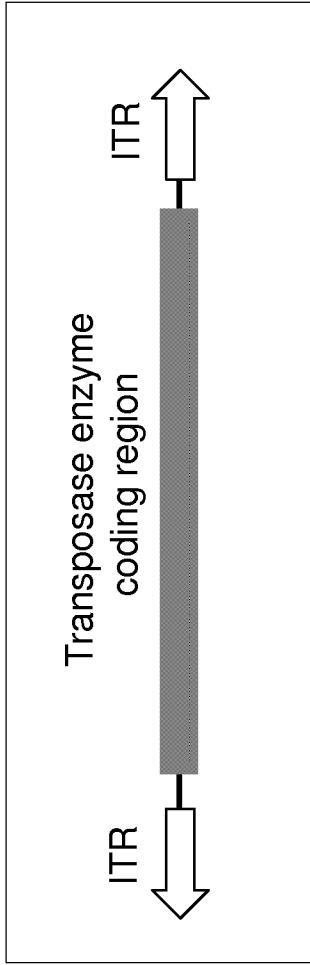


Fig. 1:

a.) autonomous transposable element (TE):



b.) bi-component transposon vector system

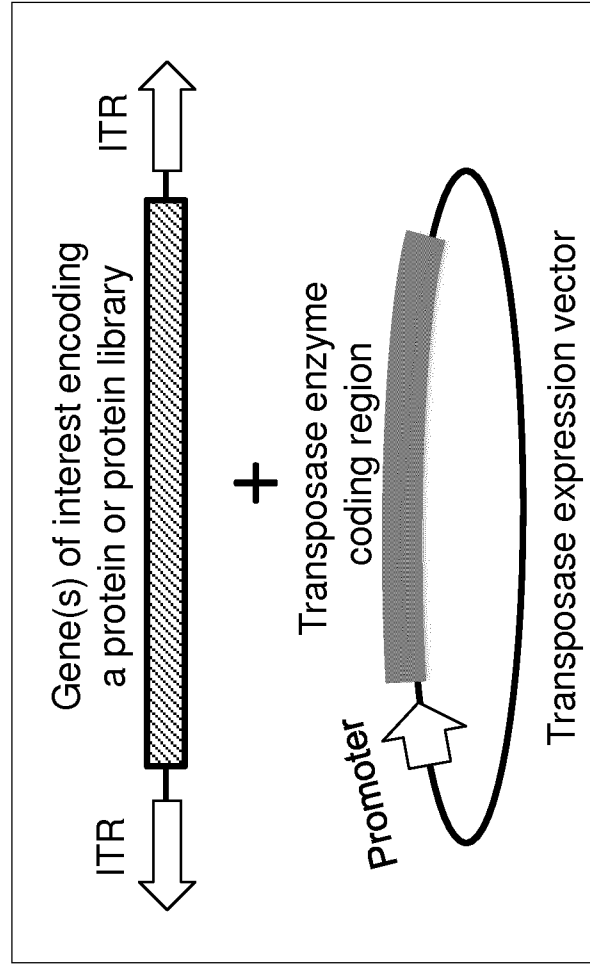
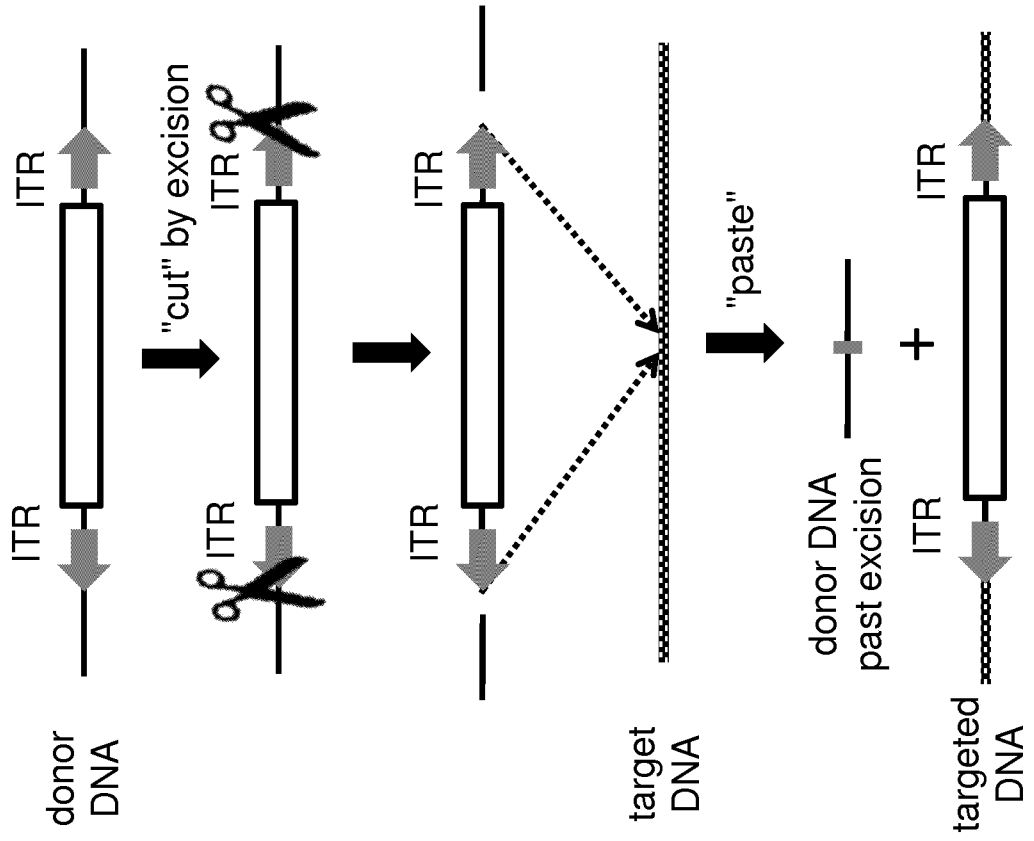


Fig. 2:

a)



b)

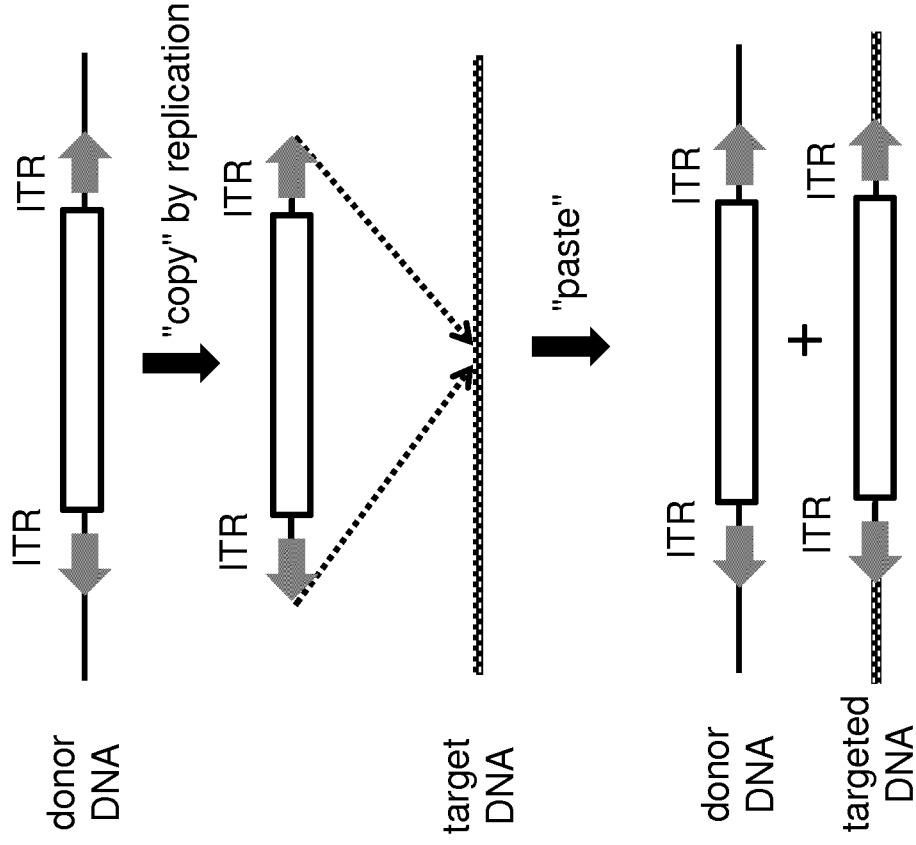


Fig. 3:

Transposon Family (<i>Transposon</i>)	Species origin	Host cell range
<i>PiggyBac</i>	<i>Trichoplusia ni</i>	Mouse, Human, Pig
Tcl-mariner/ (<i>Sleeping Beauty</i>)	<i>salmonid</i>	Zebrafish, Xenopus, Mouse, Human
(<i>Frog Prince</i>)	<i>R. pipiens</i>	Human, Hamster, Xenopus, Zebrafish
(Himar1)	<i>H. irritans</i>	Human
(Passport)	<i>P. platessa</i>	Human, Monkey, Hamster, Turkey, Chicken, Pig
(Minos)	<i>D. hydei</i>	Human, Mouse
hAT (Tol1, Tol2)	<i>O. latipe</i>	Zebrafish, Xenopus, Mouse, Human, Chicken
Ac/Ds	<i>Z. mays</i>	Zebrafish, Human
PIF, Harbinger, Harbinger3-DR	<i>D. rerio</i>	Zebrafish, Human
(<i>Hsmar1</i>)	<i>H. sapiens</i>	Human, Zebrafish

Fig. 4

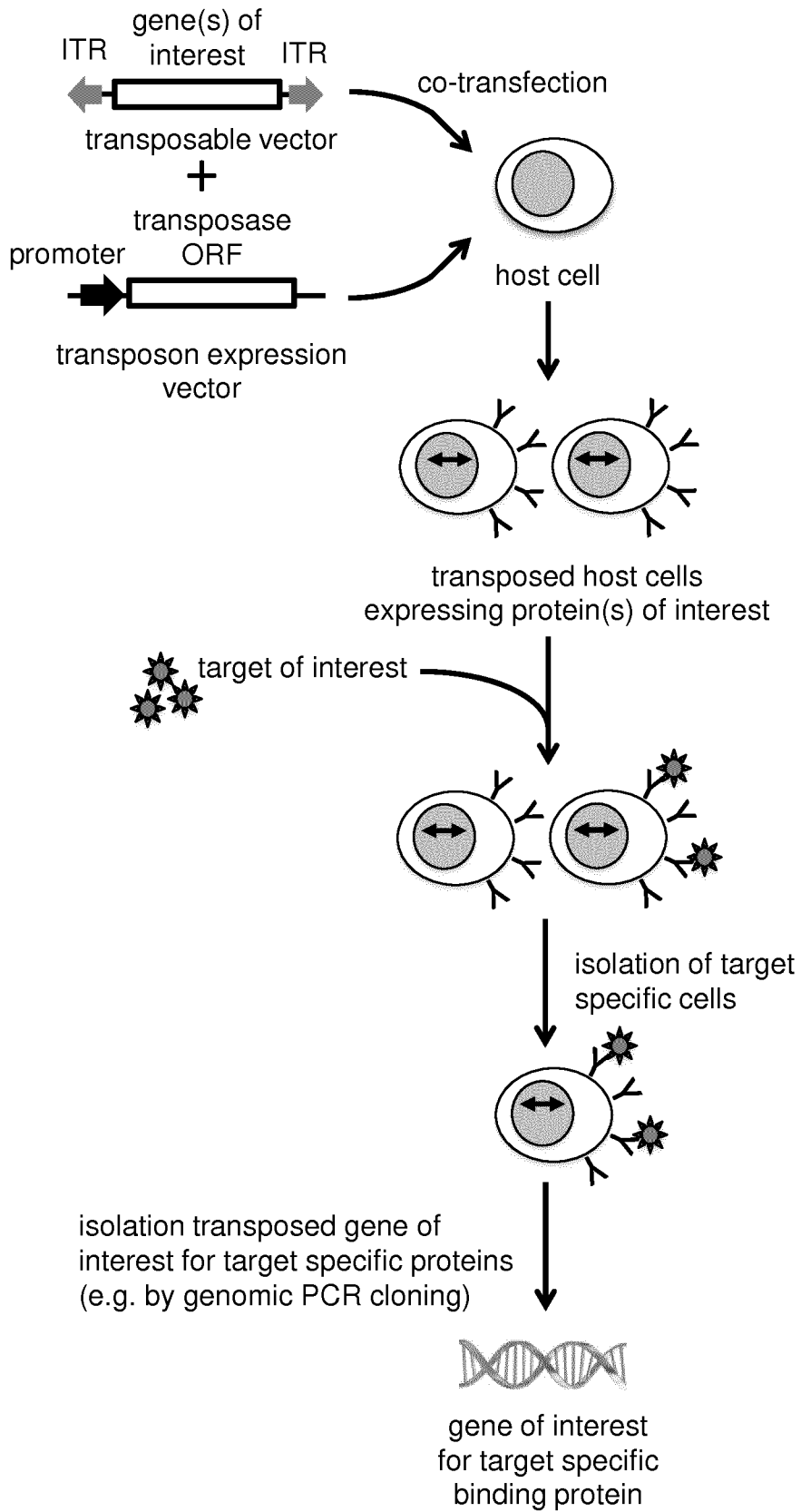


Fig. 5 a)

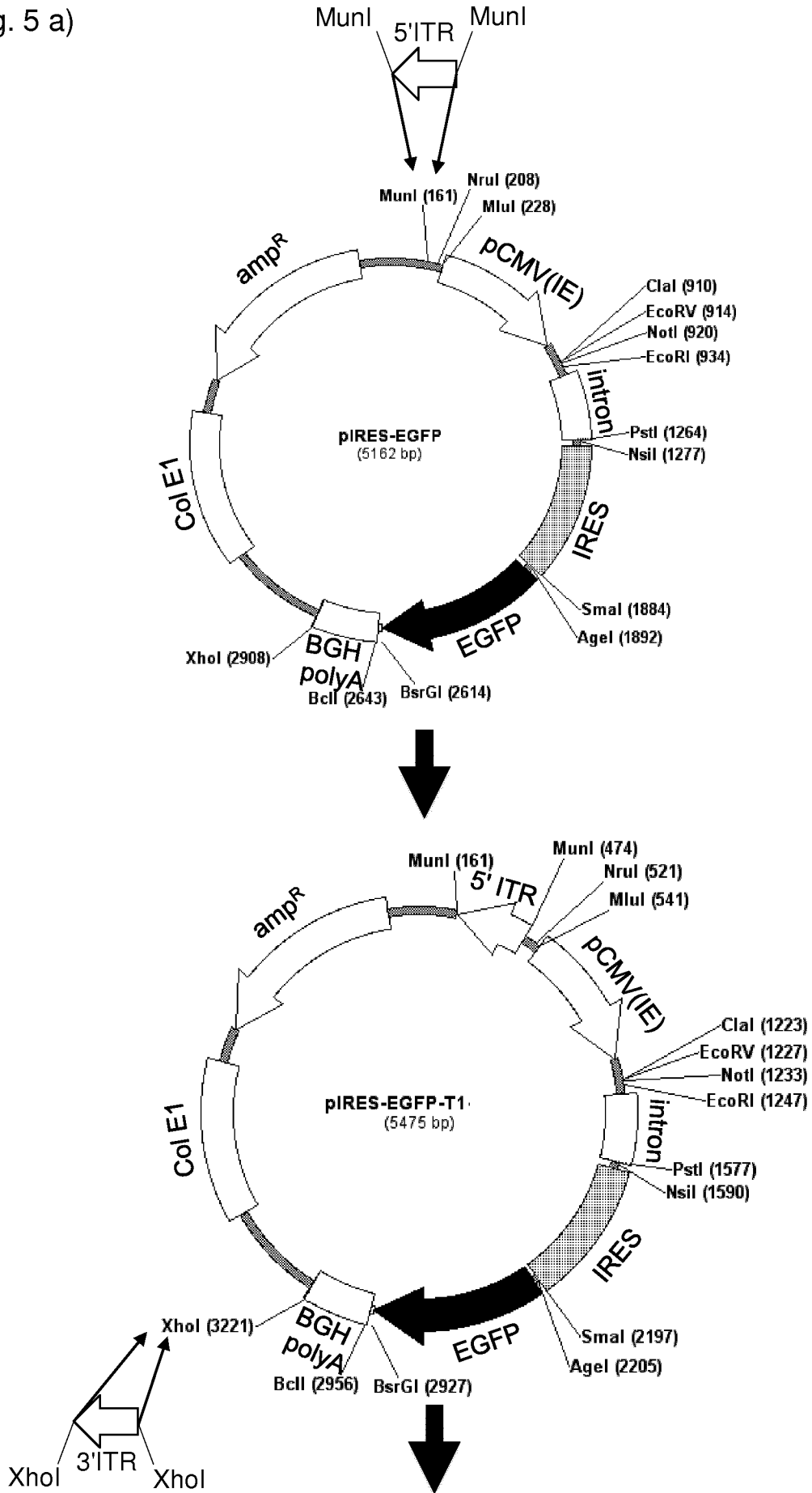


Fig. 5 b)

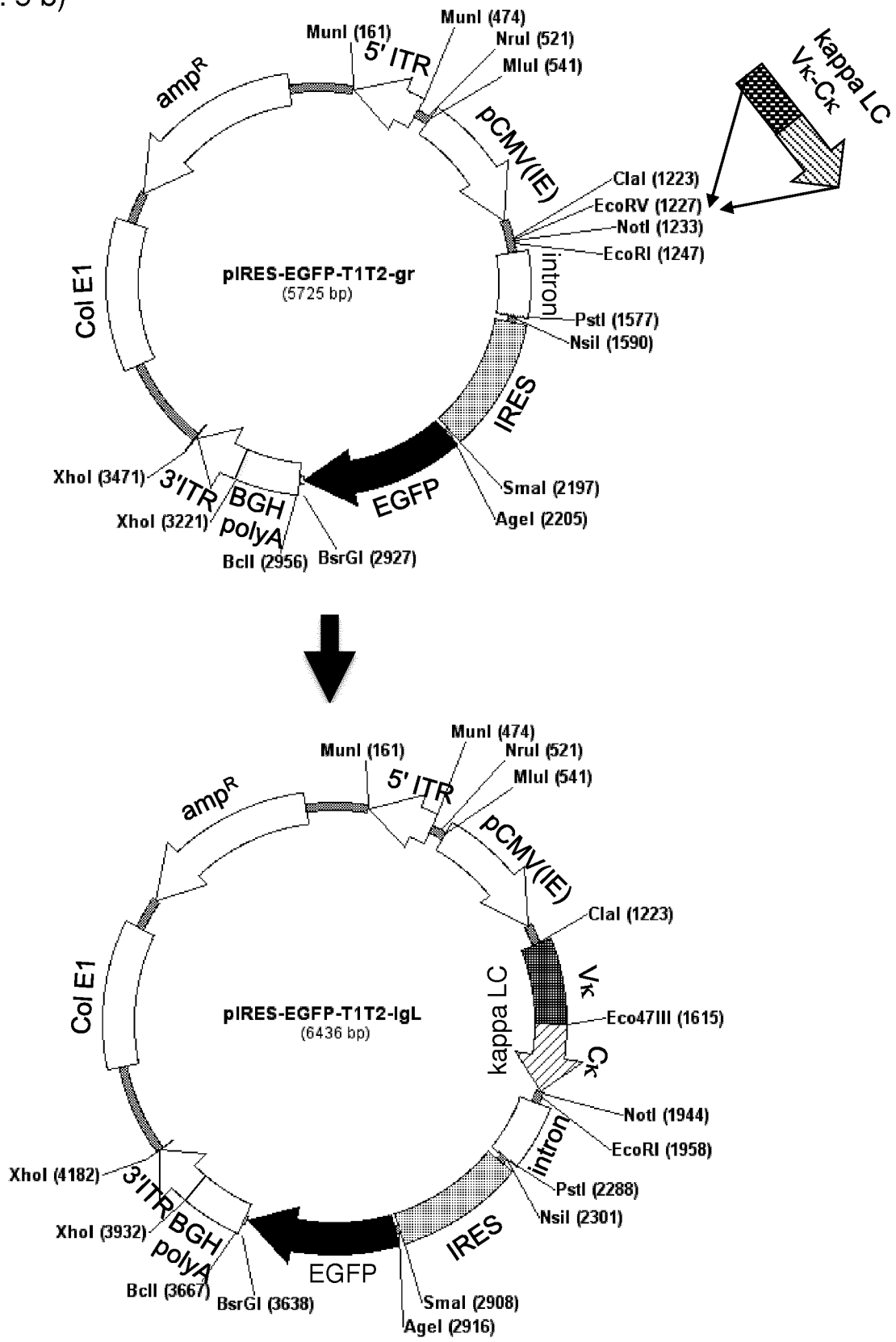


Fig. 6

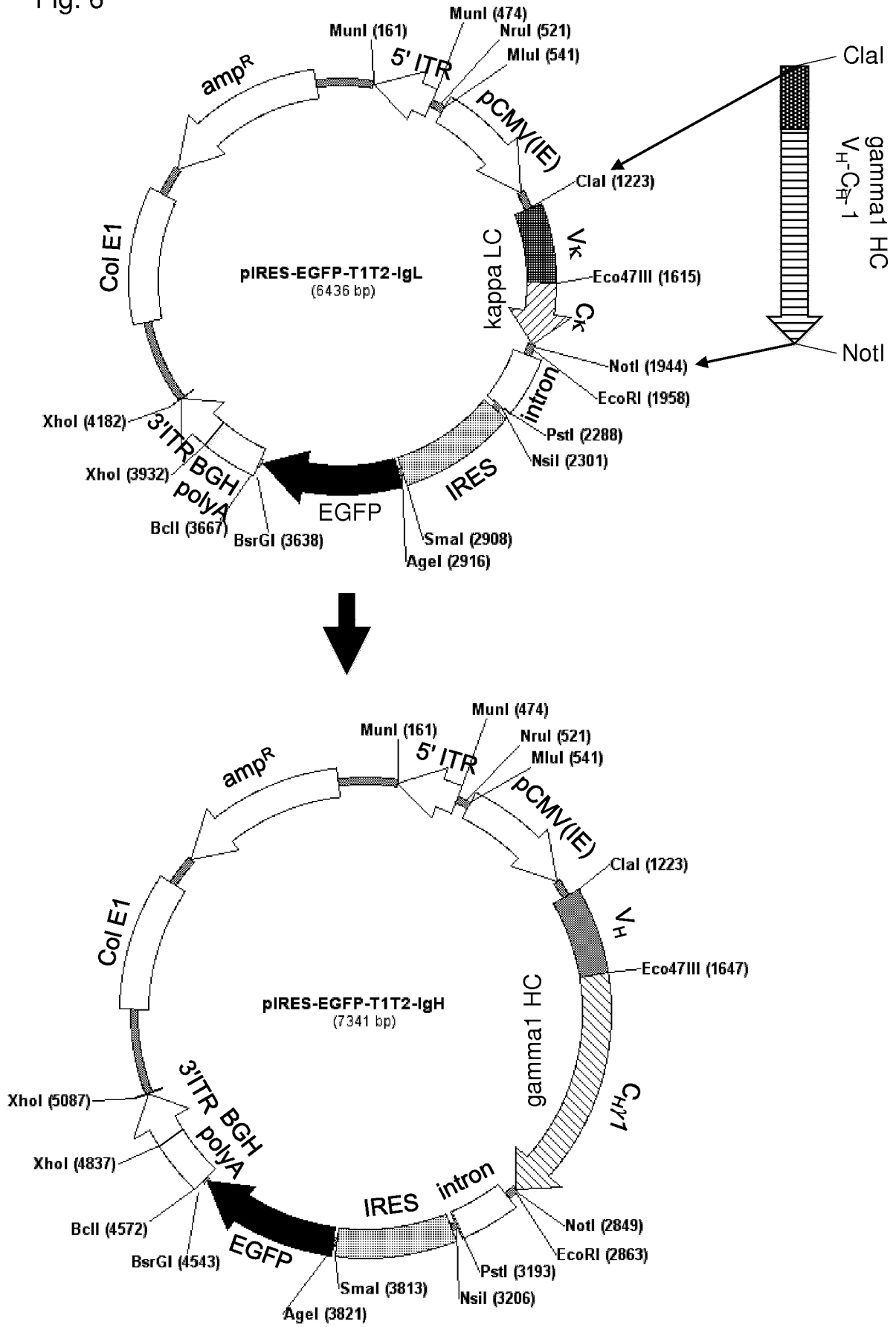


Fig. 7

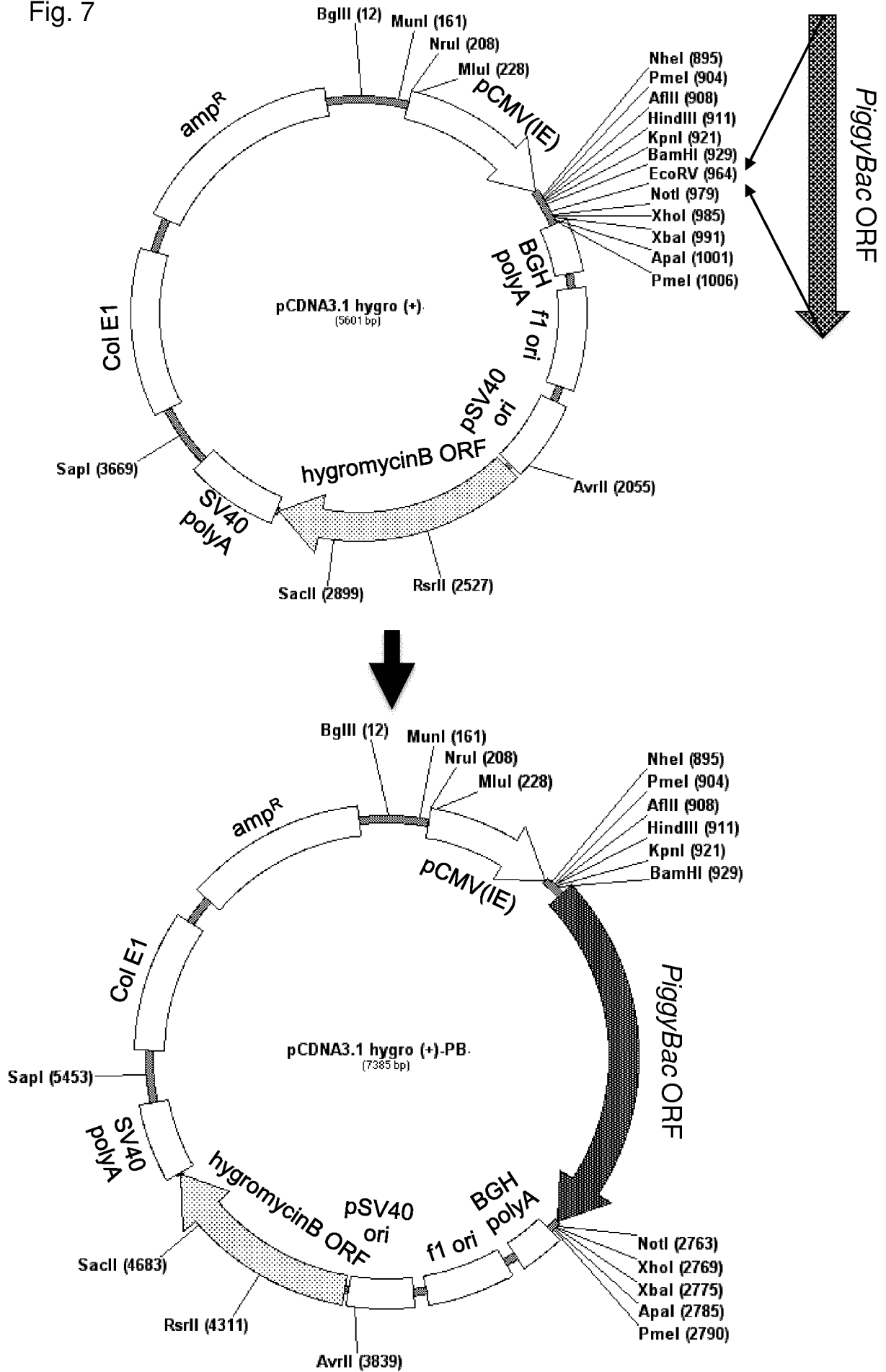


Fig. 8

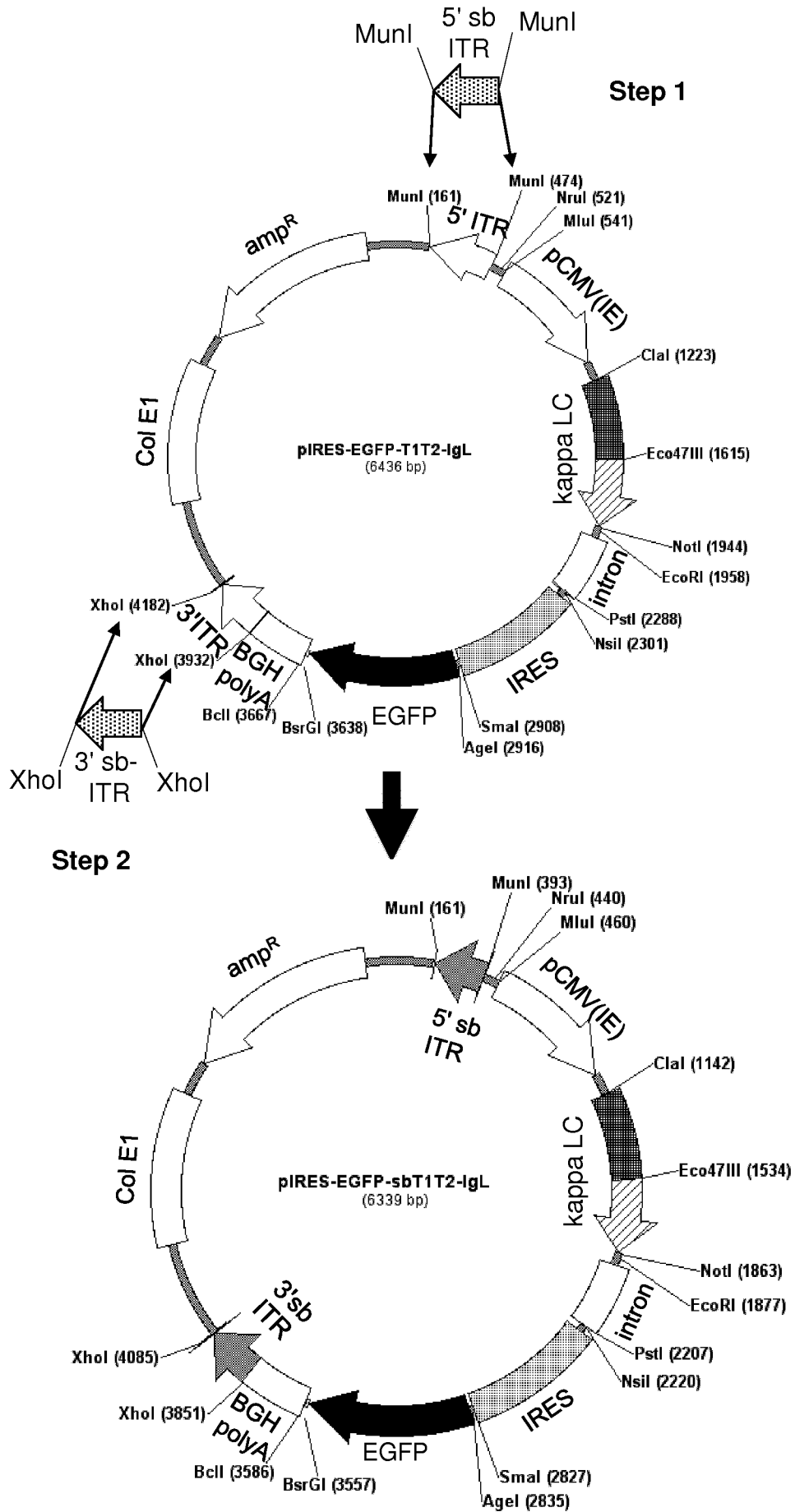


Fig. 9

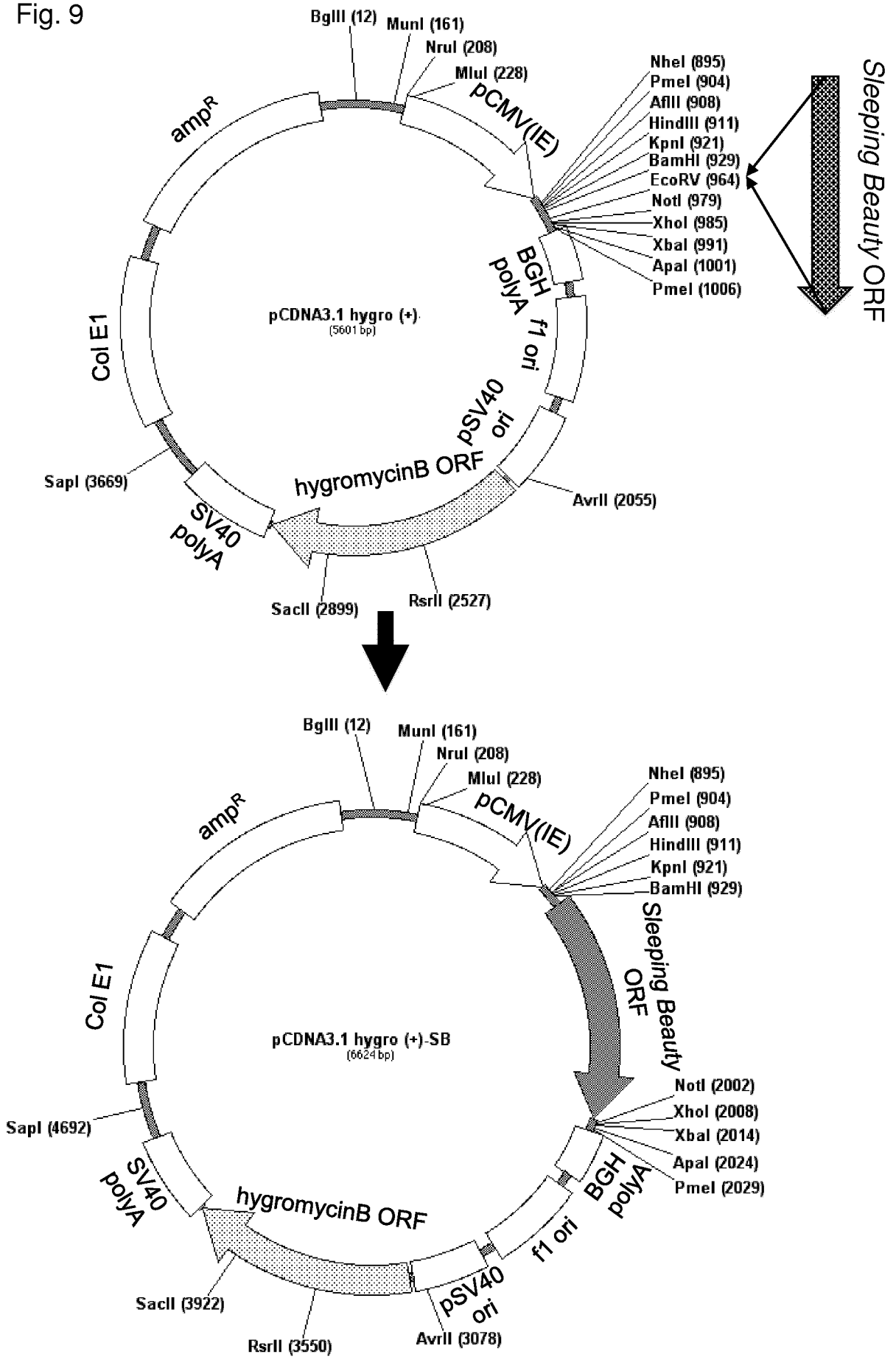
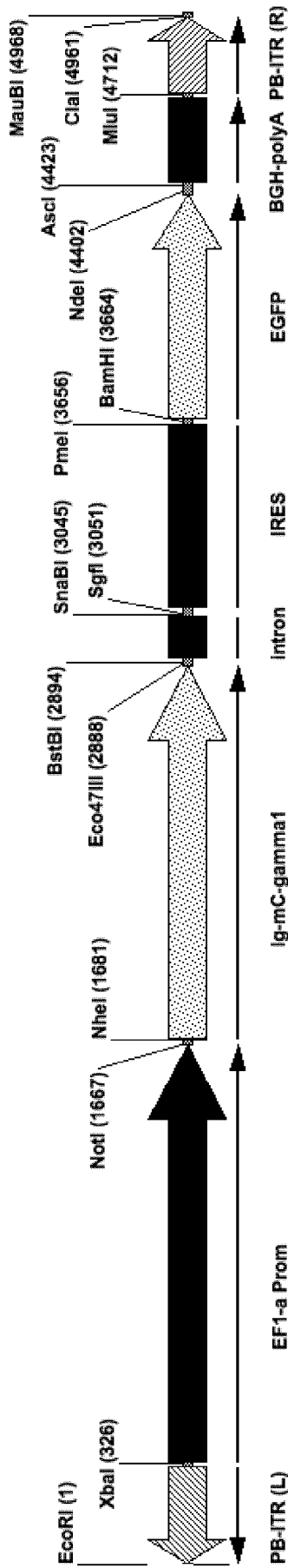
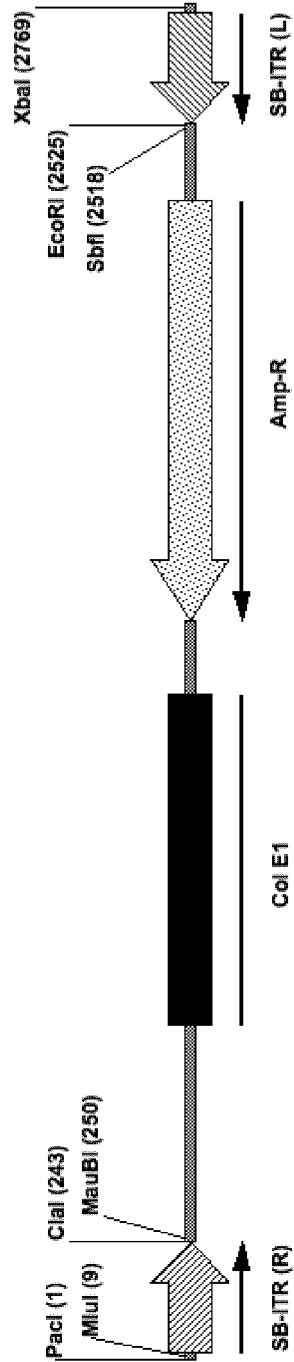


Fig. 10:

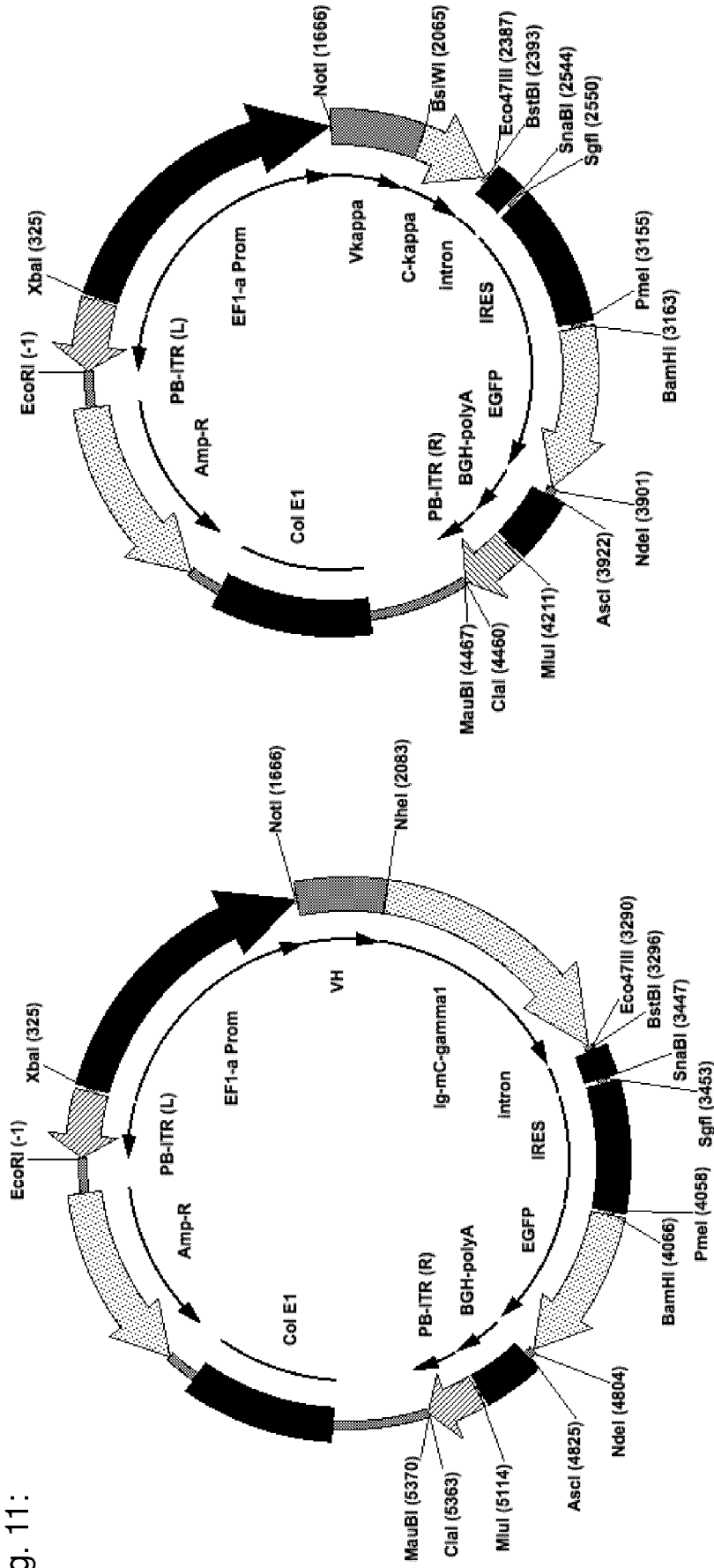


Functional elements and restriction enzyme sites in 4975 bp long DNA fragment Seq-ID20



Functional elements and restriction enzyme sites in 2774 bp long DNA fragment Seq-ID21

Fig. 11:



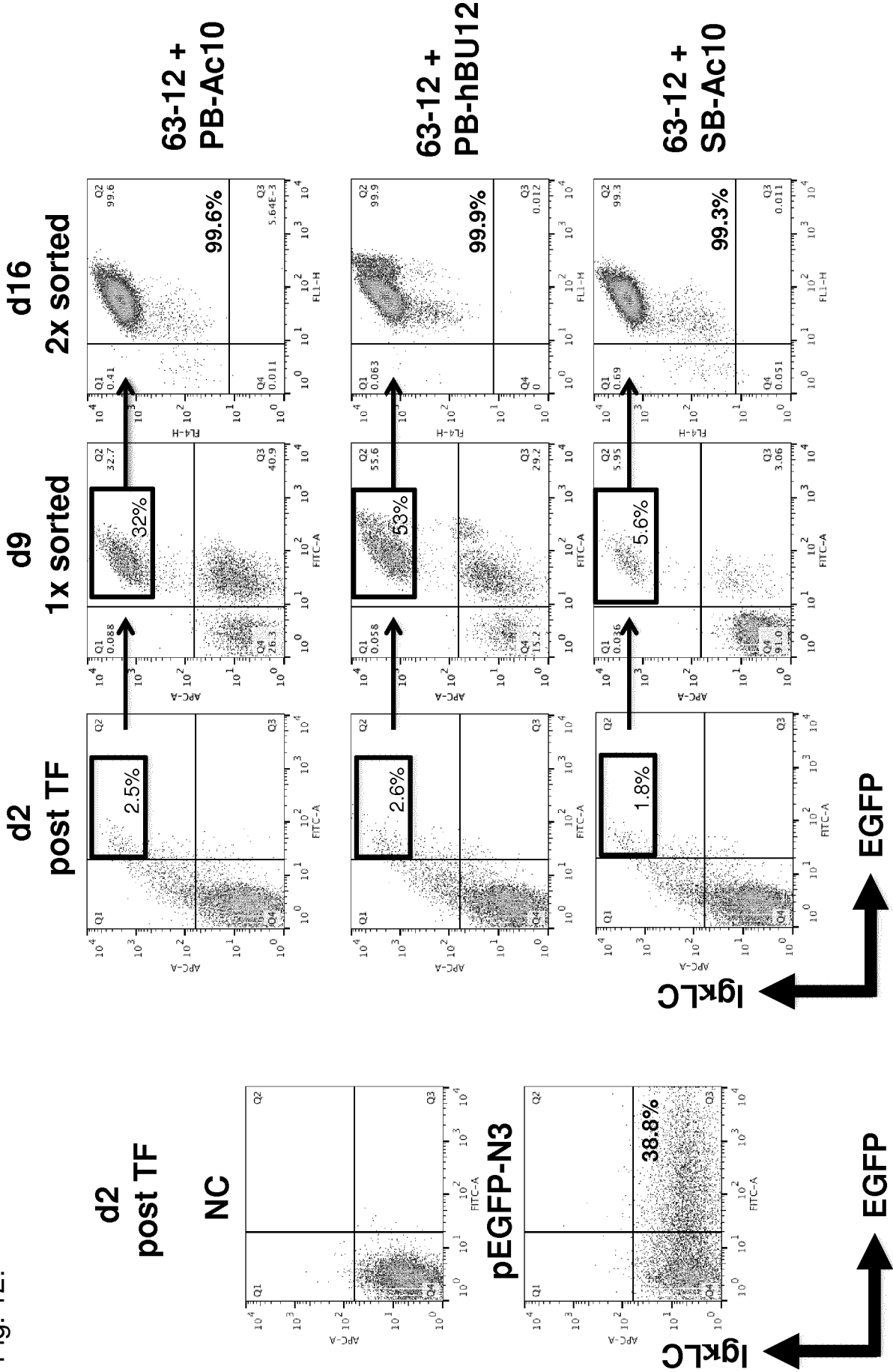
Transposable mIg-gamma1 HC vector

Transposable Ig-kappa LC vector

No	construct name	ITRs from:	VH of:
1	pPB-EGFP-HC-Ac10	<i>PiggyBac</i>	α CD30-Ac10
2	pPB-EGFP-HC-hBU12	<i>PiggyBac</i>	α CD19-hBU12
3	pSB-EGFP-HC-Ac10	<i>SleepingBeauty</i>	α CD30-Ac10
4	pSB-EGFP-HC-hBU12	<i>SleepingBeauty</i>	α CD19-hBU12

No	construct name	ITRs from:	VL of:
1	pPB-EGFP-LC-Ac10	<i>PiggyBac</i>	α CD30-Ac10
2	pPB-EGFP-LC-hBU12	<i>PiggyBac</i>	α CD19-hBU12
3	pSB-EGFP-LC-Ac10	<i>SleepingBeauty</i>	α CD30-Ac10
4	pSB-EGFP-LC-hBU12	<i>SleepingBeauty</i>	α CD19-hBU12

Fig. 12:



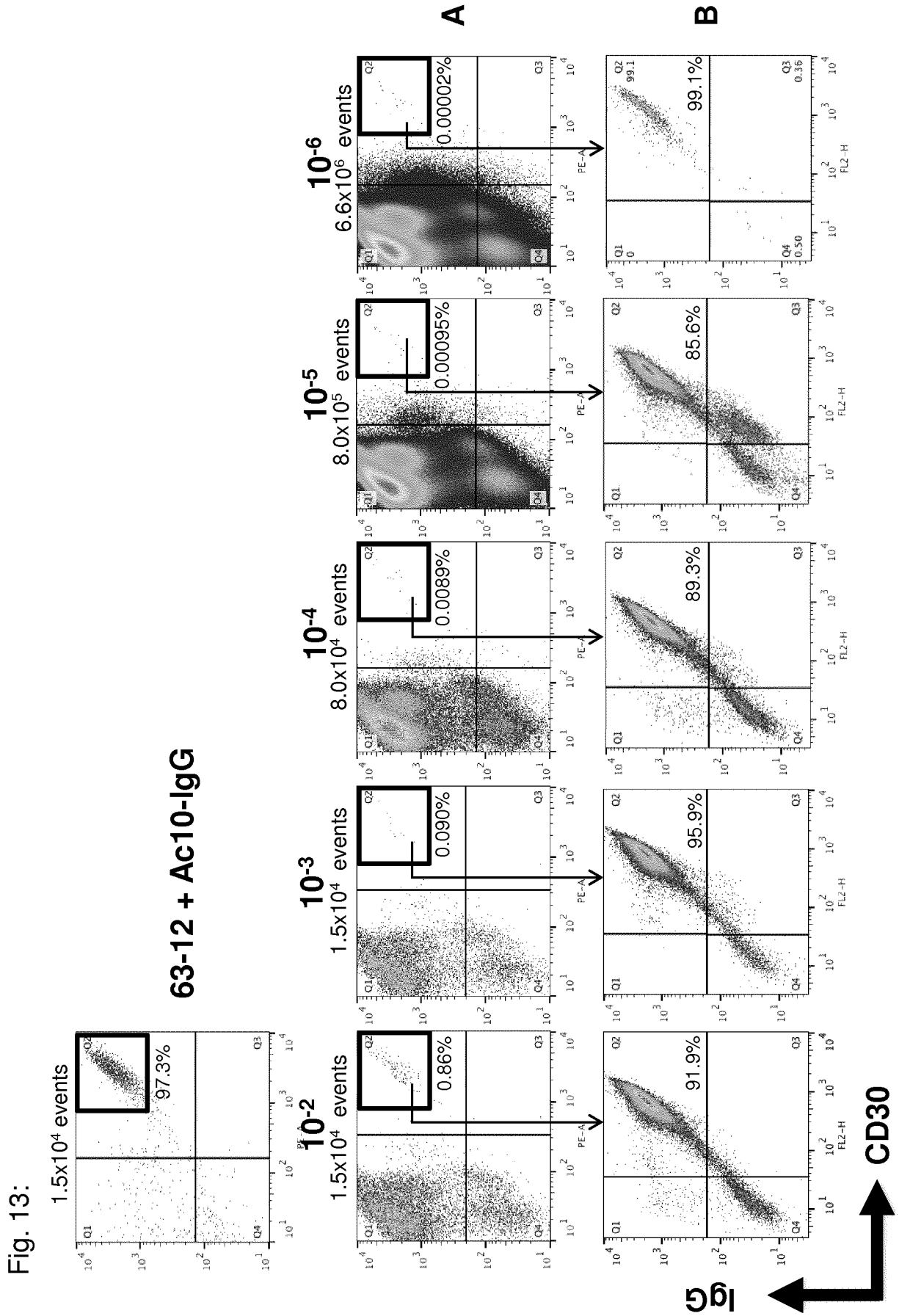


Fig. 14:

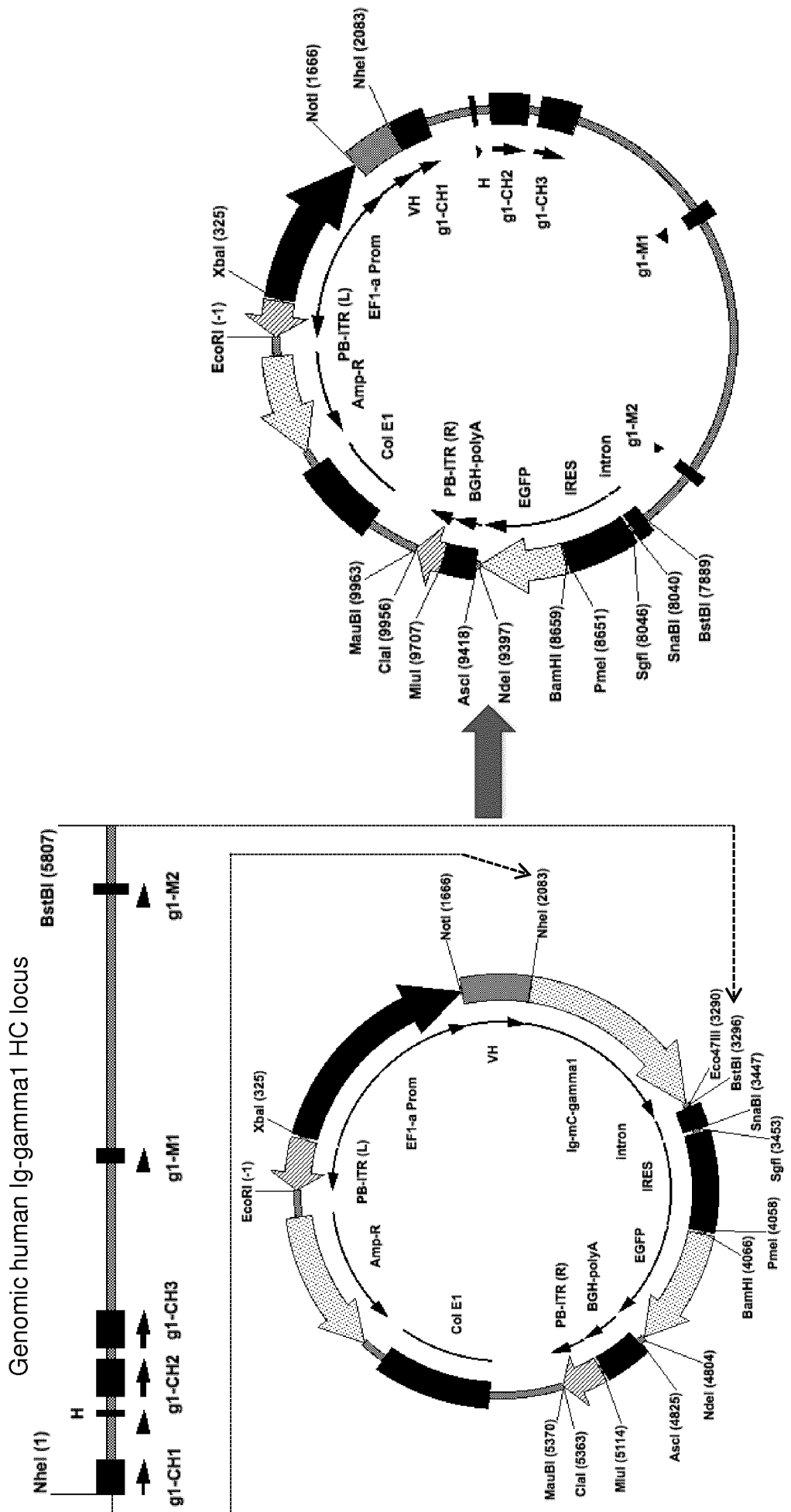


Fig. 17

A***JK template: ScaI strategy (AGT/ACT)***

... AGT ACT TTC GGC ...
 ... TCA TGA AAG CCG ...
 T F G



ACT TTC GGC ...
 TGA AAG CCG ... => *linearized template*
 T F G

B***JH template: DrdI strategy (GACNNNN/NNGTC)***

.GA CAT TGG GGT CAG ...
 .CT GTA ACC CCA GTC ...
 W G Q



G GGT CAG ...
 ACC CCA GTC ... => *linearized template*
 W G Q

Fig. 18:

