA、外周動脈阻塞性疾病(PAOD)、外周血管疾病(PVD)、外周動脈疾病(PAD)、靜脈炎、結節性多動脈炎(或結節性動脈周圍炎)、多軟骨炎、風濕性多肌痛、白髮症、多關節JRA、多內分泌腺缺陷症候群、多發性肌炎、泵送後症候群、原發性帕金森病(primary Parkinsonism)、前列腺癌及直腸癌及血液惡性病(白血病及淋巴瘤)、前列腺炎、單純紅血球再生障礙、原發性腎上腺機能不全、復發性視神經脊髓炎、再狹窄、風濕性心臟疾病、sapho (滑膜炎、痤瘡、膿疱病、骨肥厚及骨炎)、硬皮病、繼發性澱粉樣變性、休克肺、鞏膜炎、坐骨神經痛、繼發性腎上腺機能不全、聚矽氧相關之結

締組織病、史奈頓威金森皮膚病 (Sneddon-Wilkinson dermatosis)、僵直性脊椎炎、史-約症候群 (Stevens-Johnson syndrome) (SJS)、全身性發炎性反應症候群、顛動脈炎、弓形體視網膜炎、毒性表皮溶解壞死症、橫貫性脊髓炎、TRAPS (腫瘤壞死因子受體相關周期性症候群)(tumor necrosis factor receptor associated periodic syndrome)、I型過敏反應、II型糖尿病、尋常性間質性肺炎(UIP)、春季結膜炎、病毒性視網膜炎、沃格特小柳原田症候群(Vogt-Koyanagi-Harada syndrome) (VKH症候群)、濕性黃斑變性、傷口癒合、年齡相關之黃斑變性(AMD)、糖尿病視網膜病變、糖尿病黃斑水腫、中心性視網膜靜脈阻塞、角膜新血管形成、滲出性AMD、虹膜新血管形成、新血管形成性青光眼、青光眼之術後纖維化、增生性玻璃體視網膜病變(PVR)、脈絡膜新血管形成、視神經盤新血管形成、視網膜新血管形成、玻璃體新血管形成、血管翳、翼狀胬肉、黃斑水腫、糖尿病黃斑水腫(DME)、血管視網膜病變、視網膜變性、眼色素層炎或眼睛之發炎性疾病。

60. 如請求項58或59之方法，其中該病症係

a. 自體免疫病症、氣喘、黃斑變性、乾性角膜結膜炎、眼瞼炎、角膜炎、眼部發炎、年齡相關之黃斑變性、克羅恩氏病、潰瘍性結腸炎、發炎性腸病(IBD)、胰島素依賴性糖尿病、類風濕性關節炎、骨關節炎、全身性紅斑狼瘡(SLE)、多發性硬化、敗血症、神經變性疾病、濕性黃斑變性、乾性黃斑變性或腫瘤病症，

b. 年齡相關之黃斑變性(AMD)、濕性AMD、乾性AMD、血管視網膜病變、糖尿病視網膜病變、糖尿病黃斑水腫、中心性視網膜靜脈阻塞、角膜新血管形成、滲出性AMD、虹膜新血管形

成、新血管形成性青光眼、青光眼之術後纖維化、增生性玻璃體視網膜病變(PVR)、脈絡膜新血管形成、視神經盤新血管形成、視網膜新血管形成、玻璃體新血管形成、血管翳、翼狀胬肉、黃斑水腫、糖尿病黃斑水腫(DME)、血管視網膜病變、視網膜變性、眼色素層炎或眼睛之發炎性疾病，及/或

c. 眼部發炎、年齡相關之黃斑變性(AMD)、濕性ADM、乾性AMD、糖尿病黃斑水腫(DME)、血管視網膜病變、視網膜變性、眼色素層炎、癌症、結腸炎或類風濕性關節炎。

61. 如請求項58至60中任一項之方法，其中該結合蛋白經調配用於非經腸、玻璃體內、皮下、肌內、靜脈內、關節內、支氣管內、腹內、囊內、軟骨內、腔內、體腔內、小腦內、腦室內、結腸內、頸內、胃內、肝內、心肌內、骨內、骨盆內、心包內、腹膜內、胸膜內、前列腺內、肺內、直腸內、腎內、視網膜內、脊柱內、滑膜內、胸內、子宮內、膀胱內、濃注、陰道、直腸、頰、舌下、鼻內或經皮投與，

且視情況其中該結合蛋白經調配用於玻璃體內投與，且視情況其中該結合蛋白係以約0.1 mg至5 mg或約0.1 mg至1 mg或約0.1 mg至0.3 mg或約0.25 mg之劑量玻璃體內投與，且視情況其中該所投與結合蛋白具有約4.6天之眼部半衰期。

62. 一種如請求項1至44中任一項之結合蛋白之用途，其用於製造用來治療個體之疾病或病症之藥劑。
63. 如請求項62之用途，其中該病症係關節炎、骨關節炎、幼年型慢性關節炎、敗血性關節炎、萊姆關節炎、牛皮癬性關節炎、反應性關節炎、脊椎關節疾病、全身性紅斑狼瘡、克羅恩氏病、潰瘍性結腸炎、發炎性腸病、胰島素依賴性糖尿病、甲狀腺炎、氣喘、過敏性疾病、牛皮癬、皮炎硬皮病、移植物抗宿主疾病、器官移植排斥、與器官移植相關之急性或慢性免疫疾

病、結節病、動脈粥樣硬化、散播性血管內凝血、川崎病、格雷氏病、腎病症候群、慢性疲勞症候群、華格納氏肉芽病、亨諾-許蘭二氏紫癍、腎之微觀血管炎、慢性活動性肝炎、眼色素層炎、敗血性休克、中毒性休克症候群、敗血症症候群、惡病質、傳染病、寄生蟲病、急性橫貫性脊髓炎、亨庭頓氏舞蹈症、帕金森氏病、阿茲海默氏病、中風、原發性膽汁性肝硬化、溶血性貧血、惡性病、心臟衰竭、心肌梗塞、阿狄森氏病、散發性I型多腺缺陷症及II型多腺缺陷症、施密特氏症候群、成人(急性)呼吸窘迫症候群、禿髮、斑禿、血清陰性關節病、關節病、賴特爾病、牛皮癬性關節病、潰瘍性結腸炎性關節病、腸病性滑膜炎、衣原體、耶爾森菌及沙門桿菌屬相關之關節病、脊椎關節病、動脈粥樣硬化疾病/動脈硬化、特應性過敏症、自體免疫性大疱病、尋常天皰瘡、落葉型天皰瘡、類天皰瘡、線性IgA病、自體免疫性溶血性貧血、庫柏陽性溶血性貧血、後天性惡性貧血、幼年型惡性貧血、肌痛性腦炎/良性肌痛性腦脊髓炎、慢性黏膜皮膚念珠菌病、巨細胞動脈炎、原發性硬化性肝炎、隱原性自體免疫性肝炎、後天性免疫缺陷症候群、後天性免疫缺陷相關疾病、B型肝炎、C型肝炎、常見變異型免疫缺陷症(常見易變低伽瑪球蛋白血症)、擴張型心肌病、女性不育、卵巢功能衰竭、卵巢功能早衰、纖維化肺疾病、隱原性纖維化肺泡炎、發炎後間質性肺病、間質性肺炎、結締組織病相關之間質性肺病、混合結締組織病相關之肺病、全身性硬化症相關之間質性肺病、類風濕性關節炎相關之間質性肺病、全身性紅斑狼瘡相關之肺病、皮肌炎/多發性肌炎相關之肺病、休格倫氏病相關之肺病、強直性脊柱炎相關之肺病、血管炎瀰漫性肺病、含鐵血紅素沈積症相關之肺病、藥物誘發之間質性

肺病、纖維化、輻射纖維化、閉塞性細支氣管炎、慢性嗜酸性球性肺炎、淋巴球性浸潤性肺病、感染後間質性肺病、痛風性關節炎、自體免疫性肝炎、1型自體免疫性肝炎(典型自體免疫或類狼瘡性肝炎)、2型自體免疫性肝炎(抗LKM抗體肝炎)、自體免疫調介之低血糖、患有黑棘皮症之B型胰島素抗性、副甲狀腺功能減退症、與器官移植相關之急性免疫疾病、與器官移植相關之慢性免疫疾病、骨關節病、原發性硬化性膽管炎、1型牛皮癬、2型牛皮癬、特發性白血球減少症、自體免疫性嗜中性球減少症、NOS腎病、腎小球性腎炎、腎之微觀血管炎、萊姆病、盤狀紅斑狼瘡、特發性或NOS男性不育、精子自體免疫病、多發性硬化(所有亞型)、交感性眼炎、繼發於結締組織病之肺動脈高血壓、古巴士德氏症候群、結節性多動脈炎之肺表現、急性風濕熱、類風濕性脊柱炎、斯提耳病、全身性硬化症、休格倫氏症候群、高安氏症/動脈炎、自體免疫性血小板減少症、特發性血小板減少症、自體免疫性甲狀腺疾病、甲狀腺功能亢進症、甲狀腺腫自體免疫性甲狀腺功能減退症(橋本氏病)、萎縮性自體免疫性甲狀腺功能減退症、原發性黏液性水腫、晶狀體源性眼色素層炎、原發性血管炎、白癜風、急性肝病、慢性肝病、酒精性肝硬化、酒精誘發之肝損傷、膽汁淤積、特應性肝病、藥物誘發之肝炎、非酒精性脂肪性肝炎、過敏症及氣喘、B群鏈球菌(GBS)感染、精神病症(例如，抑鬱症及精神分裂症)、Th2型及Th1型調介之疾病、急性及慢性疼痛(不同形式之疼痛)、及諸如肺癌、乳癌、胃癌、膀胱癌、結腸癌、胰臟癌、卵巢癌、前列腺癌及直腸癌等癌症及血液惡性病(白血病及淋巴瘤)、無 β 脂蛋白血症、手足發紺、急性及慢性寄生性或感染性過程、急性白血病、急性淋巴母細胞性白血病(ALL)、急性髓樣白血病

(AML)、急性或慢性細菌感染、急性胰臟炎、急性腎衰竭、腺癌、心房異位性搏動、AIDS癡呆複合症、酒精誘發之肝炎、過敏性結膜炎、過敏性接觸性皮炎、過敏性鼻炎、同種異體移植物排斥、 α -1-抗胰蛋白酶缺陷症、肌萎縮性脊髓側索硬化症、貧血、心絞痛、前角細胞變性、抗cd3療法、抗磷脂症候群、抗受體超敏性反應、主動脈及外周動脈瘤、主動脈壁夾層形成、動脈性高血壓、動脈硬化、動靜脈瘤、共濟失調、心房顫動(持續性或突發性)、心房撲動、房室傳導阻滯、B細胞淋巴瘤、骨移植排斥、骨髓移植(BMT)排斥、束支傳導阻滯、伯基特氏淋巴瘤、燒傷、心律不整、心臟頓抑症候群、心臟腫瘤、心肌病、體外循環發炎反應、軟骨移植排斥、小腦皮質變性、小腦病症、紊亂性或多源性房性心動過速、化學療法相關之病症、慢性骨髓性白血病(CML)、慢性酒精中毒、慢性發炎性病狀、慢性淋巴球性白血病(CLL)、慢性阻塞性肺病(COPD)、慢性柳酸中毒、結腸直腸癌、充血性心臟衰竭、結膜炎、接觸性皮炎、肺源性心臟病、冠狀動脈疾病、庫賈氏病、培養陰性敗血症、囊性纖維化、細胞介素療法相關之病症、拳擊員癡呆、脫髓鞘疾病、登革出血熱、皮炎、皮膚病、糖尿病(diabetes、diabetes mellitus)、糖尿病性動脈硬化病、瀰漫性路易體疾病、擴張型充血性心肌病、基底神經節病症、中年人唐氏症候群、由阻斷CNS多巴胺受體之藥物誘發之藥物誘發之運動障礙、藥物敏感、濕疹、腦脊髓炎、心內膜炎、內分泌病、會厭炎、艾伯斯坦-巴爾病毒感染、紅斑性肢痛病、錐體束外及小腦病症、家族性嗜血細胞性淋巴組織細胞增多症、胎兒胸腺移植排斥、弗裡德賴希共濟失調、功能性外周動脈病症、真菌敗血症、氣性壞疽、胃潰瘍、任何器官或組織之移植物排斥、革蘭氏陰性敗血症、革

蘭氏陽性敗血症、因細胞內有機體引起之肉芽腫、毛細胞白血病、哈勒沃登-施帕茨病、橋本氏甲狀腺炎、花粉熱、心臟移植排斥、血色素沉著症、血液透析、溶血性尿毒癥症候群/溶血性血小板減少性紫癍、出血、A型肝炎、希氏束心率失常、HIV感染/HIV神經病、霍奇金氏病、運動過度性運動障礙、超敏反應、超敏性肺炎、高血壓、運動機能減退性運動障礙、下視丘-垂體-腎上腺軸評估、特發性阿狄森氏病、特發性肺纖維化、抗體調介之細胞毒性、虛弱、嬰兒脊髓性肌萎縮、主動脈發炎、a型流感、電離輻射暴露、虹膜睫狀體炎/眼色素層炎/視神經炎、缺血-再灌注損傷、缺血性中風、幼年型類風濕性關節炎、幼年型脊髓性肌萎縮、卡波西氏肉瘤、腎移植排斥、退伍軍人病桿菌、利什曼病、麻風、皮質脊髓系統病灶、脂肪水腫、肝移植排斥、淋巴水腫、瘧疾、惡性淋巴瘤、惡性組織細胞增多症、惡性黑色素瘤、腦膜炎、腦膜炎球菌血症、代謝性/特發性偏頭痛、線粒體多系統病症、混合性結締組織病、單株丙種球蛋白病、多發性骨髓瘤、多系統變性(Mencel、Dejerine-Thomas、Shy-Drager及Machado-Joseph)、重症肌無力、胞內鳥型分枝桿菌、結核分枝桿菌、骨髓增生異常症候群、心肌缺血性病症、鼻咽癌、新生兒慢性肺病、腎炎、腎病、神經變性疾病、神經源性I型肌萎縮、嗜中性球低下發燒、非霍奇金氏淋巴瘤、腹主動脈及其分枝阻塞、阻塞性動脈病症、okt3療法、睪丸炎/子癱、睪丸炎/輸精管切除術逆轉程序、器官巨大症、骨質疏鬆症、胰臟移植排斥、胰臟癌、腫瘤伴生徵候群/惡性腫瘤之高鈣血症、副甲狀腺移植排斥、盆腔發炎性疾病、常年性鼻炎、心包疾病、外周動脈粥樣硬化性疾病、外周血管病症、腹膜炎、惡性貧血、卡氏肺囊蟲肺炎、肺炎、POEMS症候群(多神經病、

器官巨大症、內分泌病、單株丙種球蛋白病及皮膚變化症候群)、灌注後症候群、泵送後症候群、MI心切開術後症候群、先兆子癇、進行性核上性麻痺、原發性肺動脈高血壓、輻射療法、雷諾氏現象及疾病、雷諾病、雷夫蘇姆病、規則性窄QRS心動過速、腎血管性高血壓、再灌注損傷、限制性心肌病、肉瘤、硬皮病、老年舞蹈症、路易體型老年性癡呆、血清陰性關節病、休克、鎌狀細胞貧血、皮膚同種異體移植物排斥、皮膚變化症候群、小腸移植排斥、實體腫瘤、特異性心率失常、脊柱共濟失調、脊髓小腦變性、鏈球菌肌炎、小腦結構損傷、亞急性硬化性全腦炎、暈厥、心血管系統梅毒、全身性過敏反應、全身性發炎性反應症候群、全身性發作幼年型類風濕性關節炎、T細胞或FAB ALL、毛細管擴張、閉塞性血栓性脈管炎、血小板減少症、毒性、移植、創傷/出血、III型超敏反應、IV型超敏反應、不穩定型心絞痛、尿毒癥、尿敗血症、蕁麻疹、心臟瓣膜病、靜脈曲張、血管炎、靜脈疾病、靜脈血栓形成、心室顫動、病毒及真菌感染、病毒性腦炎/無菌腦膜炎、病毒相關之噬血細胞症候群、魏尼凱-科爾薩科夫症候群、威爾森氏病、任何器官或組織之異種移植物排斥、急性冠脈症候群、急性特發性多神經炎、急性發炎性脫髓鞘多發性神經根神經病、急性缺血、成人斯提耳病、過敏反應、抗磷脂抗體症候群、再生障礙性貧血、異位性濕疹、異位性皮膚炎、自體免疫性皮炎、與鏈球菌感染相關之自體免疫性病症、自體免疫性腸病變、自體免疫性聽力損失、自體免疫性淋巴增生症候群(ALPS)、自體免疫性心肌炎、自體免疫性卵巢功能早衰、眼瞼炎、支氣管擴張症、大砲性類天皰瘡、心血管疾病、災難性抗磷脂症候群、乳糜瀉、頸椎病、慢性缺血、癍痕性類天皰瘡、具有多發性硬化

風險之臨床單一症候群(cis)、兒童期發病性精神病、淚囊炎、皮膚炎、糖尿病視網膜病變、椎間盤突出、椎間盤脫垂、藥物誘發之免疫性溶血性貧血、子宮內膜異位症、眼內炎、鞏膜外層炎、多形紅斑、重型多形紅斑、妊娠性類天皰瘡、格林-巴利症候群(GBS)、花粉熱、休斯症候群、特發性帕金森氏病、特發性間質性肺炎、IgE調介之過敏症、免疫溶血性貧血、包涵體肌炎、感染型眼部發炎性疾病、發炎性脫髓鞘疾病、發炎性心臟疾病、發炎性腎病、IPF/UIP、虹膜炎、角膜炎、乾性角膜結膜炎、庫斯毛耳病或庫斯毛耳-邁埃爾病、蘭德裡麻痺、郎格罕細胞組織細胞增多症、網狀青斑、黃斑變性、微觀多血管炎、白赫鐵列夫症、運動神經元病症、黏膜性類天皰瘡、多器官功能衰竭、骨髓增生異常症候群、心肌炎、神經根病症、神經病、非A非B型肝炎、視神經炎、骨質溶解、卵巢癌、少關節性JRA、外周動脈阻塞性疾病(PAOD)、外周血管疾病(PVD)、外周動脈疾病(PAD)、靜脈炎、結節性多動脈炎(或結節性動脈周圍炎)、多軟骨炎、風濕性多肌痛、白髮症、多關節JRA、多內分泌腺缺陷症候群、多發性肌炎、泵送後症候群、原發性帕金森病、前列腺癌及直腸癌及血液惡性病(白血病及淋巴瘤)、前列腺炎、單純紅血球再生障礙、原發性腎上腺機能不全、復發性視神經脊髓炎、再狹窄、風濕性心臟疾病、sapho (滑膜炎、痤瘡、膿皰病、骨肥厚及骨炎)、硬皮病、繼發性澱粉樣變性、休克肺、鞏膜炎、坐骨神經痛、繼發性腎上腺機能不全、聚矽氧相關之結締組織病、史奈頓威金森皮膚病、僵直性脊椎炎、史-約症候群(SJS)、全身性發炎性反應症候群、顛動脈炎、弓形體視網膜炎、毒性表皮溶解壞死症、橫貫性脊髓炎、TRAPS (腫瘤壞死因子受體相關周期性症候群)(tumor necrosis factor receptor

associated periodic syndrome)、I型過敏反應、II型糖尿病、尋常性間質性肺炎(UIP)、春季結膜炎、病毒性視網膜炎、沃格特小柳原田症候群(VKH症候群)、濕性黃斑變性、傷口癒合、年齡相關之黃斑變性(AMD)、糖尿病視網膜病變、糖尿病黃斑水腫、中心性視網膜靜脈阻塞、角膜新血管形成、滲出性AMD、虹膜新血管形成、新血管形成性青光眼、青光眼之術後纖維化、增生性玻璃體視網膜病變(PVR)、脈絡膜新血管形成、視神經盤新血管形成、視網膜新血管形成、玻璃體新血管形成、血管翳、翼狀胬肉、黃斑水腫、糖尿病黃斑水腫(DME)、血管視網膜病變、視網膜變性、眼色素層炎或眼睛之發炎性疾病。

64. 如請求項62或63之用途，其中該病症係

a. 自體免疫病症、氣喘、黃斑變性、乾性角膜結膜炎、眼瞼炎、角膜炎、眼部發炎、克羅恩氏病、潰瘍性結腸炎、發炎性腸病(IBM)、胰島素依賴性糖尿病、類風濕性關節炎、骨關節炎、全身性紅斑狼瘡(SLE)、多發性硬化、敗血症、神經變性疾病、濕性黃斑變性、乾性黃斑變性或腫瘤病症，及/或

b. 年齡相關之黃斑變性(AMD)、糖尿病視網膜病變、糖尿病黃斑水腫、中心性視網膜靜脈阻塞、角膜新血管形成、滲出性AMD、虹膜新血管形成、新血管形成性青光眼、青光眼之術後纖維化、增生性玻璃體視網膜病變(PVR)、脈絡膜新血管形成、視神經盤新血管形成、視網膜新血管形成、玻璃體新血管形成、血管翳、翼狀胬肉、黃斑水腫、糖尿病黃斑水腫(DME)、血管視網膜病變、視網膜變性、眼色素層炎或眼睛之發炎性疾病。

65. 如請求項62至64中任一項之用途，其中該結合蛋白經調配用於玻璃體內、非經腸、皮下、玻璃體內、肌內、靜脈內、關節

內、支氣管內、腹內、囊內、軟骨內、腔內、體腔內、小腦內、腦室內、結腸內、頸內、胃內、肝內、心肌內、骨內、骨盆內、心包內、腹膜內、胸膜內、前列腺內、肺內、直腸內、腎內、視網膜內、脊柱內、滑膜內、胸內、子宮內、膀胱內、濃注、陰道、直腸、頰、舌下、鼻內或經皮投與，

且視情況其中該結合蛋白經調配用於玻璃體內投與，且視情況其中該結合蛋白係以約0.1 mg至5 mg或約0.1 mg至1 mg或約0.1 mg至0.3 mg或約0.25 mg之劑量玻璃體內投與，且視情況其中該所投與結合蛋白具有約4.6天之眼部半衰期。

66. 一種檢測測試樣品中至少一種靶或其片段之存在、量或濃度之方法，其係藉由免疫分析來實施，

其中該免疫分析包含使該測試樣品與至少一種結合蛋白及至少一種可檢測標記接觸，且

其中該至少一種結合蛋白包含如請求項1至44中任一項之結合蛋白。

67. 如請求項66之方法，其進一步包含：

(i) 使該測試樣品與至少一種結合蛋白接觸，其中該結合蛋白結合至該靶或其片段上之表位，以形成第一複合物；

(ii) 使該複合物與該至少一種可檢測標記接觸，其中該可檢測標記結合至該結合蛋白或該靶或其片段上未經該結合蛋白結合之表位，以形成第二複合物；及

(iii) 基於由該第二複合物中之該可檢測標記產生之信號檢測該測試樣品中該靶或其片段之存在、量或濃度，其中該靶或其片段之該存在、量或濃度與由該可檢測標記產生之該信號直接相關。

68. 如請求項66之方法，其進一步包含：

(i) 使該測試樣品與至少一種結合蛋白接觸，其中該結合蛋白

結合至該靶或其片段上之表位，以形成第一複合物；

(ii) 使該複合物與該至少一種可檢測標記接觸，其中該可檢測標記與靶或其片段競爭結合至該結合蛋白，以形成第二複合物；及

(iii) 基於由該第二複合物中之該可檢測標記產生之信號檢測該測試樣品中該靶或其片段之存在、量或濃度，其中該靶或其片段之該存在、量或濃度與由該可檢測標記產生之該信號間接相關。

69. 一種套組，其用於分析測試樣品之該樣品中靶或其片段之存在、量或濃度，該套組包含(a) 用於分析該測試樣品之該靶或其片段之說明書，及(b) 至少一種結合蛋白，包含如請求項1至44中任一項之結合蛋白。

70. 一種定量如請求項1至44中之任一結合蛋白之可變結構域之構象穩定性的方法，其係使用差示掃描量熱(DSC)來實施，其中

DSC溫度記錄圖中之最高峰係抗體結合區域(VH-VL)的因溫度遞增所致之去摺疊轉變或過程之中點；且

該最高峰之相應溫度係定量該區域之穩定性。

71. 如請求項70之方法，其中親代抗體之該VH-VL區之熱穩定性對應於納入DVD-Ig格式中之結合結構域之熱穩定性。

72. 如請求項70之方法，其中當將該親代抗體之該VH-VL區納入該DVD-Ig分子中作為外部可變結構域時，該溫度預測該DVD-Ig外部可變結構域(OVD)之構象穩定性。

73. 如請求項70至72中任一項之方法，其中該親代抗體之該VH-VL區經分級以納入該DVD-Ig格式中，以使該DVD-Ig分子達最大穩定性。

74. 如請求項70至73中任一項之方法，其中DVD-Ig結合蛋白之構象

穩定性與該結合蛋白之儲存穩定性(儲放壽命)相關。

75. 如請求項70之方法，其中該DVD-Ig結合蛋白之構象穩定性預測其他DVD-Ig結合蛋白之儲存穩定性(儲放壽命)。

76. 一種能夠結合VEGF之抗體或其抗原結合片段，其中該抗體或抗原結合片段包含

(i) CDR-H1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀ (SEQ ID NO: >>)，其中

X₁係G；

X₂係Y；

X₃係T；

X₄係F；

X₅係T、Q、D、E、N、A、G、H、K、M、L、R、I、Y或V；

X₆係N、S、K、Y、T、M、G、A、I、L、E、P、Q或F；

X₇係Y；

X₈係G、S、D、K、C、V、E、L、W、P、Y、M、N或T；

X₉係M；且

X₁₀係Y；

(ii) CDR-H2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄-X₁₅-X₁₆-X₁₇ (SEQ ID NO: >>)，其中

X₁係W；

X₂係I；

X₃係N；

X₄係T；

X₅係E、Y、L、V、W、A、Q、H、G、K、N、M、T或P；

X₆係T；

X₇係G；

X₈係K、N、D、T、P、W、Y、V、S、M、A、I、G、R或
L；

X₉係P；

X₁₀係T、I、M、K、A、N、P、L、V、W、D、Y、G或E；

X₁₁係Y；

X₁₂係A；

X₁₃係D、Y或H；

X₁₄係D；

X₁₅係F；

X₁₆係K或N；且

X₁₇係G；

(iii) CDR-H3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-
X₁₂-X₁₃-X₁₄ (SEQ ID NO: >>)，其中

X₁係T、Y、G、I、S、K、N、P、L、W、M、F、R或Q；

X₂係N、H、I、T、D、F、L、E、V、Y、A、G、W、Q或
R；

X₃係Y；

X₄係Y；

X₅係Y；

X₆係R、S、N、E、M、L、T、W、Q、G、I、A、C或V；

X₇係S、N、T、K、M、Y、C、I、F、L、D、W、X或V；

X₈係Y；

X₉係I、L、N、T、V、A、R、F、D或S；

X₁₀係F；

X₁₁係Y；

X₁₂係F；

X₁₃係D；且

X₁₄係Y；

(iv) CDR-L1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁
(SEQ ID NO: >>)，其中

X₁係R；

X₂係A；

X₃係S；

X₄係E；

X₅係S；

X₆係V；

X₇係S、N、D、T、R、H、E、I、L、Q、C、M、Y、K或

V；

X₈係T、S、R、A、E、D、M、P、Y、I、W或F；

X₉係H、A、D、C、P、R、Y、L、Q或K；

X₁₀係M；且

X₁₁係H、A或P；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，
其中；

X₁係G、W、V、I、E、S或D；

X₂係A；

X₃係S；

X₄係N、H、Y、M、T、F、V、R、Q、A、S、E、G、C、

D或P；

X₅係L；

X₆係E；且

X₇係S或Y；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID NO: >>)，其中

X₁係Q；

X₂係Q；

X₃係S、C、G、I、W、R、N、A、Y、K、Q或F；

X₄係W、C、L、G、E、S；

X₅係N、I、T、D、G、M、S、H、A、R、V、L、F、K或Q；

X₆係D、N、Y、A、L、M、P、G、H、F或K；

X₇係P；

X₈係F、M、G、Y、A、W、S、V、C或P；且

X₉係T。

77. 如請求項76之抗體或抗原結合片段，其進一步包含人類框架序列。
78. 如請求項76或77之抗體或抗原片段，其中該抗體或抗原結合片段包含與以下序列具有至少約80%、90%、95%或99%同源性之重鏈CDR 1-3及輕鏈CDR 1-3：GYTFTNYGMY (CDR-H1)、WINTETGKPTYADDFKG (CDR-H2)、TNYYYRSYIFYFDY (CDR-H3)、RASESVSTHMH (CDR-L1)、GASNLES (CDR-L2)及QQSWNDPFT (CDR-L3)。
79. 如請求項76至78中任一項之抗體或抗原片段，其中該抗體或抗原結合片段包含GYTFTNYGMY (CDR-H1)、WINTETGKPTYADDFKG (CDR-H2)、TNYYYRSYIFYFDY (CDR-H3)、RASESVSTHMH (CDR-L1)、GASNLES (CDR-L2)及

QQSWNDPFT (CDR-L3)。

80. 一種能夠結合VEGF之抗體或其抗原結合片段，其中該抗體或抗原結合片段包含與選自表A、27或38至42中之CDR組中之任一者之CDR組具有至少約80%、90%、95%或99%同源性的包含重鏈CDR 1-3及輕鏈CDR 1-3之CDR組。
81. 如請求項80之抗體或抗原結合片段，其中該抗體或抗原結合片段包含選自表A、27或38至42中之CDR組中之任一者的包含重鏈CDR 1-3及輕鏈CDR 1-3之CDR組。
82. 如請求項80或81之抗體或抗原結合片段，其進一步包含人類框架序列。
83. 如請求項80之抗體或抗原結合片段，其中該抗體或抗原結合片段包含與表A、27或38至42中之任一成對可變結構域具有至少約80%、90%、95%或99%同源性的重鏈可變結構域及配對輕鏈可變結構域。
84. 如請求項80之抗體或抗原結合片段，其中該抗體或抗原結合片段包含選自表A、27或38至42中之任一成對可變結構域的重鏈可變結構域及配對輕鏈可變結構域。
85. 一種能夠結合PDGF之抗體或其抗原結合片段，其中該抗體或抗原結合片段包含

(i) CDR-H1，其包含 $X_1-X_2-X_3-X_4-X_5-X_6-X_7-X_8-X_9-X_{10}-X_{11}-X_{12}$ (SEQ ID NO: >>)，其中

X_1 係G；

X_2 係F；

X_3 係S、I或R；

X_4 係L；

X_5 係S、Y、A、D、T、M、R、L、C、F、W或P；

X₆係T；

X₇係Y或S；

X₈係G或E；

X₉係M或V；

X₁₀係G、S或R；

X₁₁係V或I；且

X₁₂係G、D、L、A、C、V、Y、R、T、E或S；

(ii) CDR-H2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄-X₁₅-X₁₆ (SEQ ID NO: >>)，其中

X₁係N或L；

X₂係I；

X₃係W、D、C或G；

X₄係W或C；

X₅係D、Y、N、H、V、E、I、P、A、C或G；

X₆係D、G、N或H；

X₇係D、E、G、V、A、H、Y、N、Q、S或L；

X₈係K、E、T、I、Q、V、N、R、Y、L、M或C；

X₉係Y、H、C、D、N、S、A、F或G；

X₁₀係Y；

X₁₁係N或S；

X₁₂係P、L或T；

X₁₃係S；

X₁₄係L；

X₁₅係K或N；且

X₁₆係N、S或T；

(iii) CDR-H3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂

(SEQ ID NO: >>), 其中

X₁係I、Y、N、L、M、V、R、K、F、C、T或E；

X₂係E、Q、V、K、Y、L、D、G、A、M、R或S；

X₃係S、T、A、Y、W、P、L、V、E、K、F或C；

X₄係I、G、S、M、V、L、F、N、D、H、Y、T、R、Q、
K、E或P；

X₅係G、W、P、F、C、Y、A、E、L、V、S、D或R；

X₆係T、P、W、R、I、F、A、M、Y、S、L、G、D、K、
V、N或E；

X₇係T、N、S、K、R、M、A、E、I、V、L、W、P或Q；

X₈係Y；

X₉係S、E、D、Y、A、C、N、M、W、T、Q、G、I、L或
P；

X₁₀係F；

X₁₁係D或Y；且

X₁₂係Y；

(iv) CDR CDR-L1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-
X₁₁ (SEQ ID NO: >>)，其中

X₁係E、R或K；

X₂係R、A或E；

X₃係S或Y；

X₄係S；

X₅係G、C、V或S；

X₆係D、S或Y；

X₇係I、N、T或M；

X₈係G、W、Y、S、M、H、D、R、E、N、C、A、L、V、

F、T或Q；

X₉係D、Y、Q、N、H、G、E、S、K、F、R、L、C、A或

P；

X₁₀係S、T、Y、M、K、A、C、F、L、E、W、D、P或G；

且

X₁₁係Y、F、L、R、H、N、C、A、D、S或T；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，

其中

X₁係I或M；

X₂係Y或H；

X₃係A、G、S、W、T、L、V、F、N、P、E或D；

X₄係D、Y、A或V；

X₅係D或G；

X₆係Q、L、R、H、W、Y、M、K、D、A、E、N、V、S、

F或P；且

X₇係R、Q或P；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID NO: >>)，其中

X₁係Y；

X₂係C或R；

X₃係Q或K；

X₄係S、P、Q或H；

X₅係Y；

X₆係D或G；

X₇係I、L、V、E、T、S、Q、R、N、K、G或A；

X₈係N、F、D、E、T、I、Y、C、V、S、R或A；且

X₉係I、T、S、V、D、R、E、M、L、P、F、N。

86. 如請求項85之抗體或抗原結合片段，其進一步包含人類框架序列。
87. 如請求項85或86之抗體或抗原片段，其中該抗體或抗原結合片段包含與以下序列具有至少約80%、90%、95%或99%同源性之重鏈CDR 1-3及輕鏈CDR 1-3：GFSLSTYGMGVG (CDR-H1)、NIWWDDDKYYNPSLKN (CDR-H2)、IESIGTTYDFDY (CDR-H3)、ERSSGDIGDSY (CDR-L1)、IYADDQR (CDR-L2)及YCQSYDINI (CDR-L3)。
88. 如請求項85至87中任一項之抗體或抗原片段，其中該抗體或抗原結合片段包含GFSLSTYGMGVG (CDR-H1)、NIWWDDDKYYNPSLKN (CDR-H2)、IESIGTTYDFDY (CDR-H3)、ERSSGDIGDSY (CDR-L1)、IYADDQR (CDR-L2)及YCQSYDINI (CDR-L3)。
89. 一種能夠結合PDGF之抗體或其抗原結合片段，其中該抗體或抗原結合片段包含與選自表A、28或46至50中之CDR組中之任一者之CDR組具有至少約80%、90%、95%或99%同源性的包含重鏈CDR 1-3及輕鏈CDR 1-3之CDR組。
90. 如請求項89之抗體或抗原結合片段，其中該抗體或抗原結合片段包含選自表A、28或46至50中之CDR組中之任一者的包含重鏈CDR 1-3及輕鏈CDR 1-3之CDR組。
91. 如請求項89或90之抗體或抗原結合片段，其進一步包含人類框架序列。
92. 如請求項89之抗體或抗原結合片段，其中該抗體或抗原結合片段包含與表A、28或46至50中之任一成對可變結構域具有至少約

80%、90%、95%或99%同源性的重鏈可變結構域及配對輕鏈可變結構域。

93. 如請求項89之抗體或抗原結合片段，其中該抗體或抗原結合片段包含選自表A、28或46至50中之任一成對可變結構域的重鏈可變結構域及配對輕鏈可變結構域。
94. 如請求項76至93中任一項之抗體或抗原結合片段，其包含IgG1、IgG2、IgG3、IgG4、IgA、IgM、IgE或IgD或其變體之Fc區。
95. 如請求項76至94中任一項之抗體或抗原結合片段，其中該Fc區係變體序列Fc區。
96. 如請求項76至95中任一項之抗體或抗原結合片段，其中該抗體或抗原結合片段包含：

a) 重鏈恆定區，其包含藉由一或多個胺基酸變化修飾之人類IgG1重鏈序列，其中該等變化包含在位置234及235處用丙胺酸取代白胺酸，且視情況亦包含在位置435處用丙胺酸取代組胺酸，其中該等胺基酸位置係使用EU索引編號來編號；及

(b) 輕鏈恆定區，其包含人類κ輕鏈恆定區序列。

97. 一種結合蛋白，其包含形成VEGF之功能性結合位點之重鏈及輕鏈可變結構域，其中形成VEGF之功能性結合位點之該等可變結構域包含：

(i) CDR-H1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀ (SEQ ID NO: >>)，其中

X₁係G；

X₂係Y；

X₃係T；

X₄係F；

X₅係T、Q、D、E、N、A、G、H、K、M、L、R、I、Y或
V；

X₆係N、S、K、Y、T、M、G、A、I、L、E、P、Q或F；

X₇係Y；

X₈係G、S、D、K、C、V、E、L、W、P、Y、M、N或T；

X₉係M；且

X₁₀係Y；

(ii) CDR-H2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-
X₁₃-X₁₄-X₁₅-X₁₆-X₁₇ (SEQ ID NO: >>)，其中

X₁係W；

X₂係I；

X₃係N；

X₄係T；

X₅係E、Y、L、V、W、A、Q、H、G、K、N、M、T或P；

X₆係T；

X₇係G；

X₈係K、N、D、T、P、W、Y、V、S、M、A、I、G、R或

L；

X₉係P；

X₁₀係T、I、M、K、A、N、P、L、V、W、D、Y、G或E；

X₁₁係Y；

X₁₂係A；

X₁₃係D、Y或H；

X₁₄係D；

X₁₅係F；

X₁₆係K或N；且

X₁₇係G；

(iii) CDR-H3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄ (SEQ ID NO: >>)，其中

X₁係T、Y、G、I、S、K、N、P、L、W、M、F、R或Q；

X₂係N、H、I、T、D、F、L、E、V、Y、A、G、W、Q或R；

X₃係Y；

X₄係Y；

X₅係Y；

X₆係R、S、N、E、M、L、T、W、Q、G、I、A、C或V；

X₇係S、N、T、K、M、Y、C、I、F、L、D、W、X或V；

X₈係Y；

X₉係I、L、N、T、V、A、R、F、D或S；

X₁₀係F；

X₁₁係Y；

X₁₂係F；

X₁₃係D；且

X₁₄係Y；

(iv) CDR-L1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁ (SEQ ID NO: >>)，其中

X₁係R；

X₂係A；

X₃係S；

X₄係E；

X₅係S；

X₆係V；

X₇係S、N、D、T、R、H、E、I、L、Q、C、M、Y、K或
V；

X₈係T、S、R、A、E、D、M、P、Y、I、W或F；

X₉係H、A、D、C、P、R、Y、L、Q或K；

X₁₀係M；且

X₁₁係H、A或P；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，

其中；

X₁係G、W、V、I、E、S或D；

X₂係A；

X₃係S；

X₄係N、H、Y、M、T、F、V、R、Q、A、S、E、G、C、

D或P；

X₅係L；

X₆係E；且

X₇係S或Y；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID
NO: >>)，其中

X₁係Q；

X₂係Q；

X₃係S、C、G、I、W、R、N、A、Y、K、Q或F；

X₄係W、C、L、G、E、S；

X₅係N、I、T、D、G、M、S、H、A、R、V、L、F、K或
Q；

X₆係D、N、Y、A、L、M、P、G、H、F或K；

X₇係P；

X₈係F、M、G、Y、A、W、S、V、C或P；且

X₉係T。

98. 如請求項97之結合蛋白，其中該結合蛋白亦能夠結合PDGF。

99. 如請求項98之結合蛋白，其中該結合蛋白包含形成PDGF之功能性結合位點之重鏈及輕鏈可變結構域，該等可變結構域包含：

(i) CDR-H1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂ (SEQ ID NO: >>)，其中

X₁係G；

X₂係F；

X₃係S、I或R；

X₄係L；

X₅係S、Y、A、D、T、M、R、L、C、F、W或P；

X₆係T；

X₇係Y或S；

X₈係G或E；

X₉係M或V；

X₁₀係G、S或R；

X₁₁係V或I；且

X₁₂係G、D、L、A、C、V、Y、R、T、E或S；

(ii) CDR-H2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄-X₁₅-X₁₆ (SEQ ID NO: >>)，其中

X₁係N或L；

X₂係I；

X₃係W、D、C或G；

X₄係W或C；

X₅係D、Y、N、H、V、E、I、P、A、C或G；

X₆係D、G、N或H；

X₇係D、E、G、V、A、H、Y、N、Q、S或L；

X₈係K、E、T、I、Q、V、N、R、Y、L、M或C；

X₉係Y、H、C、D、N、S、A、F或G；

X₁₀係Y；

X₁₁係N或S；

X₁₂係P、L或T；

X₁₃係S；

X₁₄係L；

X₁₅係K或N；且

X₁₆係N、S或T；

(iii) CDR-H3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂

(SEQ ID NO: >>)，其中

X₁係I、Y、N、L、M、V、R、K、F、C、T或E；

X₂係E、Q、V、K、Y、L、D、G、A、M、R或S；

X₃係S、T、A、Y、W、P、L、V、E、K、F或C；

X₄係I、G、S、M、V、L、F、N、D、H、Y、T、R、Q、
K、E或P；

X₅係G、W、P、F、C、Y、A、E、L、V、S、D或R；

X₆係T、P、W、R、I、F、A、M、Y、S、L、G、D、K、
V、N或E；

X₇係T、N、S、K、R、M、A、E、I、V、L、W、P或Q；

X₈係Y；

X₉係S、E、D、Y、A、C、N、M、W、T、Q、G、I、L或
P；

X₁₀係F；

X₁₁係D或Y；且

X₁₂係Y；

(iv) CDR CDR-L1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁ (SEQ ID NO: >>)，其中

X₁係E、R或K；

X₂係R、A或E；

X₃係S或Y；

X₄係S；

X₅係G、C、V或S；

X₆係D、S或Y；

X₇係I、N、T或M；

X₈係G、W、Y、S、M、H、D、R、E、N、C、A、L、V、F、T或Q；

X₉係D、Y、Q、N、H、G、E、S、K、F、R、L、C、A或P；

X₁₀係S、T、Y、M、K、A、C、F、L、E、W、D、P或G；

且

X₁₁係Y、F、L、R、H、N、C、A、D、S或T；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，其中

X₁係I或M；

X₂係Y或H；

X₃係A、G、S、W、T、L、V、F、N、P、E或D；

X₄係D、Y、A或V；

X₅係D或G；

X₆係Q、L、R、H、W、Y、M、K、D、A、E、N、V、S、
F或P；且

X₇係R、Q或P；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID
NO: >>)，其中

X₁係Y；

X₂係C或R；

X₃係Q或K；

X₄係S、P、Q或H；

X₅係Y；

X₆係D或G；

X₇係I、L、V、E、T、S、Q、R、N、K、G或A；

X₈係N、F、D、E、T、I、Y、C、V、S、R或A；且

X₉係I、T、S、V、D、R、E、M、L、P、F、N。

100. 如請求項97至99中任一項之結合蛋白，其進一步包含人類框架
序列。

101. 一種結合蛋白，其包含形成PDGF之功能性結合位點之重鏈及輕
鏈可變結構域，其中形成PDGF之功能性結合位點之該等可變結
構域包含：

(i) CDR-H1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂
(SEQ ID NO: >>)，其中

X₁係G；

X₂係F；

X₃係S、I或R；

X₄係L；

X_5 係 S、Y、A、D、T、M、R、L、C、F、W 或 P；

X_6 係 T；

X_7 係 Y 或 S；

X_8 係 G 或 E；

X_9 係 M 或 V；

X_{10} 係 G、S 或 R；

X_{11} 係 V 或 I；且

X_{12} 係 G、D、L、A、C、V、Y、R、T、E 或 S；

(ii) CDR-H2，其包含 X_1 - X_2 - X_3 - X_4 - X_5 - X_6 - X_7 - X_8 - X_9 - X_{10} - X_{11} - X_{12} - X_{13} - X_{14} - X_{15} - X_{16} (SEQ ID NO: >>)，其中

X_1 係 N 或 L；

X_2 係 I；

X_3 係 W、D、C 或 G；

X_4 係 W 或 C；

X_5 係 D、Y、N、H、V、E、I、P、A、C 或 G；

X_6 係 D、G、N 或 H；

X_7 係 D、E、G、V、A、H、Y、N、Q、S 或 L；

X_8 係 K、E、T、I、Q、V、N、R、Y、L、M 或 C；

X_9 係 Y、H、C、D、N、S、A、F 或 G；

X_{10} 係 Y；

X_{11} 係 N 或 S；

X_{12} 係 P、L 或 T；

X_{13} 係 S；

X_{14} 係 L；

X_{15} 係 K 或 N；且

X_{16} 係 N、S 或 T；

(iii) CDR-H3，其包含 X_1 - X_2 - X_3 - X_4 - X_5 - X_6 - X_7 - X_8 - X_9 - X_{10} - X_{11} - X_{12}
(SEQ ID NO: >>)，其中

X_1 係I、Y、N、L、M、V、R、K、F、C、T或E；

X_2 係E、Q、V、K、Y、L、D、G、A、M、R或S；

X_3 係S、T、A、Y、W、P、L、V、E、K、F或C；

X_4 係I、G、S、M、V、L、F、N、D、H、Y、T、R、Q、
K、E或P；

X_5 係G、W、P、F、C、Y、A、E、L、V、S、D或R；

X_6 係T、P、W、R、I、F、A、M、Y、S、L、G、D、K、
V、N或E；

X_7 係T、N、S、K、R、M、A、E、I、V、L、W、P或Q；

X_8 係Y；

X_9 係S、E、D、Y、A、C、N、M、W、T、Q、G、I、L或
P；

X_{10} 係F；

X_{11} 係D或Y；且

X_{12} 係Y；

(iv) CDR CDR-L1，其包含 X_1 - X_2 - X_3 - X_4 - X_5 - X_6 - X_7 - X_8 - X_9 - X_{10} -
 X_{11} (SEQ ID NO: >>)，其中

X_1 係E、R或K；

X_2 係R、A或E；

X_3 係S或Y；

X_4 係S；

X_5 係G、C、V或S；

X_6 係D、S或Y；

X_7 係I、N、T或M；

X₈係G、W、Y、S、M、H、D、R、E、N、C、A、L、V、
F、T或Q；

X₉係D、Y、Q、N、H、G、E、S、K、F、R、L、C、A或
P；

X₁₀係S、T、Y、M、K、A、C、F、L、E、W、D、P或G；
且

X₁₁係Y、F、L、R、H、N、C、A、D、S或T；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，

其中

X₁係I或M；

X₂係Y或H；

X₃係A、G、S、W、T、L、V、F、N、P、E或D；

X₄係D、Y、A或V；

X₅係D或G；

X₆係Q、L、R、H、W、Y、M、K、D、A、E、N、V、S、
F或P；且

X₇係R、Q或P；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID
NO: >>)，其中

X₁係Y；

X₂係C或R；

X₃係Q或K；

X₄係S、P、Q或H；

X₅係Y；

X₆係D或G；

X₇係I、L、V、E、T、S、Q、R、N、K、G或A；

X₈係N、F、D、E、T、I、Y、C、V、S、R或A；且

X₉係I、T、S、V、D、R、E、M、L、P、F、N。

102. 如請求項101之結合蛋白，其中該結合蛋白亦能夠結合VEGF。

103. 如請求項102之結合蛋白，其中該結合蛋白包含形成VEGF之功能性結合位點之重鏈及輕鏈可變結構域，該等可變結構域包含：

(i) CDR-H1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀ (SEQ ID NO: >>)，其中

X₁係G；

X₂係Y；

X₃係T；

X₄係F；

X₅係T、Q、D、E、N、A、G、H、K、M、L、R、I、Y或V；

X₆係N、S、K、Y、T、M、G、A、I、L、E、P、Q或F；

X₇係Y；

X₈係G、S、D、K、C、V、E、L、W、P、Y、M、N或T；

X₉係M；且

X₁₀係Y；

(ii) CDR-H2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-X₁₂-X₁₃-X₁₄-X₁₅-X₁₆-X₁₇ (SEQ ID NO: >>)，其中

X₁係W；

X₂係I；

X₃係N；

X₄係T；

X₅係E、Y、L、V、W、A、Q、H、G、K、N、M、T或P；

X₆係T；

X₇係G；

X₈係K、N、D、T、P、W、Y、V、S、M、A、I、G、R或
L；

X₉係P；

X₁₀係T、I、M、K、A、N、P、L、V、W、D、Y、G或E；

X₁₁係Y；

X₁₂係A；

X₁₃係D、Y或H；

X₁₄係D；

X₁₅係F；

X₁₆係K或N；且

X₁₇係G；

(iii) CDR-H3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁-
X₁₂-X₁₃-X₁₄ (SEQ ID NO: >>)，其中

X₁係T、Y、G、I、S、K、N、P、L、W、M、F、R或Q；

X₂係N、H、I、T、D、F、L、E、V、Y、A、G、W、Q或
R；

X₃係Y；

X₄係Y；

X₅係Y；

X₆係R、S、N、E、M、L、T、W、Q、G、I、A、C或V；

X₇係S、N、T、K、M、Y、C、I、F、L、D、W、X或V；

X₈係Y；

X₉係I、L、N、T、V、A、R、F、D或S；

X₁₀係F；

X₁₁係Y；

X₁₂係F；

X₁₃係D；且

X₁₄係Y；

(iv) CDR-L1，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉-X₁₀-X₁₁
(SEQ ID NO: >>)，其中

X₁係R；

X₂係A；

X₃係S；

X₄係E；

X₅係S；

X₆係V；

X₇係S、N、D、T、R、H、E、I、L、Q、C、M、Y、K或
V；

X₈係T、S、R、A、E、D、M、P、Y、I、W或F；

X₉係H、A、D、C、P、R、Y、L、Q或K；

X₁₀係M；且

X₁₁係H、A或P；

(v) CDR-L2，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇ (SEQ ID NO: >>)，
其中；

X₁係G、W、V、I、E、S或D；

X₂係A；

X₃係S；

X₄係N、H、Y、M、T、F、V、R、Q、A、S、E、G、C、
D或P；

X₅係L；

X₆係E；且

X₇係S或Y；

及

(vi) CDR-L3，其包含X₁-X₂-X₃-X₄-X₅-X₆-X₇-X₈-X₉ (SEQ ID NO: >>)，其中

X₁係Q；

X₂係Q；

X₃係S、C、G、I、W、R、N、A、Y、K、Q或F；

X₄係W、C、L、G、E、S；

X₅係N、I、T、D、G、M、S、H、A、R、V、L、F、K或Q；

X₆係D、N、Y、A、L、M、P、G、H、F或K；

X₇係P；

X₈係F、M、G、Y、A、W、S、V、C或P；且

X₉係T。

104. 如請求項101至103中任一項之結合蛋白，其進一步包含人類框架序列。
105. 一種結合蛋白，其包含形成VEGF之功能性結合位點之重鏈及輕鏈可變結構域，其中形成VEGF之功能性結合位點之該等可變結構域包含選自表A、27或38至42中所列示CDR組中之任一者的重鏈CDR 1-3及配對輕鏈CDR 1-3之組。
106. 如請求項105之結合蛋白，其中形成VEGF之功能性結合位點之該等可變結構域包含選自表A、27或38至42中所列示重鏈與配對輕鏈中之任一者的重鏈與配對輕鏈。
107. 如請求項105或106之結合蛋白，其中該結合蛋白亦能夠結合

PDGF。

108. 如請求項107之結合蛋白，其中該結合蛋白包含形成PDGF之功能性結合位點之重鏈及輕鏈可變結構域，且形成該PDGF之功能性結合位點之該等可變結構域包含選自表A、28或46至50中所列示CDR組中之任一者的重鏈CDR 1-3及配對輕鏈CDR 1-3之組。
109. 如請求項108之結合蛋白，其中形成PDGF之功能性靶結合位點之該等可變結構域包含選自表A、28或46至50中所列示重鏈與配對輕鏈中之任一者的重鏈與配對輕鏈。
110. 一種結合蛋白，其包含形成PDGF之功能性結合位點之重鏈及輕鏈可變結構域，其中形成PDGF之功能性結合位點之該等可變結構域包含選自表A、28或46至50中所列示CDR組中之任一者的重鏈CDR 1-3及配對輕鏈CDR 1-3之組。
111. 如請求項110之結合蛋白，其中形成PDGF之功能性結合位點之該等可變結構域包含選自表A、28或46至50中所列示重鏈與配對輕鏈中之任一者的重鏈與配對輕鏈。
112. 如請求項110或111之結合蛋白，其中該結合蛋白亦能夠結合VEGF。
113. 如請求項112之結合蛋白，其中該結合蛋白包含形成VEGF之功能性結合位點之重鏈及輕鏈可變結構域，且形成該VEGF之功能性結合位點之該等可變結構域包含選自表A、27或38至42中所列示CDR組中之任一者的重鏈CDR 1-3及配對輕鏈CDR 1-3之組。
114. 如請求項112或113之結合蛋白，其中形成VEGF之功能性結合位點之該等可變結構域包含選自表A、27或38至42中所列示重鏈與配對輕鏈中之任一者的重鏈與配對輕鏈。
115. 一種結合蛋白，其包含形成VEGF之功能性結合位點之重鏈及輕鏈可變結構域及形成PDGF之功能性結合位點之重鏈及輕鏈可變

結構域，其中

- a. 形成VEGF之功能性結合位點之該等可變結構域包含：
- SEQ ID NO: 17之CDR 1-3及SEQ ID NO: 18之CDR-1-3，
SEQ ID NO: 19之CDR 1-3及SEQ ID NO: 20之CDR-1-3，
SEQ ID NO: 21之CDR 1-3及SEQ ID NO: 22之CDR-1-3，
SEQ ID NO: 23之CDR 1-3及SEQ ID NO: 24之CDR-1-3，
SEQ ID NO: 25之CDR 1-3及SEQ ID NO: 26之CDR-1-3，
SEQ ID NO: 27之CDR 1-3及SEQ ID NO: 28之CDR-1-3，
SEQ ID NO: 29之CDR 1-3及SEQ ID NO: 30之CDR-1-3，
SEQ ID NO: 31之CDR 1-3及SEQ ID NO: 32之CDR-1-3，
SEQ ID NO: 33之CDR 1-3及SEQ ID NO: 34之CDR-1-3，
SEQ ID NO: 35之CDR 1-3及SEQ ID NO: 36之CDR-1-3，
SEQ ID NO: 37之CDR 1-3及SEQ ID NO: 38之CDR-1-3，
SEQ ID NO: 39之CDR 1-3及SEQ ID NO: 40之CDR-1-3，
SEQ ID NO: 41之CDR 1-3及SEQ ID NO: 42之CDR-1-3，或
SEQ ID NO: 43之CDR 1-3及SEQ ID NO: 44之CDR-1-3，及
- b. 形成PDGF之功能性結合位點之該等可變結構域包含：
- SEQ ID NO: 1之CDR 1-3及SEQ ID NO: 2之CDR-1-3，
SEQ ID NO: 3之CDR 1-3及SEQ ID NO: 4之CDR-1-3，
SEQ ID NO: 5之CDR 1-3及SEQ ID NO: 6之CDR-1-3，
SEQ ID NO: 7之CDR 1-3及SEQ ID NO: 8之CDR-1-3，
SEQ ID NO: 9之CDR 1-3及SEQ ID NO: 10之CDR-1-3，
SEQ ID NO: 11之CDR 1-3及SEQ ID NO: 12之CDR-1-3，
SEQ ID NO: 13之CDR 1-3及SEQ ID NO: 14之CDR-1-3，
SEQ ID NO: 15之CDR 1-3及SEQ ID NO: 16之CDR-1-3，或
SEQ ID NO: 211之CDR 1-3及SEQ ID NO: 212之CDR-1-3。

116. 一種結合蛋白，其包含形成VEGF之功能性結合位點之重鏈及輕鏈可變結構域及形成PDGF之功能性結合位點之重鏈及輕鏈可變結構域，其中

a. 形成VEGF之功能性結合位點之該等可變結構域包含選自由SEQ ID NO: 17-44組成之群之序列，及

b. 形成PDGF之功能性結合位點之該等可變結構域包含選自由SEQ ID NO: 1-16、211及212組成之群之序列。

117. 如請求項115至116中任一項之結合蛋白，其中：

a. 形成VEGF之功能性結合位點之該等可變結構域包含：

SEQ ID NO: 17及SEQ ID NO: 18，

SEQ ID NO: 19及SEQ ID NO: 20，

SEQ ID NO: 21及SEQ ID NO: 22，

SEQ ID NO: 23及SEQ ID NO: 24，

SEQ ID NO: 25及SEQ ID NO: 26，

SEQ ID NO: 27及SEQ ID NO: 28，

SEQ ID NO: 29及SEQ ID NO: 30，

SEQ ID NO: 31及SEQ ID NO: 32，

SEQ ID NO: 33及SEQ ID NO: 34，

SEQ ID NO: 35及SEQ ID NO: 36，

SEQ ID NO: 37及SEQ ID NO: 38，

SEQ ID NO: 39及SEQ ID NO: 40，

SEQ ID NO: 41及SEQ ID NO: 42，或

SEQ ID NO: 43及SEQ ID NO: 44，及

b. 形成PDGF之功能性結合位點之該等可變結構域包含：

SEQ ID NO: 1及SEQ ID NO: 2，

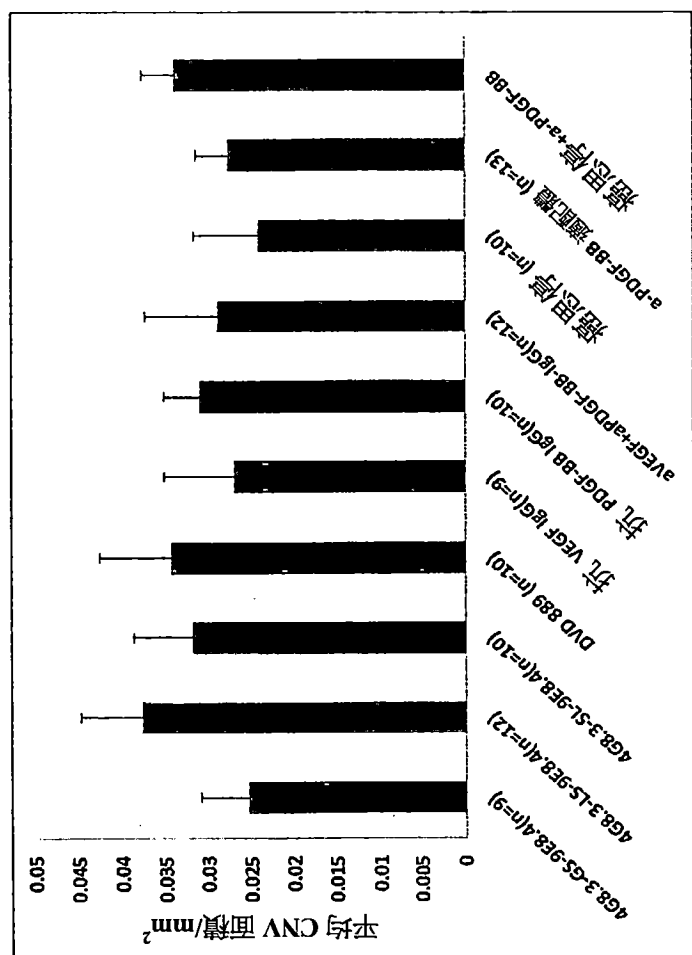
SEQ ID NO: 3及SEQ ID NO: 4，

SEQ ID NO: 5及SEQ ID NO: 6，
SEQ ID NO: 7及SEQ ID NO: 8，
SEQ ID NO: 9及SEQ ID NO: 10，
SEQ ID NO: 11及SEQ ID NO: 12，
SEQ ID NO: 13及SEQ ID NO: 14，
SEQ ID NO: 15及SEQ ID NO: 16，或
SEQ ID NO: 211及SEQ ID NO: 212。

118. 如請求項97至117中任一項之結合蛋白，其中該結合蛋白係抗體或其抗原結合片段、單株抗體、人類化抗體、人類抗體、雙特異性抗體、雙特異性結合蛋白、多特異性結合蛋白、DVD-Ig結合蛋白、CrossMab結合蛋白、雙價抗體、串聯單鏈Fv分子、雙特異性雙價抗體、單鏈雙價抗體分子或二-雙價抗體。
119. 如請求項118之結合蛋白，其中該結合蛋白包含PR-1610561 (包含SEQ ID NO: 131及132)或PR-1572102 (包含SEQ ID NO: 88及89)或PR-1572105 (包含SEQ ID NO: 94及95)或PR1611292 (包含SEQ ID NO: 141及142)。
120. 一種結合蛋白，其與如請求項1至44中任一項之結合蛋白競爭結合至VEGF、PDGF、VEGF受體及PDGF受體中之一或多者。
121. 一種結合蛋白，其與如請求項76至96中任一項之抗體或抗原結合片段競爭結合至VEGF、PDGF、VEGF受體及PDGF受體中之一或多者。
122. 一種結合蛋白，其與如請求項97至119中任一項之結合蛋白競爭結合至VEGF、PDGF、VEGF受體及PDGF受體中之一或多者。
123. 一種結合蛋白，其結合至與如請求項1至44中任一項之結合蛋白相同之VEGF、PDGF、VEGF受體及/或PDGF受體表位。
124. 一種結合蛋白，其結合至與如請求項76至96中任一項之抗體或

抗原結合片段相同之 VEGF、PDGF、VEGF 受體及/或 PDGF 受體表位。

125. 一種結合蛋白，其結合至與如請求項 97 至 119 中任一項之結合蛋白相同之 VEGF、PDGF、VEGF 受體及/或 PDGF 受體表位。
126. 如請求項 120 至 125 中任一項之結合蛋白，其中該結合蛋白係抗體或其抗原結合片段、單株抗體、人類化抗體、人類抗體、雙特異性抗體、雙特異性結合蛋白、多特異性結合蛋白、DVD-Ig 結合蛋白、CrossMab 結合蛋白、雙價抗體、串聯單鏈 Fv 分子、雙特異性雙價抗體、單鏈雙價抗體分子或二-雙價抗體。



6 圖