### **PCT**

# WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup>: C12N 15/12, 5/10, C07K 14/47, C12Q 1/68, A61K 38/17

(11) International Publication Number:

WO 98/45437

**A3** 

(43) International Publication Date:

15 October 1998 (15.10.98)

(21) International Application Number:

PCT/US98/06956

(22) International Filing Date:

10 April 1998 (10.04.98)

(30) Priority Data:

08/837,312

10 April 1997 (10.04.97)

US

- (71) Applicant: GENETICS INSTITUTE, INC. [US/US]; 87 CambridgePark Drive, Cambridge, MA 02140 (US).
- (72) Inventors: JACOBS, Kenneth; 151 Beaumont Avenue, Newton, MA 02160 (US). MCCOY, John, M.; 56 Howard Street, Reading, MA 01867 (US). LAVALLIE, Edward, R.; 113 Ann Lee Road, Harvard, MA 01451 (US). RACIE, Lisa, A.; 124 School Street, Acton, MA 01720 (US). MERBERG, David; 2 Orchard Drive, Acton, MA 01720 (US). TREACY, Maurice; 93 Walcott Road, Chestnut Hill, MA 02167 (US). SPAULDING, Vikki; 11 Meadowbank Road, Billerica, MA 01821 (US). AGOSTINO, Michael, J.; 26 Wolcott Avenue, Andover, MA 01810 (US).
- (74) Agent: SPRUNGER, Suzanne, A.; Genetics Institute, Inc., 87 CambridgePark Drive, Cambridge, MA 02140 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

#### Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(88) Date of publication of the international search report:

12 November 1998 (12.11.98)

- (54) Title: SECRETED EXPRESSED SEQUENCE TAGS (SESTS)
- (57) Abstract

Secreted expressed sequence tags (sESTs) isolated from a variety of human tissue sources are provided.

#### FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	$\mathbf{z}\mathbf{w}$	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	- RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

#### INTERNATIONAL SEARCH REPORT

International Application No

Pui/US 98/06956 A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 C12N15/12 C12N5/10 A61K38/17 C07K14/47 C12Q1/68 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) C12N C07K C12Q A61K IPC 6 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Category ° Citation of document, with indication, where appropriate, of the relevant passages US 5 527 896 A (WIGLER MICHAEL H ET AL) 4 Χ 18 June 1996 SEQ ID no. 31, Accession no. I22491 WO 97 07198 A (GENETICS INSTITUT) 27 1-8 Α February 1997 see the whole document 1-8 WO 97 04097 A (GENETICS INST) 6 February A 1997 1-8 ADAMS M D ET AL: "3.400 NEW EXPRESSED Α SEQUENCE TAGS IDENTIFY DIVERSITY OF TRANSCRIPTS IN HUMAN BRAIN" NATURE GENETICS, vol. 4, no. 3, July 1993, pages 256-267, XP000611495 see the whole document -/--Patent family members are listed in annex. Further documents are listed in the continuation of box C. ΙX Χ Special categories of cited documents : \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to filing date involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled other means in the art. \*P\* document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of mailing of the international search report Date of the actual completion of the international search 3 0, 09, 98 3 July 1998 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,

Fax: (+31-70) 340-3016

HORNIG H.

## INTERNATIONAL SEARCH REPORT

International Application No

C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	Delevent to glaim No.
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 536 637 A (JACOBS KENNETH) 16 July 1996 cited in the application see the whole document	1-8
A	JACOBS K ET AL: "A NOVEL METHOD FOR ISOLATING EUKARYOTIC CDNA CLONES ENCODING SECRETED PROTEINS" JOURNAL OF CELLULAR BIOCHEMISTRY - SUPPLEMENT, vol. 21A, 10 March 1995, page 19 XP002027246 see abstract	1-8
Α	WO 90 14432 A (GENETICS INST) 29 November 1990 see the whole document	1-8
Α	WO 96 17925 A (IMMUNEX CORP) 13 June 1996 see the whole document	1-8
	=	
		1

ernational application No.

#### INTERNATIONAL SEARCH REPORT

PCT/US 98/06956

Box i C	Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)
This Intern	national Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
	Claims Nos.: ecause they relate to subject matter not required to be searched by this Authority, namely:
ь	Claims Nos.: secause they relate to parts of the International Application that do not comply with the prescribed requirements to such in extent that no meaningful International Search can be carried out, specifically:
	Claims Nos.: Decause they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II	Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This Interr	national Searching Authority found multiple inventions in this international application, as follows:
see	further information sheet
1 /s	As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
	As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
	As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
	No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  See further information sheet, subject 1.
Remark o	The additional search fees were accompanied by the applicant's protest.  No protest accompanied the payment of additional search fees.

#### INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5527896 A	18-06-96	CA 2080920 A EP 0537173 A EP 0666314 A WO 9116457 A	21-10-91 21-04-93 09-08-95 31-10-91
WO 9707198 A	27-02-97	US 5707829 A AU 6712396 A AU 6768596 A EP 0839196 A EP 0851875 A WO 9704097 A	13-01-98 18-02-97 12-03-97 06-05-98 08-07-98 06-02-97
WO 9704097 A	06-02-97	US 5707829 A AU 6712396 A EP 0839196 A AU 6768596 A EP 0851875 A WO 9707198 A	13-01-98 18-02-97 06-05-98 12-03-97 08-07-98 27-02-97
US 5536637 A	16-07-96	US 5712116 A	27-01-98
WO 9014432 A	29-11-90	US 5580753 A AT 147436 T AU 637620 B AU 5928990 A CA 2056997 A DE 69029657 D DK 473724 T EP 0473724 A ES 2099096 T JP 4506006 T US 5734037 A US 5414071 A	03-12-96 15-01-97 03-06-93 18-12-90 24-11-90 20-02-97 14-04-97 11-03-92 16-05-97 22-10-92 31-03-98 09-05-95
WO 9617925 A	13-06-96	AU 4639396 A CA 2206488 A FI 972390 A NO 972455 A	26-06-96 13-06-96 05-06-97 06-08-97