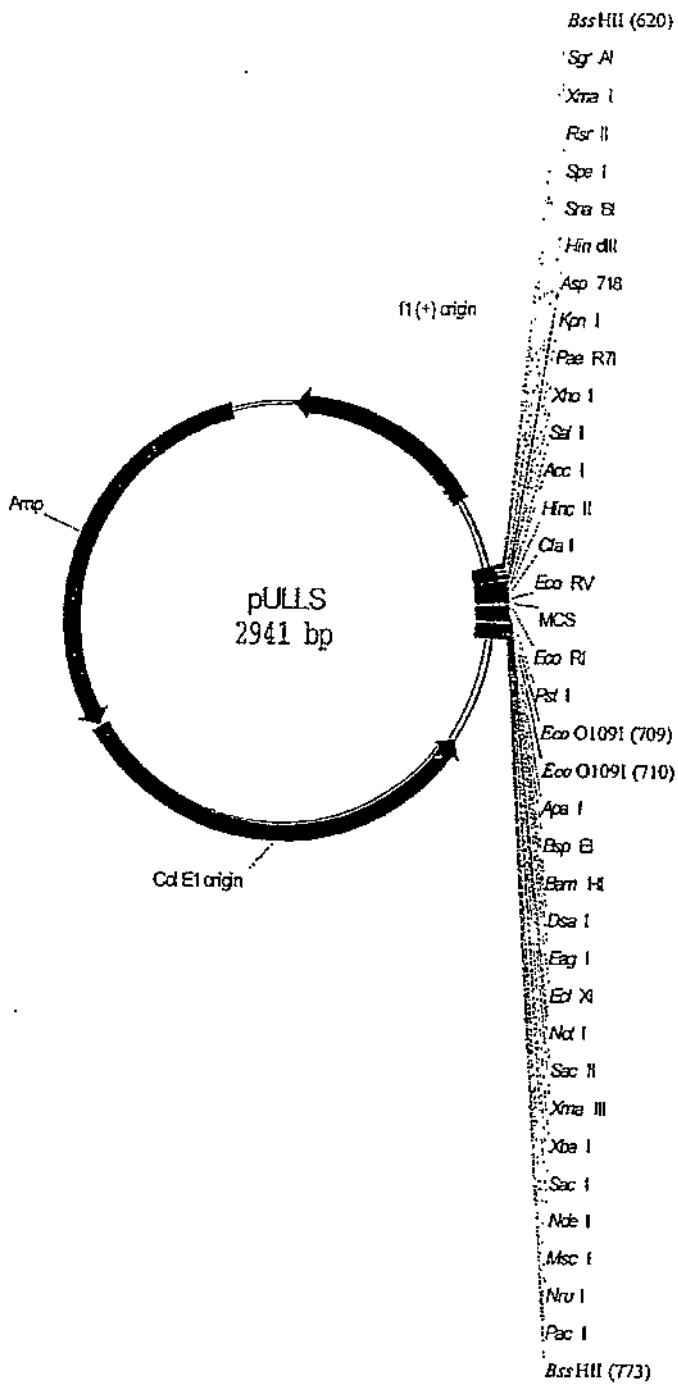
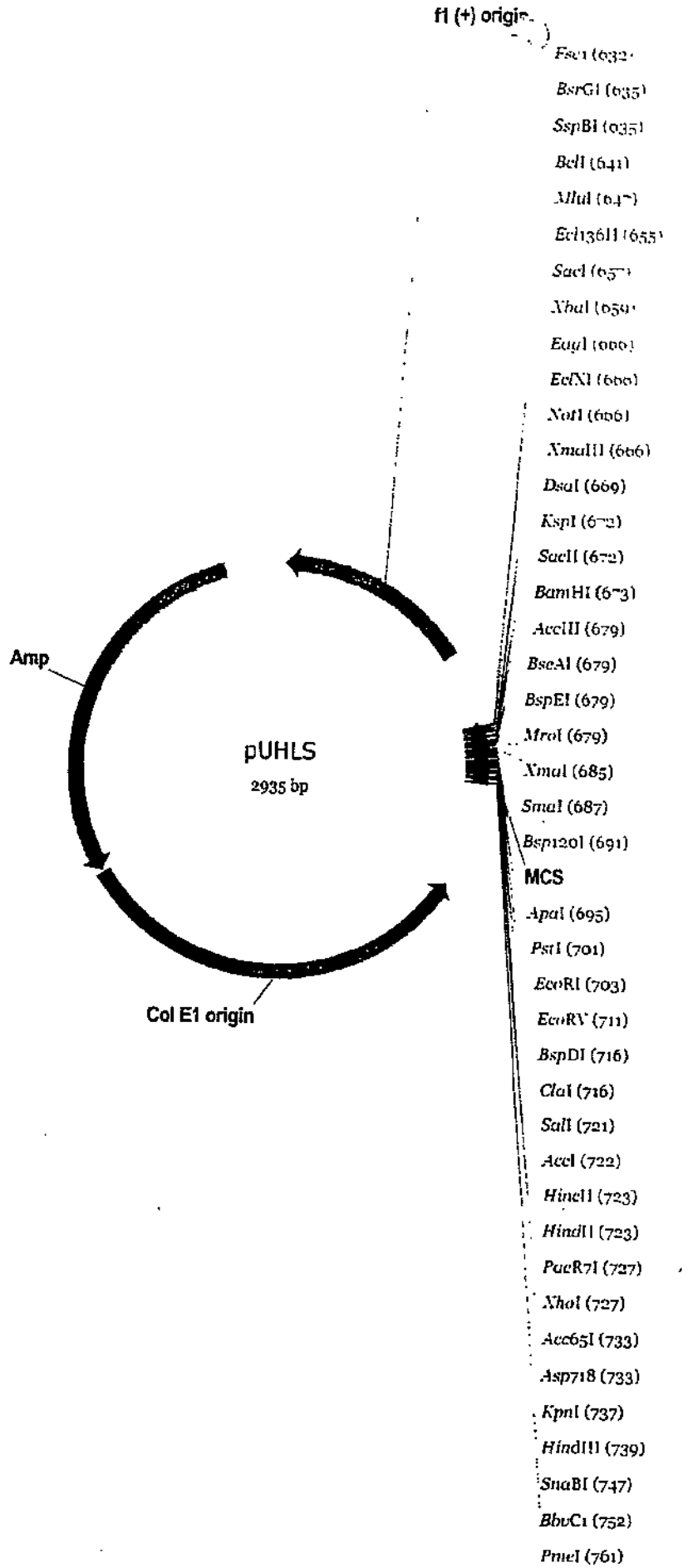
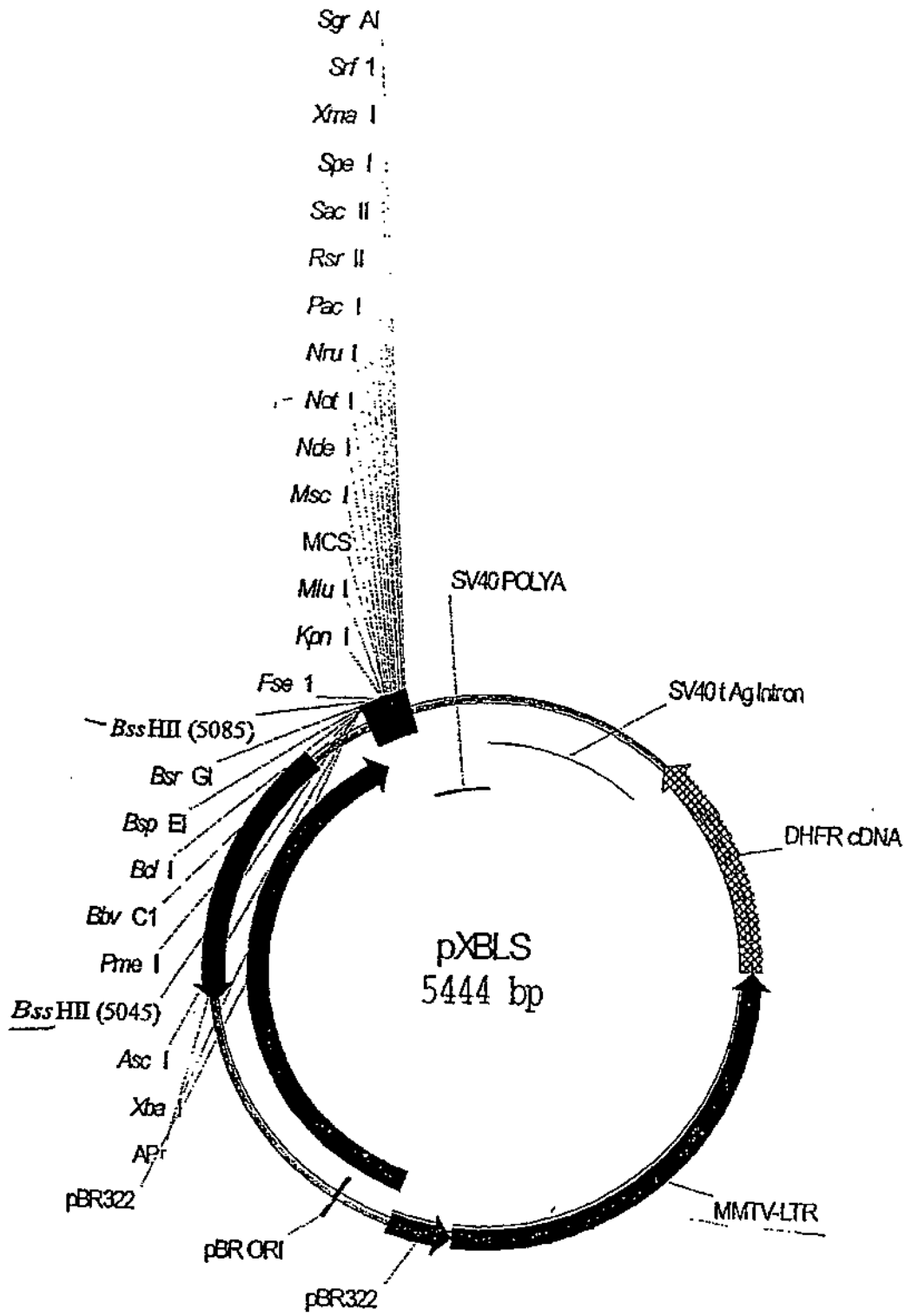
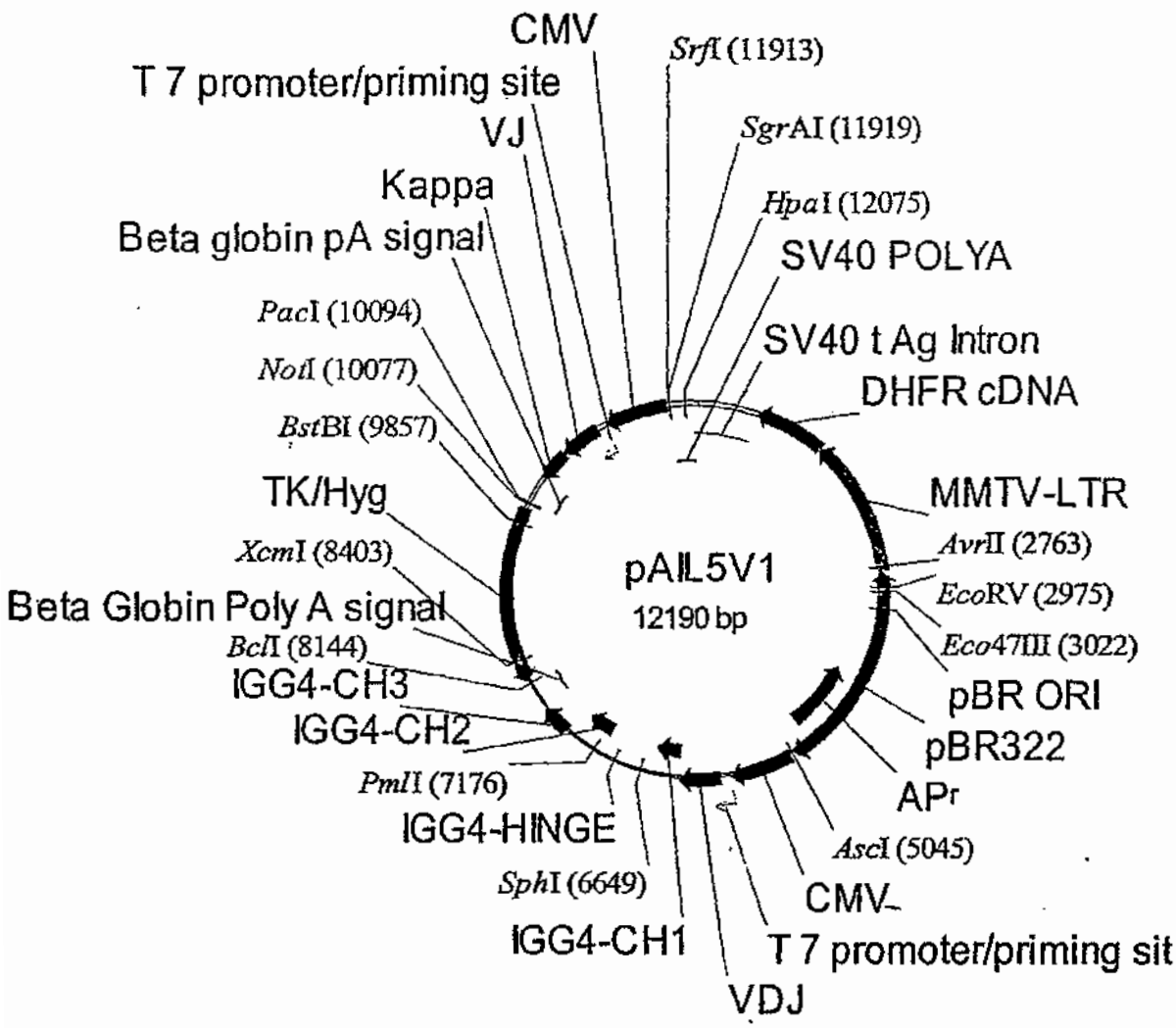
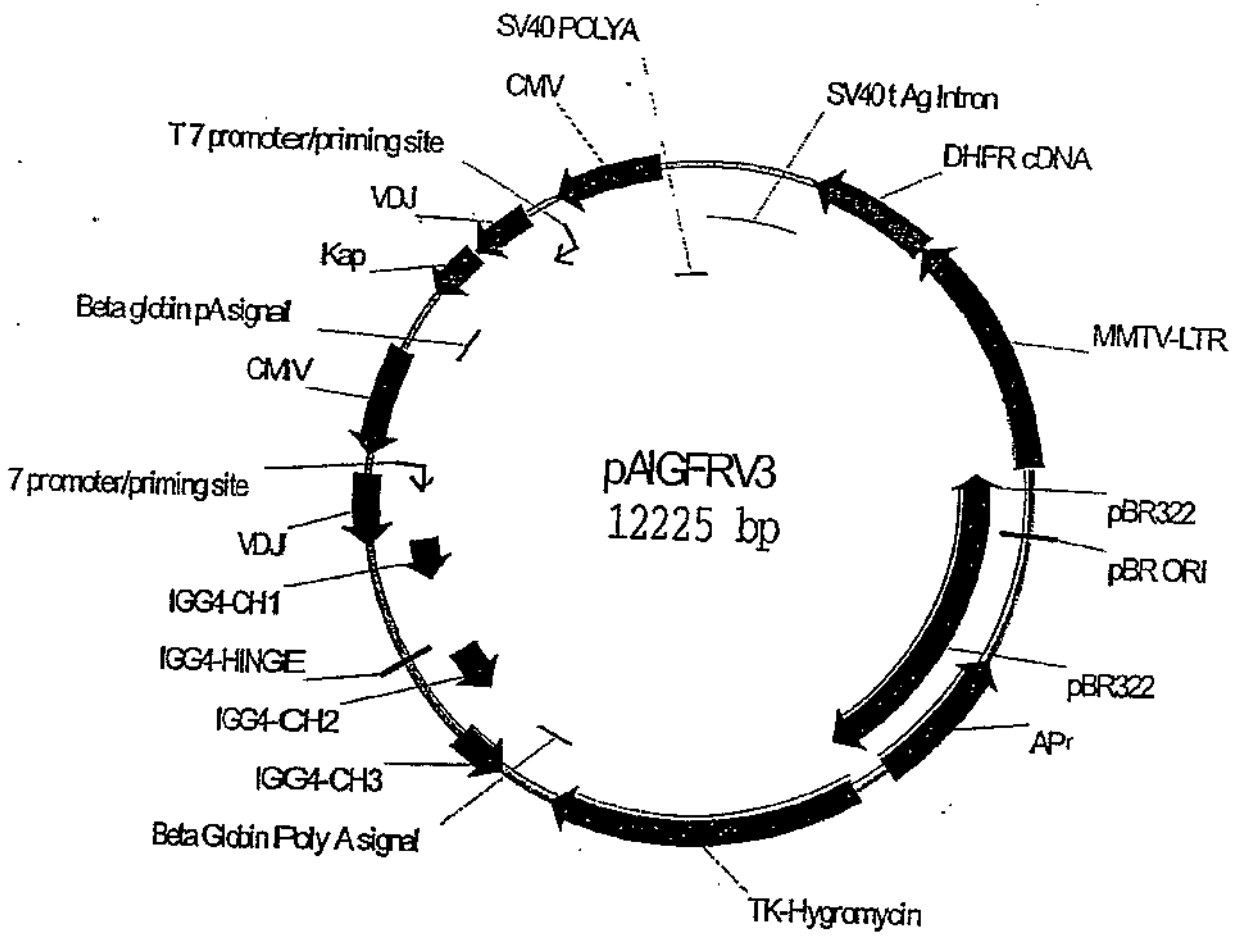
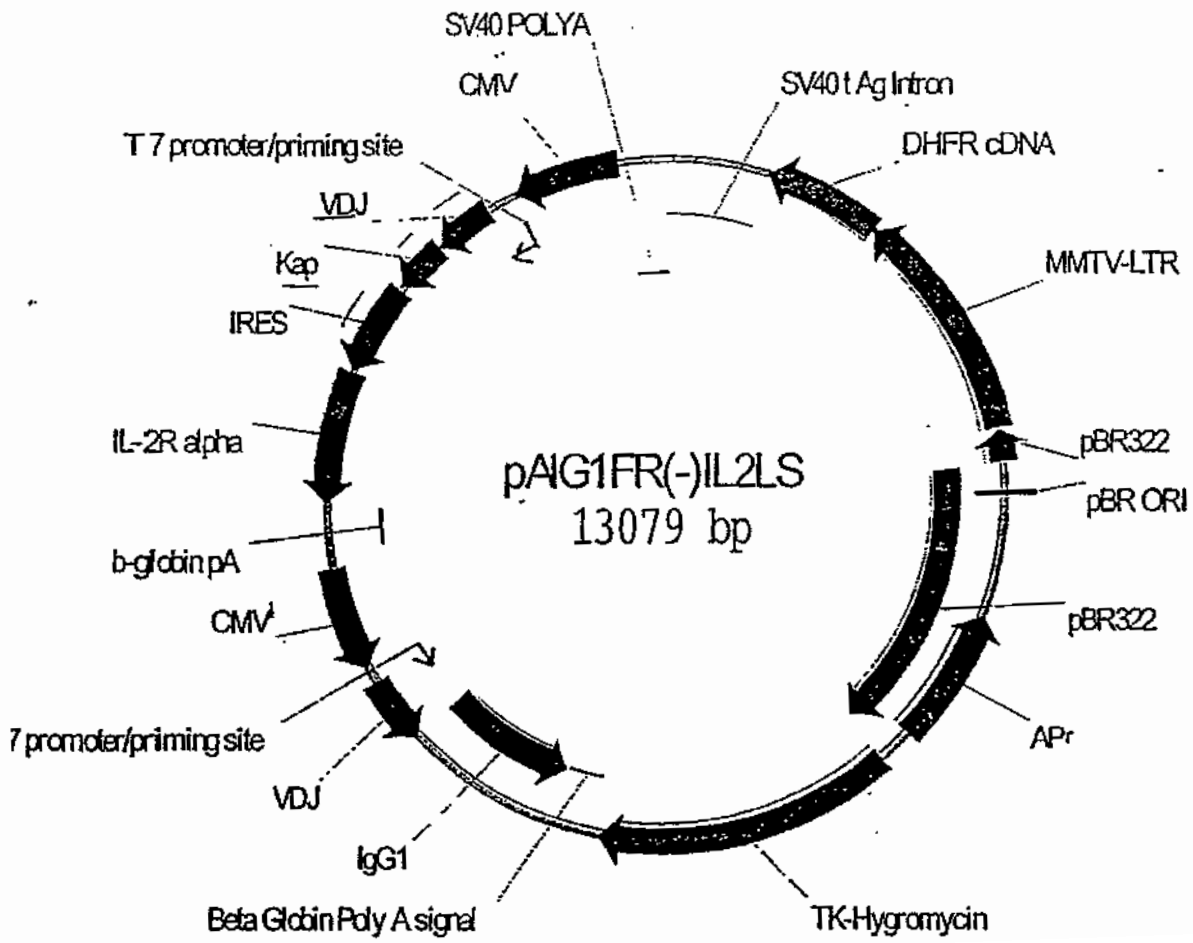

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Rsr II
Spe I
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Hin dIII
Asp 718
Kpn I
Pae R7I
Xho I
Sal I
Acc I
Hinc II
Cla I
Eco RV
MCS
Eco RI
Pst I
Eco O109I (709)
Eco O109I (710)
Apa I
Bsp EI
Bam HI
Dsa I
Eag I
Eci XI
Not I
Sac II
Xma III
Xba I
Sac I
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Msc I
Nru I
Pac I
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f1 (+) origin
Amp
pULLS
2941 bp
Col E1 origin

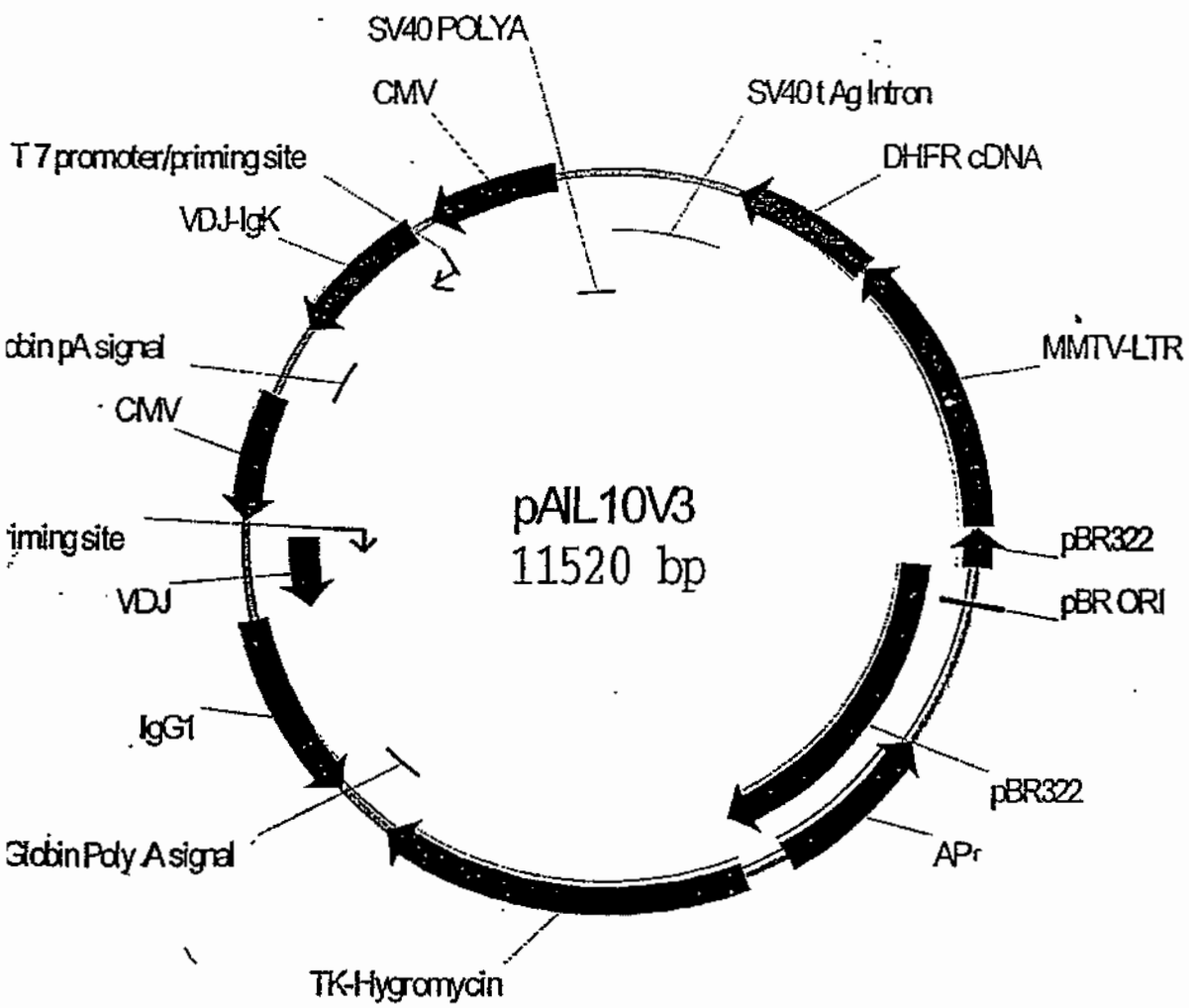

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XbaI (659)
EagI (660)
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KspI (672)
SacII (672)
BamHI (673)
AccIII (679)
BseAI (679)
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XmaI (685)
SmaI (687)
Bsp120I (691)
MCS
ApaI (695)
PstI (701)
EcoRI (703)
EcoRV (711)
BspDI (716)
ClaI (716)
SalI (721)
AccI (722)
HincII (723)
HindII (723)
PaeR7I (727)
XhoI (727)
Acc65I (733)
Asp718 (733)
KpnI (737)
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Col E1 origin

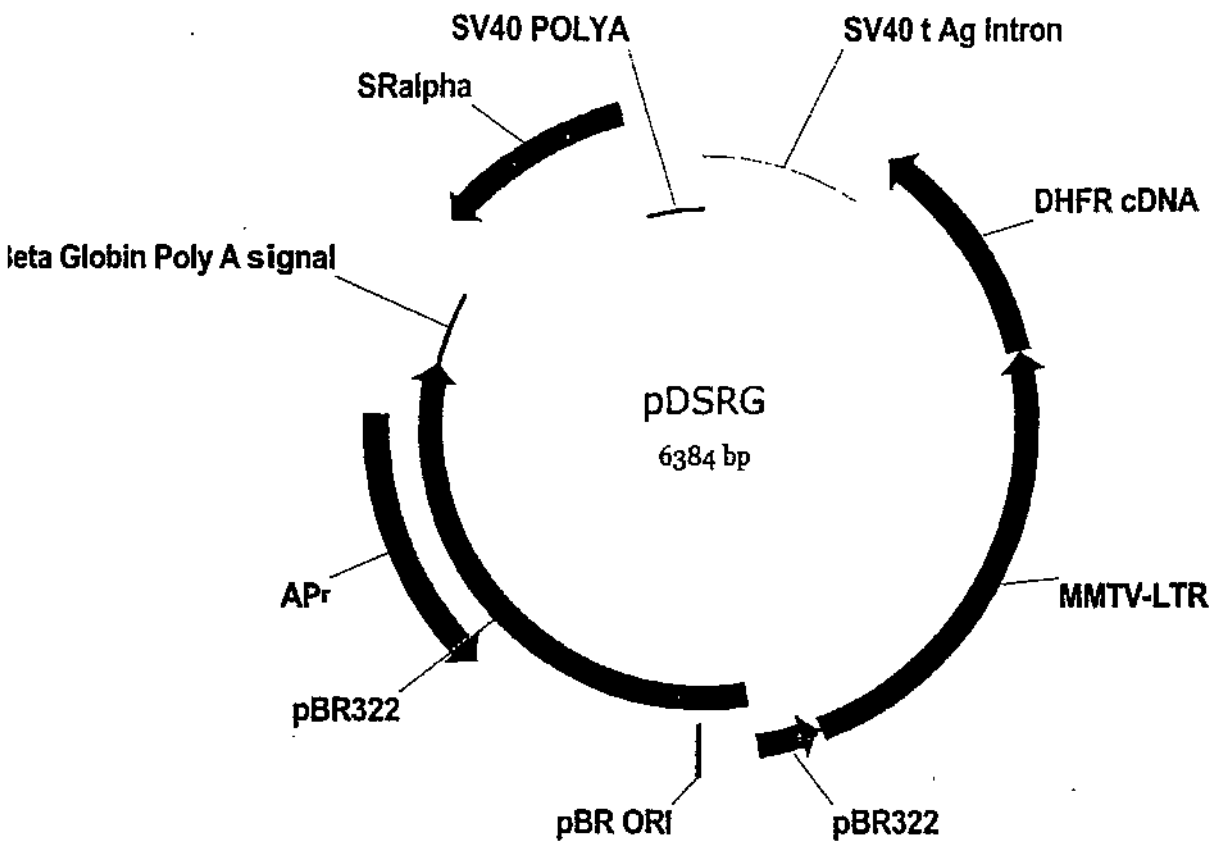

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Srf 1
Xma I
Spe I
Sac II
Rsr II
Pac I
Nru I
Not I
Nde I
Msc I
MCS
Mlu I
Kpn I
Fse 1
BssHII (5085)
Bsr GI
Bsp EI
Bcl I
Bbv C1
Pme I
BssHII (5045)
Asc I
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SV40 t Ag Intron
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5444 bp

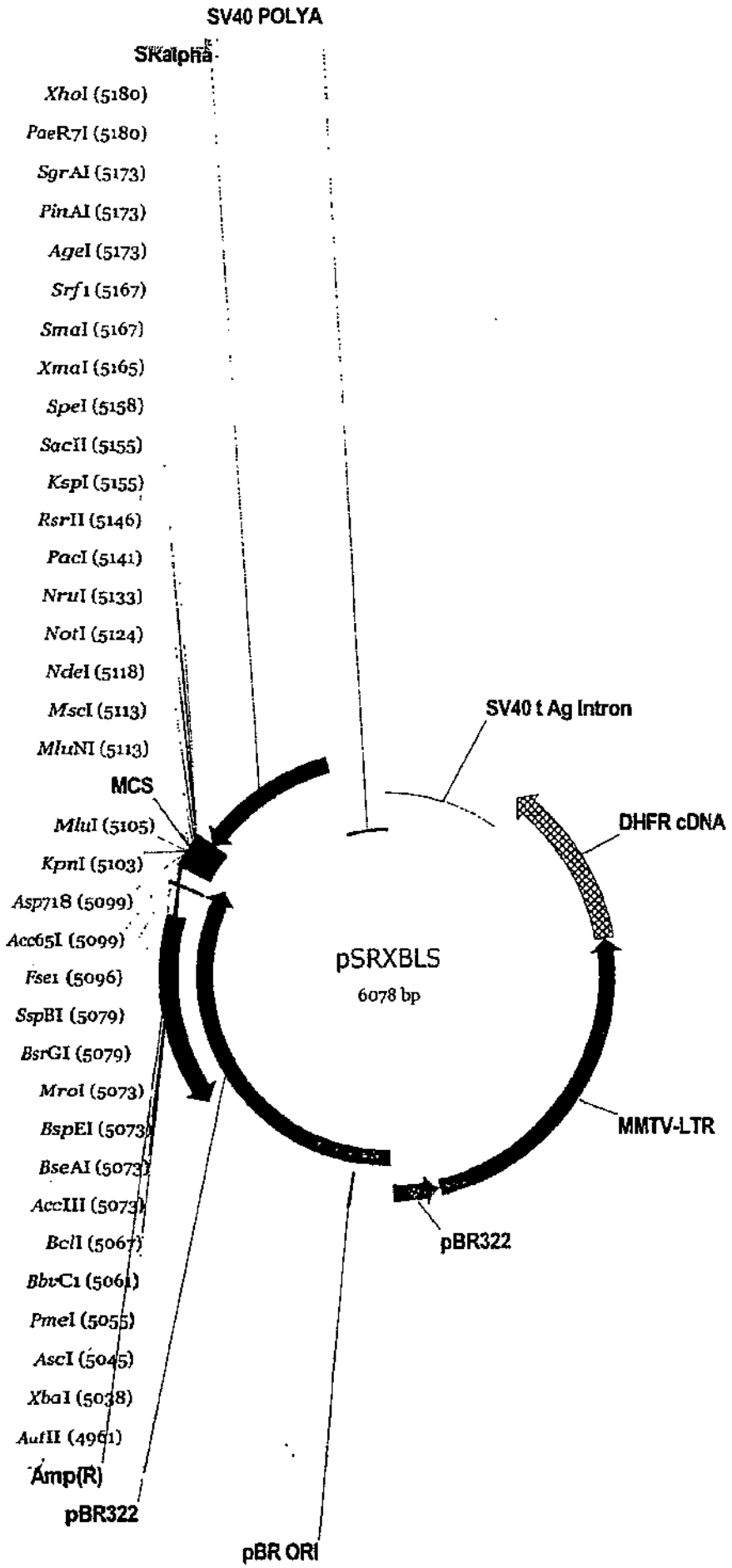

CMV
T 7 promoter/priming site
VJ
Kappa
Beta globin pA signal
PacI (10094)
NotI (10077)
BstBI (9857)
TK/Hyg
XcmI (8403)
Beta Globin Poly A signal
BclI (8144)
IGG4-CH3
IGG4-CH2
PmlI (7176)
IGG4-HINGE
SphI (6649)
IGG4-CH1
VDJ
CMV-
T 7 promoter/priming sit
AscI (5045)
APr
pBR322
pBR ORI
Eco47III (3022)
EcoRV (2975)
AvrII (2763)
MMTV-LTR
DHFR cDNA
SV40 t Ag Intron
SV40 POLYA
HpaI (12075)
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SrfI (11913)
pAIL5V1
12190 bp

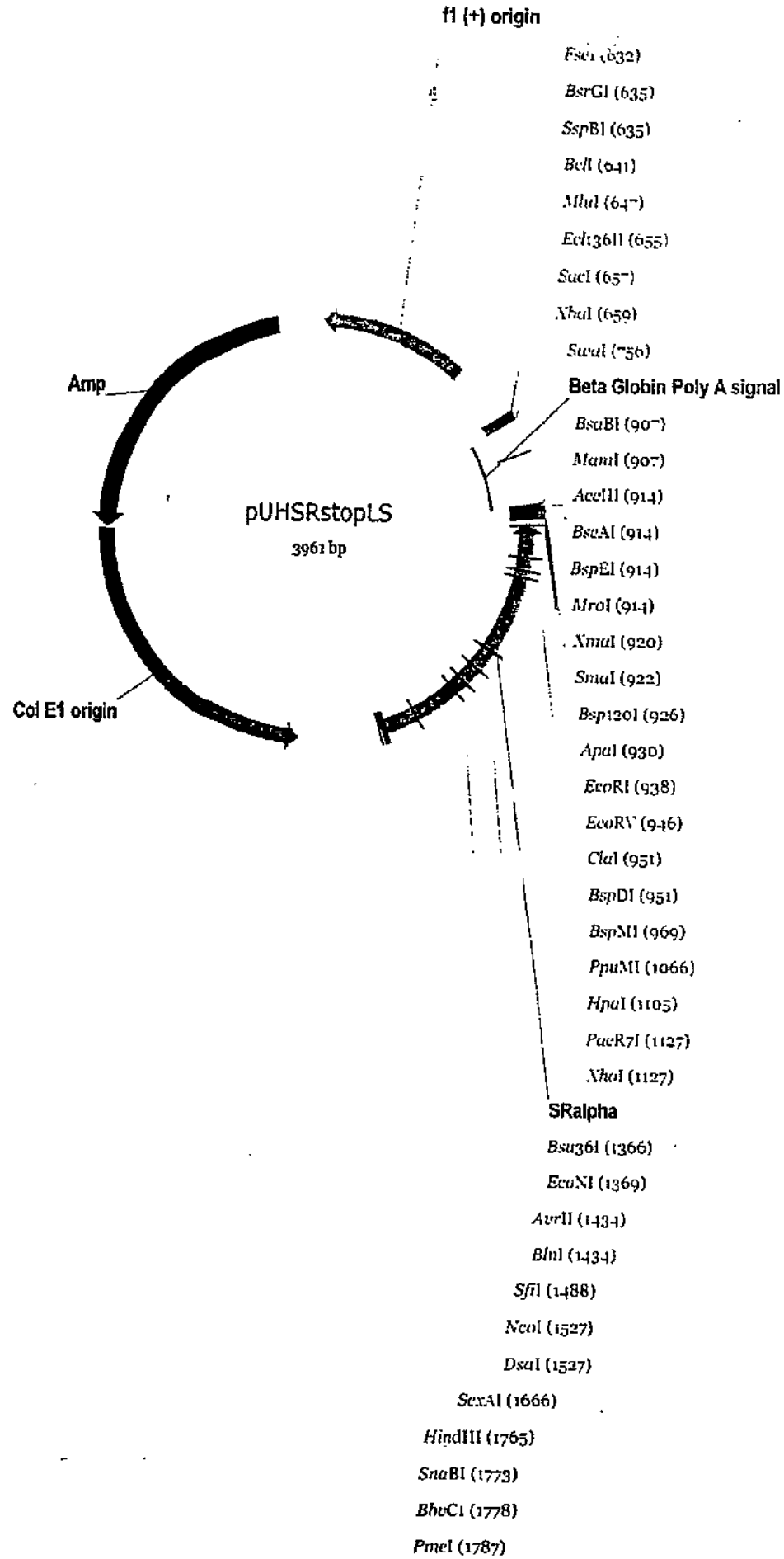

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CMV
SV40 t Ag Intron
T7 promoter/priming site
DHFR cDNA
VDJ
Kap
Beta globin pA signal
MMTV-LTR
CMV
pAIGFRV3
12225 bp
7 promoter/priming site
pBR322
VDJ
pBR ORI
IGG4-CH1
IGG4-HINGE
pBR322
IGG4-CH2
APr
IGG4-CH3
Beta Globin Poly A signal
TK-Hygromycin

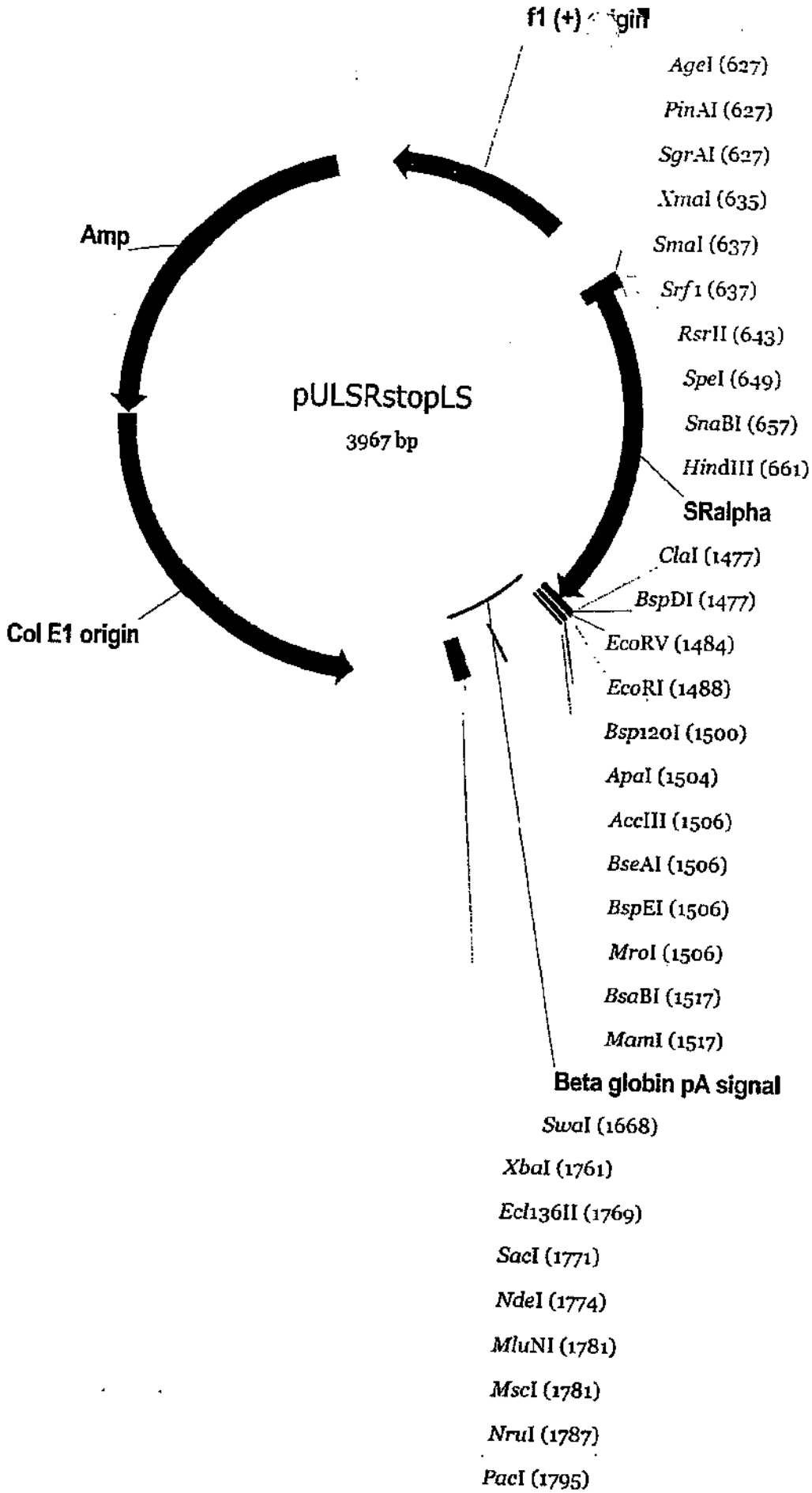

SV40 POLYA
CMV
SV40 t Ag Intron
T 7 promoter/priming site
DHFR cDNA
VDJ
MMTV-LTR
Kap
IRES
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IL-2R alpha
pAIG1FR(-)IL2LS
13079 bp
pBR ORI
b-globin pA
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CMV
APr
7 promoter/priming site
VDJ
IgG1
Beta Globin Poly A signal
TK-Hygromycin

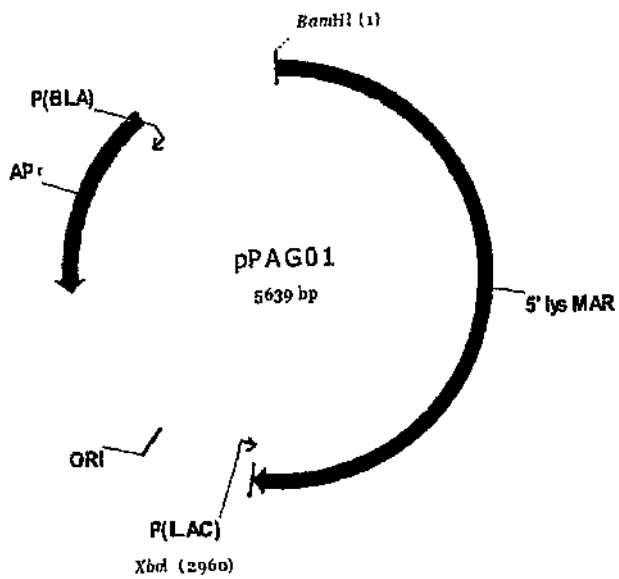

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T7 promoter/priming site
DHFR cDNA
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APr
TK-Hygromycin

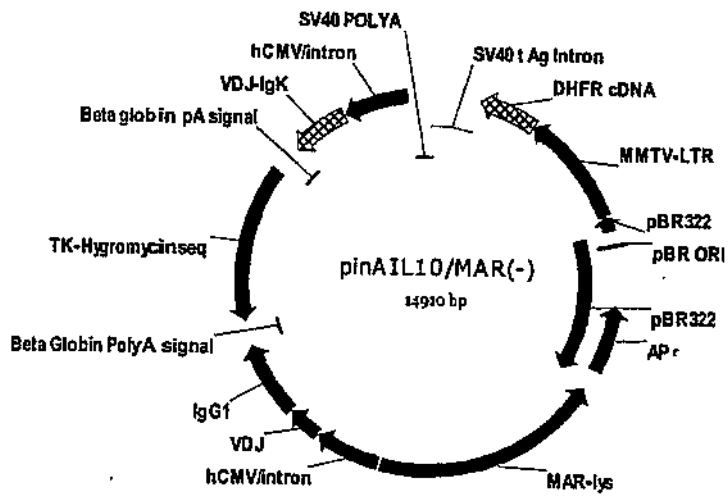

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SV40 t Ag Intron
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eta Globin Poly A signal
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6384 bp
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MMTV-LTR
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pBR ORI
pBR322

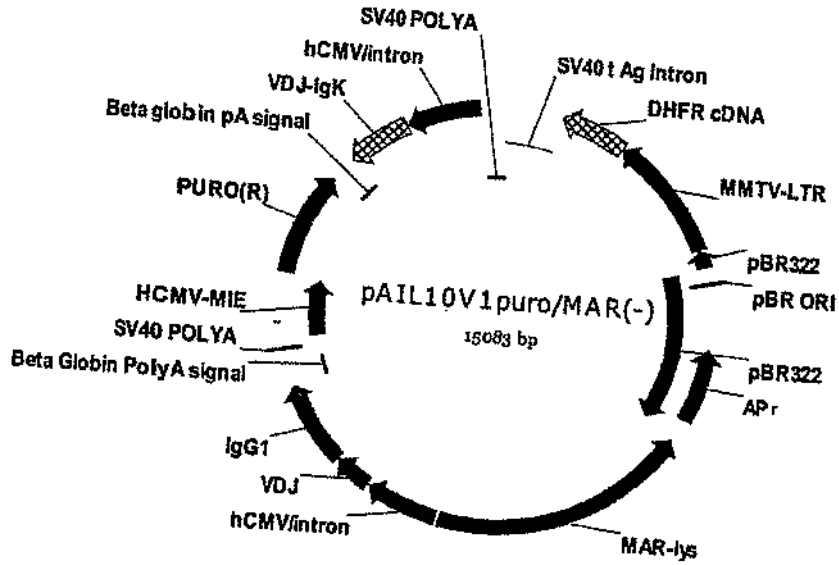

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PaeR7I (5180)
SgrAI (5173)
PinAI (5173)
AgeI (5173)
Srf1 (5167)
SmaI (5167)
XmaI (5165)
SpeI (5158)
SacII (5155)
KspI (5155)
RsrII (5146)
PacI (5141)
NruI (5133)
NotI (5124)
NdeI (5118)
MscI (5113)
MluNI (5113)
MCS
MluI (5105)
KpnI (5103)
Asp718 (5099)
Acc65I (5099)
FseI (5096)
SspBI (5079)
BsrGI (5079)
MroI (5073)
BspEI (5073)
BseAI (5073)
AccIII (5073)
BclI (5067)
BbvCI (5061)
PmeI (5055)
AscI (5045)
XbaI (5038)
AufII (4961)
Amp(R)
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pBR ORI
SV40 t Ag Intron
DHFR cDNA
pSRXBLS
6078 bp
MMTV-LTR
pBR322

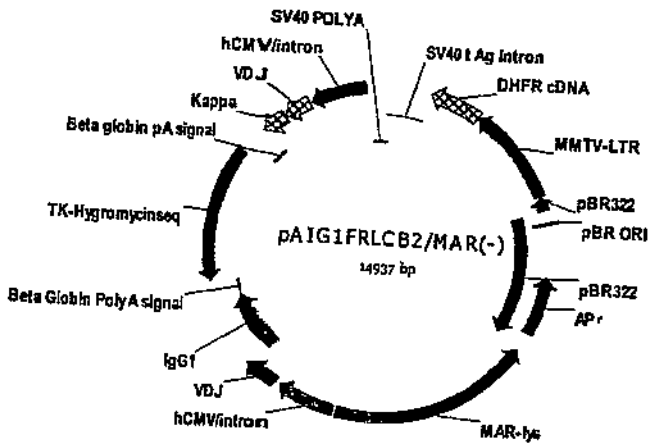

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SspBI (635)
BclI (641)
MluI (647)
Ecl136II (655)
SacI (657)
XhoI (659)
SwaI (756)
Beta Globin Poly A signal
BsaBI (907)
MamI (907)
AccIII (914)
BseAI (914)
BspEI (914)
MroI (914)
XmaI (920)
SmaI (922)
Bsp120I (926)
ApaI (930)
EcoRI (938)
EcoRV (946)
ClaI (951)
BspDI (951)
BspMII (969)
PpuMI (1066)
HpaI (1105)
PaeR7I (1127)
XhoI (1127)
SRalpha
Bsu36I (1366)
EcoNI (1369)
AvrII (1434)
BlnI (1434)
SfiI (1488)
NcoI (1527)
DsaI (1527)
SexAI (1666)
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Col E1 origin

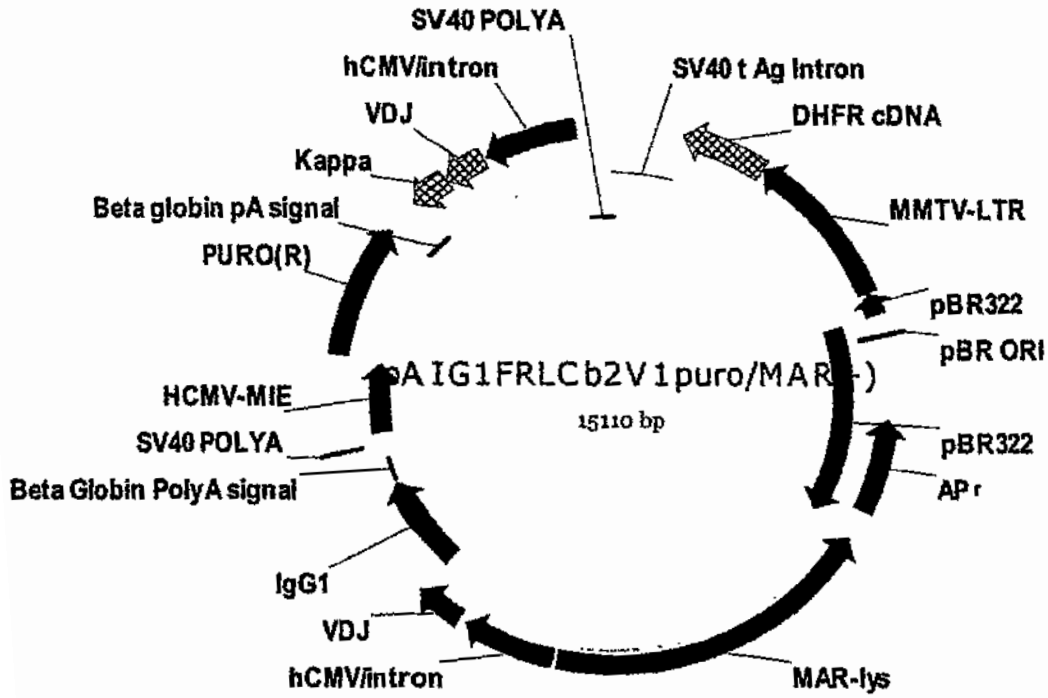

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XmaI (635)
SmaI (637)
Srf1 (637)
RsrII (643)
SpeI (649)
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HindIII (661)
SRalpha
ClaI (1477)
BspDI (1477)
EcoRV (1484)
EcoRI (1488)
Bsp120I (1500)
ApaI (1504)
AccIII (1506)
BseAI (1506)
BspEI (1506)
MroI (1506)
BsaBI (1517)
MamI (1517)
Beta globin pA signal
SwaI (1668)
XbaI (1761)
Ecl136II (1769)
SacI (1771)
NdeI (1774)
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PacI (1795)
Amp
pULSRstopLS
3967 bp
Col E1 origin


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P(BLA)
AP r
pPAG01
5639 bp
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ORI
P(LAC)
XbaI (2960)


SV40 POLYA
hCMV/intron
VDJ-IgK
Beta globin pA signal
SV40 t Ag Intron
DHFR cDNA
MMTV-LTR
pBR322
pBR ORI
pBR322
AP r
MAR-Ig
hCMV/intron
VDJ
IgG1
Beta Globin PolyA signal
TK-Hygromycinseq
pinAIL10/MAR(-)
14910 bp


SV40 POLYA
hCMVIintron
VDJ-IgK
Beta globin pA signal
PURO(R)
HCMV-MIE
SV40 POLYA
Beta Globin PolyA signal
IgG1
VDJ
hCMVIintron
MAR-Ig
SV40 t Ag Intron
DHFR cDNA
MMTV-LTR
pBR322
pBR ORI
pBR322
APr
pAIL10V1puro/MAR(-)
15083 bp


SV40 POLYA
hCMV/intron
VDJ
Kappa
Beta globin pA signal
TK-Hygromycinseq
Beta Globin PolyA signal
IgG1
VDJ
hCMV/intron
MAR-Ig
pBR322
AP r
pBR ORI
pBR322
MMTV-LTR
DHFR cDNA
SV40 t Ag Intron
pAIG1FRLCB2/MAR(-)
14937 bp


SV40 POLYA
hCMV/intron
VDJ
Kappa
Beta globin pA signal
PURO(R)
HCMV-MIE
SV40 POLYA
Beta Globin PolyA signal
IgG1
VDJ
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Ser Arg Gly Glu Ile Val Leu Thr Gln Val Pro Asp Phe Gln Ser Val
            20                  25                  30

act cca aag gag aaa gtc acc atc acc tgc cgg gcc agt cag agc att      144
Thr Pro Lys Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile
        35                  40                  45

ggt agt agc tta cac tgg tac cag cag aaa cca gat cag tct cca aag      192
Gly Ser Ser Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys
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ctc ctc atc aag tat gct tcc cag tcc ctc tca ggg gtc ccc tcg agg      240
Leu Leu Ile Lys Tyr Ala Ser Gln Ser Leu Ser Gly Val Pro Ser Arg
65                  70                  75                  80

ttc agt ggc agt gga tct ggg aca gat ttc acc ctc acc atc aat agc      288
Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser
                85                  90                  95

ctg gaa gct gaa gat gct gca gcg tat tac tgt cat cag agt agt cgt      336
Leu Glu Ala Glu Asp Ala Ala Ala Tyr Tyr Cys His Gln Ser Ser Arg
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tta cct cac act ttc ggc gga ggg acc aag gtg gag atc aaa cga act      384
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Gly Ser Ser Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys
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Leu Leu Ile Lys Tyr Ala Ser Gln Ser Leu Ser Gly Val Pro Ser Arg
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Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser
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1               5                  10                  15

gtc cag tgt gag gtt cag ctg gtg cag tct ggg gga ggc ttg gta cat       96
Val Gln Cys Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val His
            20                  25                  30

cct ggg ggg tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc      144
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        35                  40                  45

agt agc ttt gct atg cac tgg gtt cgc cag gct cca gga aaa ggt ctg      192
Ser Ser Phe Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    50                  55                  60

gag tgg ata tca gtt att gat act cgt ggt gcc aca tac tat gca gac      240
Glu Trp Ile Ser Val Ile Asp Thr Arg Gly Ala Thr Tyr Tyr Ala Asp
65                  70                  75                  80

tcc gtg aag ggc cga ttc acc atc tcc aga gac aat gcc aag aac tcc      288
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser
                85                  90                  95

ttg tat ctt caa atg aac agc ctg aga gcc gag gac atg gct gtg tat      336
Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr
            100                 105                 110

tac tgt gca aga ctg ggg aac ttc tac tac ggt atg gac gtc tgg ggc      384
Tyr Cys Ala Arg Leu Gly Asn Phe Tyr Tyr Gly Met Asp Val Trp Gly
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caa ggg acc acg gtc acc gtc tcc tca                                  411
Gln Gly Thr Thr Val Thr Val Ser Ser
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<213> Homo sapiens

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Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        35                  40                  45

Ser Ser Phe Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    50                  55                  60

Glu Trp Ile Ser Val Ile Asp Thr Arg Gly Ala Thr Tyr Tyr Ala Asp
65                  70                  75                  80

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser
                85                  90                  95

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Met Ala Val Tyr
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Tyr Cys Ala Arg Leu Gly Asn Phe Tyr Tyr Gly Met Asp Val Trp Gly
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Gln Gly Thr Thr Val Thr Val Ser Ser
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1               5                   10                  15

tcc agg ggt gaa att gtg ctg act cag agc cca ggt acc ctg tct gtg       96
Ser Arg Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Val
            20                  25                  30
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tct cca ggc gag aga gcc acc ctc tcc tgc cgg gcc agt cag agc att      144
Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile
        35                  40                  45

ggt agt agc tta cac tgg tac cag cag aaa cca ggt cag gct cca agg      192
Gly Ser Ser Leu His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
    50                  55                  60

ctt ctc atc aag tat gca tcc cag tcc ctc tca ggg atc ccc gat agg      240
Leu Leu Ile Lys Tyr Ala Ser Gln Ser Leu Ser Gly Ile Pro Asp Arg
65                  70                  75                  80

ttc agt ggc agt gga tct ggg aca gat ttc acc ctc acc atc agt aga      288
Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
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ctg gag cct gaa gat ttc gca gtg tat tac tgt cat cag agt agt cgt      336
Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys His Gln Ser Ser Arg
            100                 105                 110

tta cct cac act ttc ggc caa ggg acc aag gtg gag atc aaa cgt aca      384
Leu Pro His Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr
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Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile
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Gly Ser Ser Leu His Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg
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Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
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1               5                   10                  15

gtc cag tgt gag gtt cag ctg gtg cag tct ggg gga ggc ttg gta aag       96
Val Gln Cys Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Lys
            20                  25                  30

cct ggg ggg tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc      144
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        35                  40                  45

agt agc ttt gct atg cac tgg gtt cgc cag gct cca gga aaa ggt ctg      192
Ser Ser Phe Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    50                  55                  60

gag tgg ata tca gtt att gat act cgt ggt gcc aca tac tat gca gac      240
Glu Trp Ile Ser Val Ile Asp Thr Arg Gly Ala Thr Tyr Tyr Ala Asp
65                  70                  75                  80

tcc gtg aag ggc cga ttc acc atc tcc aga gac aat gcc aag aac tcc      288
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser
                85                  90                  95

ttg tat ctt caa atg aac agc ctg aga gcc gag gac act gct gtg tat      336
Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
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Ser Ser Phe Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
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Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser
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Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr
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