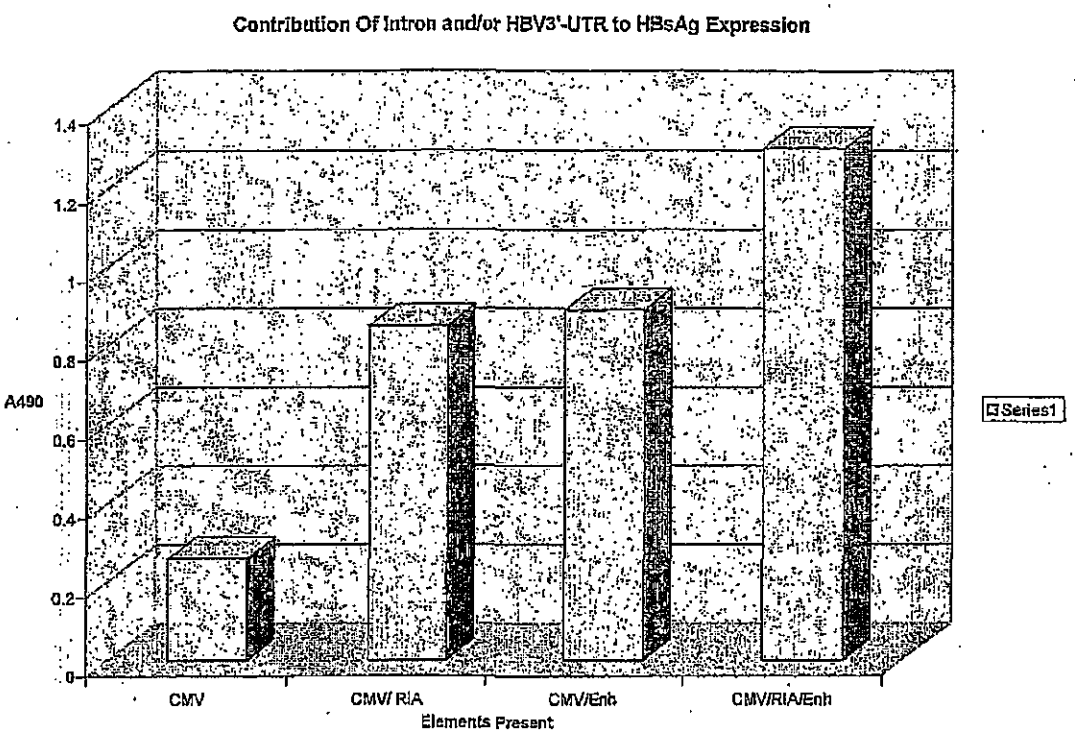

Contribution Of Intron and/or HBV3'-UTR to HBsAg Expression
A490
1.4
1.2
1
0.8
0.6
0.4
0.2
0
CMV
CMV/ RIA
CMV/Enh
CMV/RIA/Enh
Elements Present
Series1

Figure 1

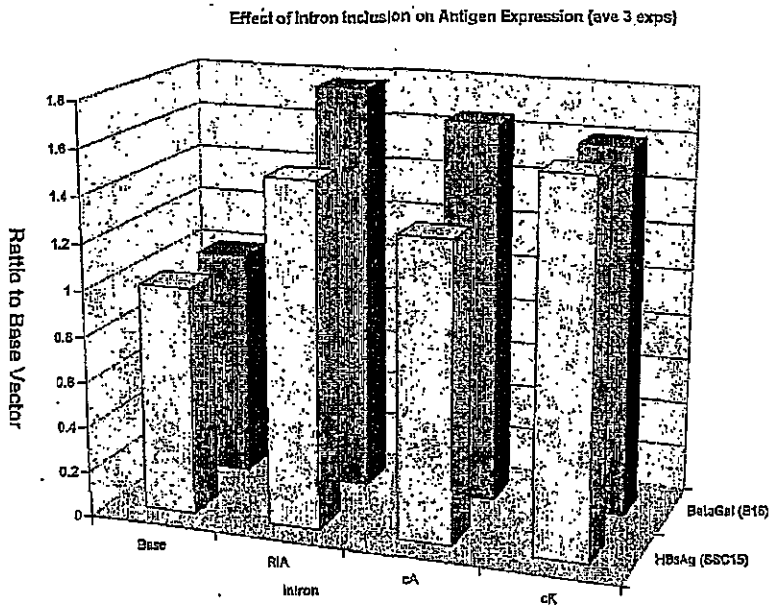

Effect of Intron Inclusion on Antigen Expression (ave 3 exps)
Ratio to Base Vector
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Base
RIA
cA
cK
Intron
BetaGal (B16)
HBsAg (SSC15)

Figure 2

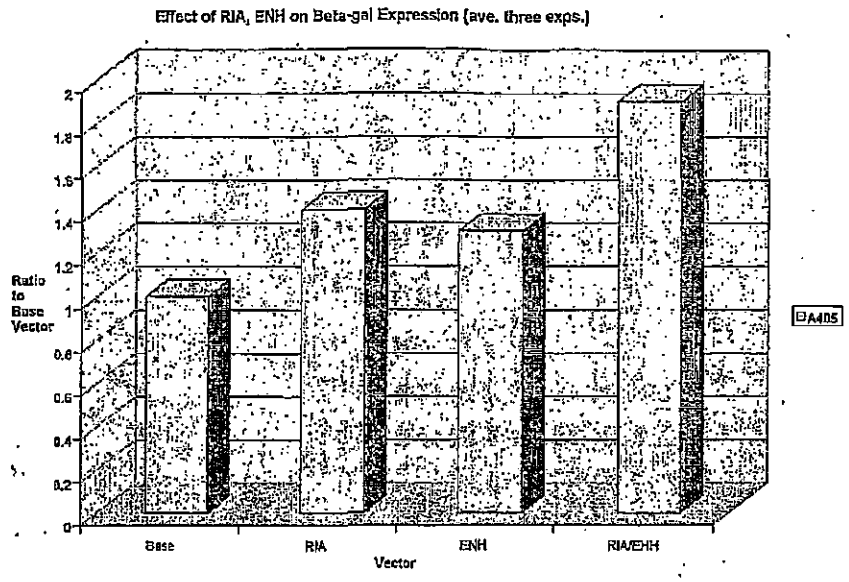

Effect of RIA, ENH on Beta-gal Expression (ave. three exps.)
Ratio to Base Vector
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Base
RIA
ENH
RIA/ENH
Vector
A405

Figure 3

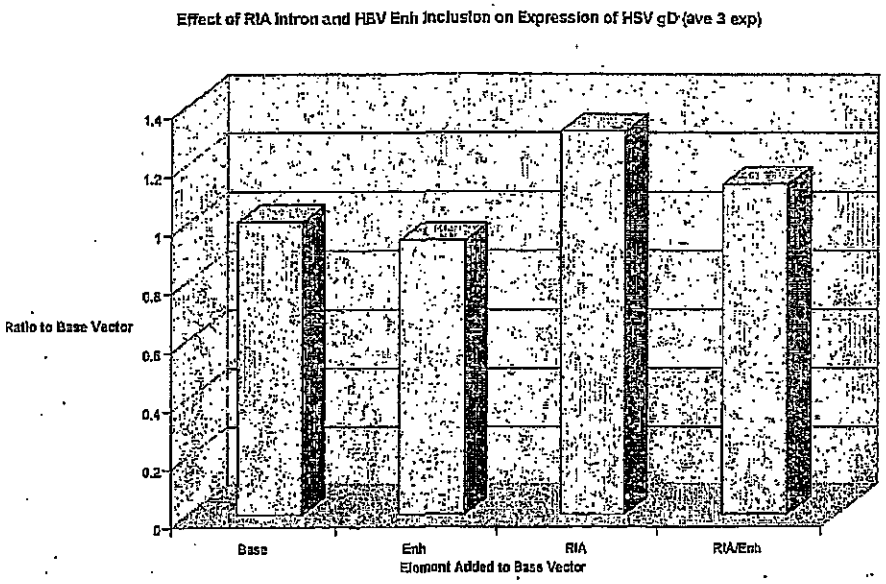

Effect of RIA Intron and HBV Enh Inclusion on Expression of HSV gD (ave 3 exp)
Ratio to Base Vector
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Base
Enh
RIA
RIA/Enh
Element Added to Base Vector

Figure 4

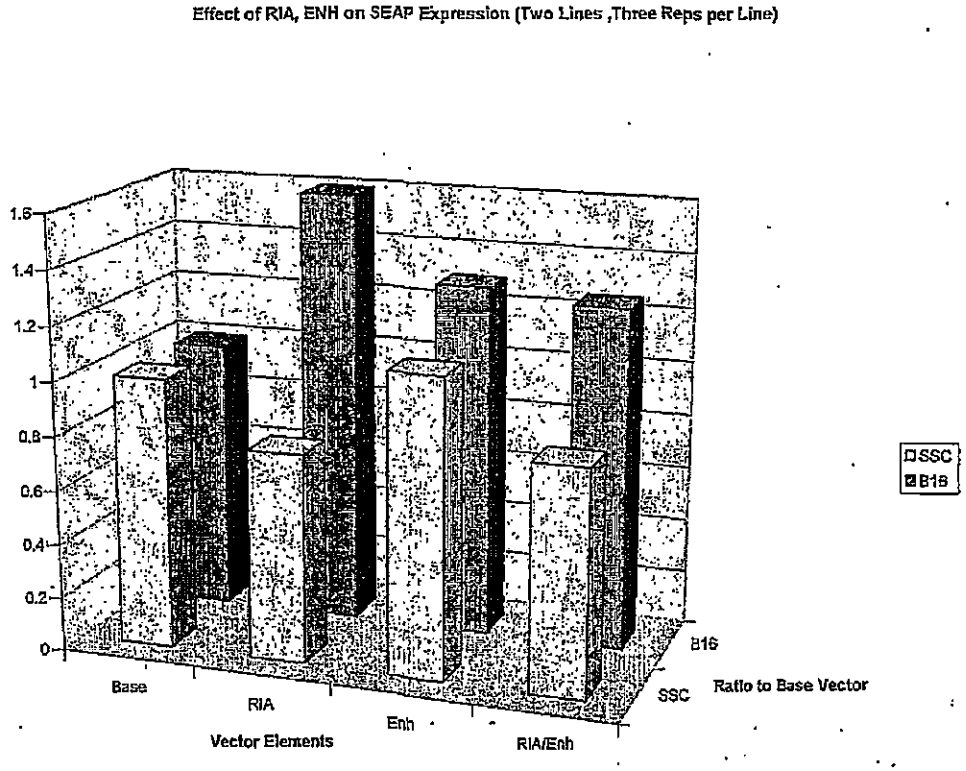

Effect of RIA, ENH on SEAP Expression (Two Lines ,Three Reps per Line)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Base
RIA
Enh
RIA/Enh
Vector Elements
SSC
B16
Ratio to Base Vector
SSC
B16

Figure 5

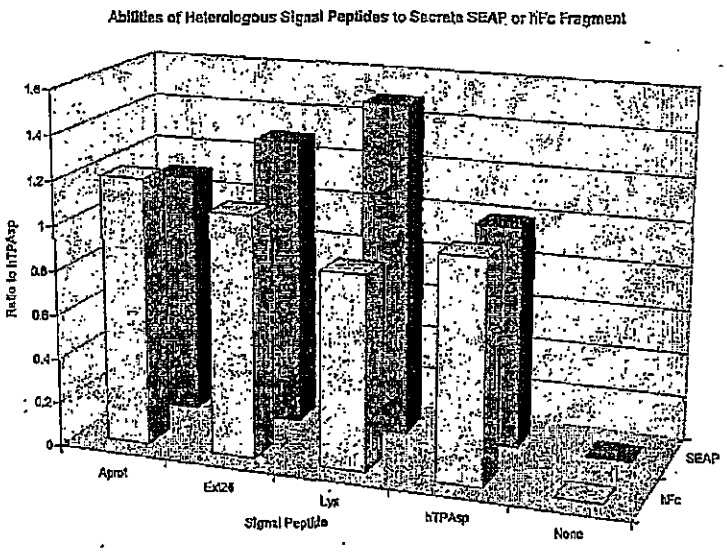

Abilities of Heterologous Signal Peptides to Secrete SEAP or hFc Fragment
Ratio to hTPAsp
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Aprot
Ext2fi
Lys
hTPAsp
None
Signal Peptide
SEAP
hFc

Figure 6

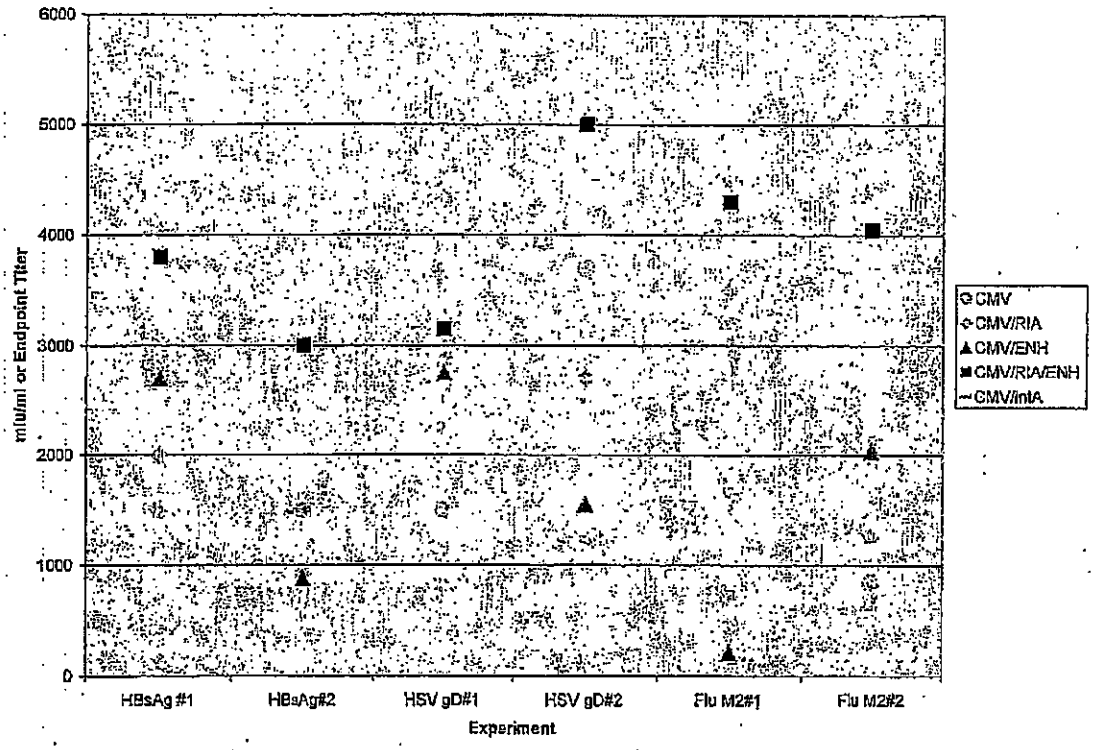

6000
5000
4000
3000
2000
1000
0
mIu/ml or Endpoint Titer
HBsAg #1
HBsAg#2
HSV gD#1
HSV gD#2
Flu M2#1
Flu M2#2
Experiment
CMV
CMV/RIA
CMV/ENH
CMV/RIA/ENH
CMV/intA

Figure 7

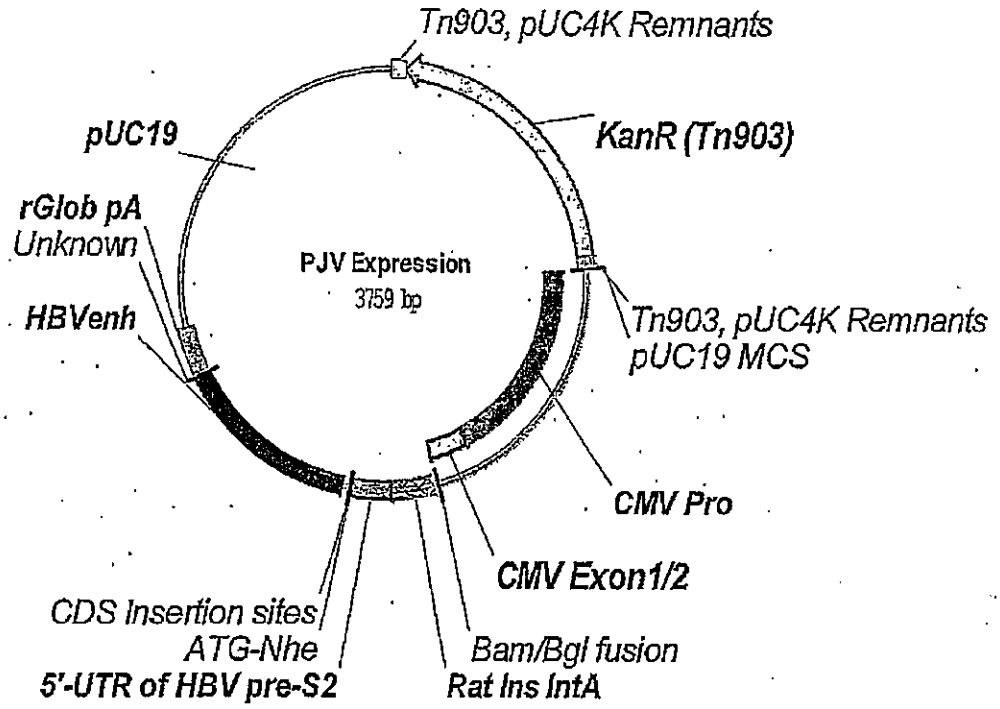

Tn903, pUC4K Remnants
KanR (Tn903)
pUC19
rGlob pA
Unknown
HBVenh
PJV Expression
3759 bp
Tn903, pUC4K Remnants
pUC19 MCS
CMV Pro
CMV Exon1/2
CDS Insertion sites
ATG-Nhe
5'-UTR of HBV pre-S2
Bam/Bgl fusion
Rat Ins IntA

Figure 8

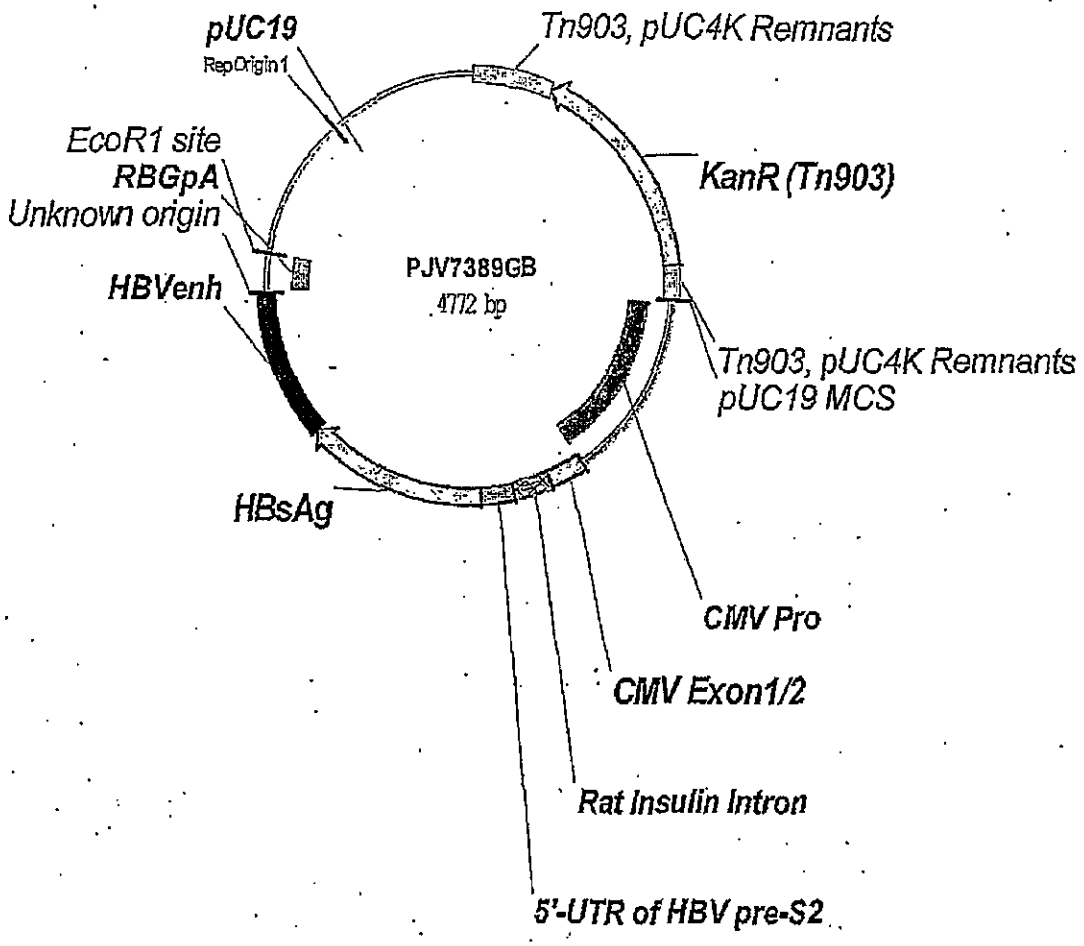

pUC19
RepOrigin1
Tn903, pUC4K Remnants
EcoR1 site
RBGpA
Unknown origin
KanR (Tn903)
HBVenh
PJV7389GB
4772 bp
Tn903, pUC4K Remnants
pUC19 MCS
HBsAg
CMV Pro
CMV Exon1/2
Rat Insulin Intron
5'-UTR of HBV pre-S2

Figure 9

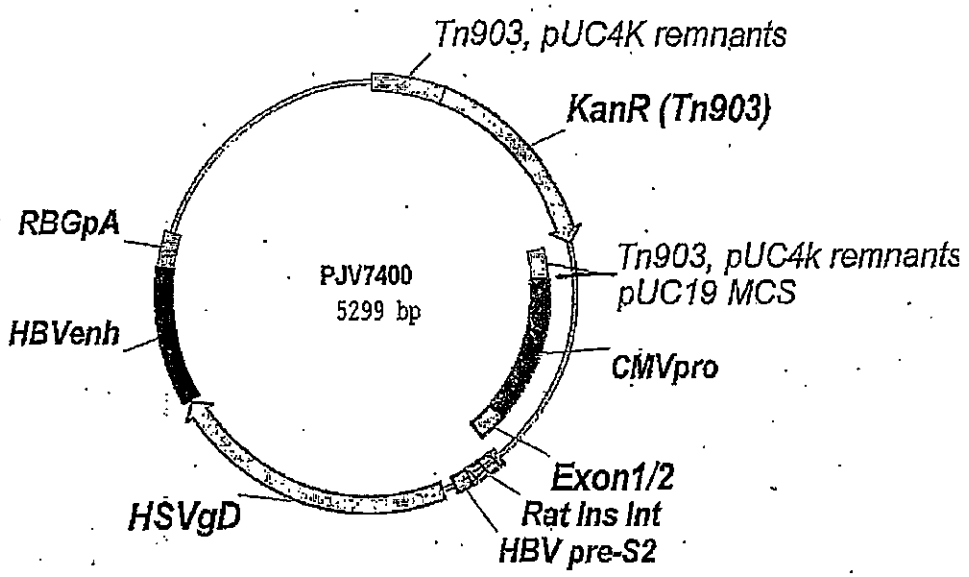

Tn903, pUC4K remnants
KanR (Tn903)
RBGpA
PJV7400
5299 bp
Tn903, pUC4k remnants
pUC19 MCS
HBVenh
CMVpro
Exon1/2
Rat Ins Int
HBV pre-S2
HSVgD

Figure 10

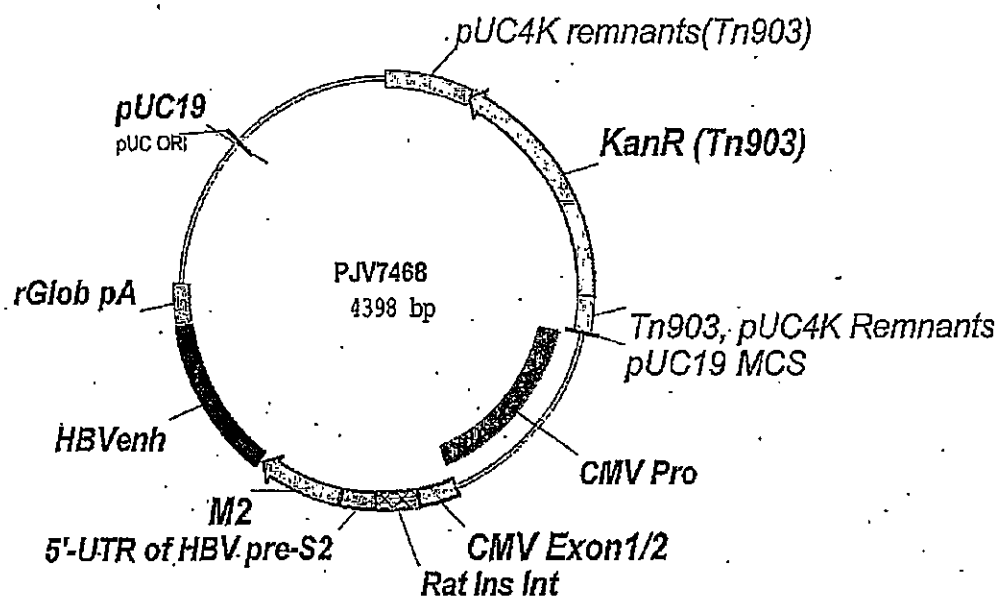

pUC4K remnants(Tn903)
pUC19
pUC ORI
KanR (Tn903)
PJV7468
4398 bp
rGlob pA
Tn903, pUC4K Remnants
pUC19 MCS
HBVenh
CMV Pro
M2
5'-UTR of HBV pre-S2
CMV Exon1/2
Rat Ins Int

Figure 11

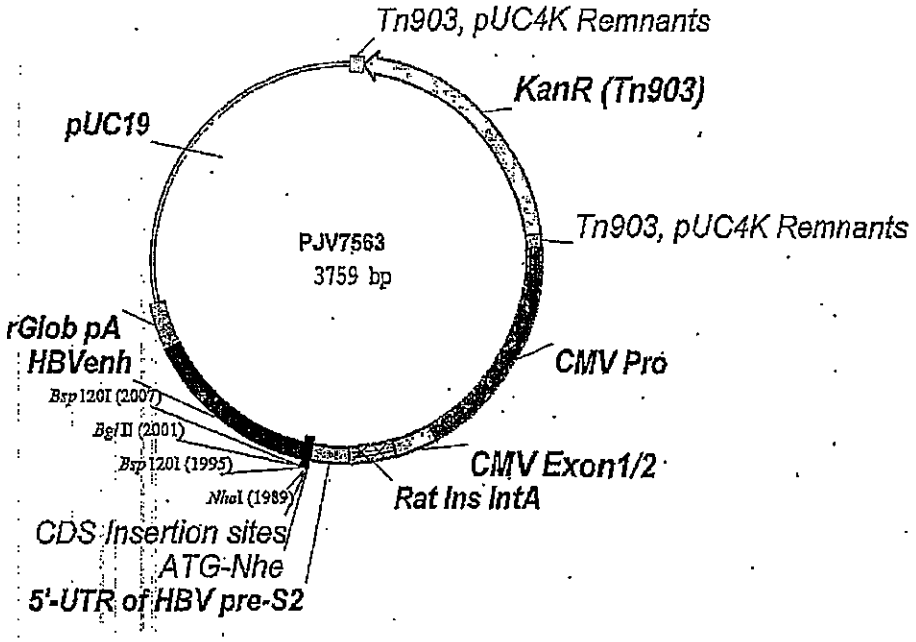

Tn903, pUC4K Remnants
KanR (Tn903)
pUC19
Tn903, pUC4K Remnants
PJV7563
3759 bp
rGlob pA
HBVenh
CMV Pro
Bsp120I (2007)
BglII (2001)
Bsp120I (1995)
CMV Exon1/2
NheI (1989)
Rat Ins IntA
CDS Insertion sites
ATG-Nhe
5'-UTR of HBV pre-S2

Figure 12

Figure 13

ggcgtaatgctctgccagtgttacaaccaattaaccaattctgattagaaaaactcatcgagcatcaaatgaaactgcaatttattcatat
caggattatcaataccatatttttgaaaaagccgtttctgtaatgaaggagaaaactcaccgaggcagttccataggatggcaagatcc
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