FIG. 1

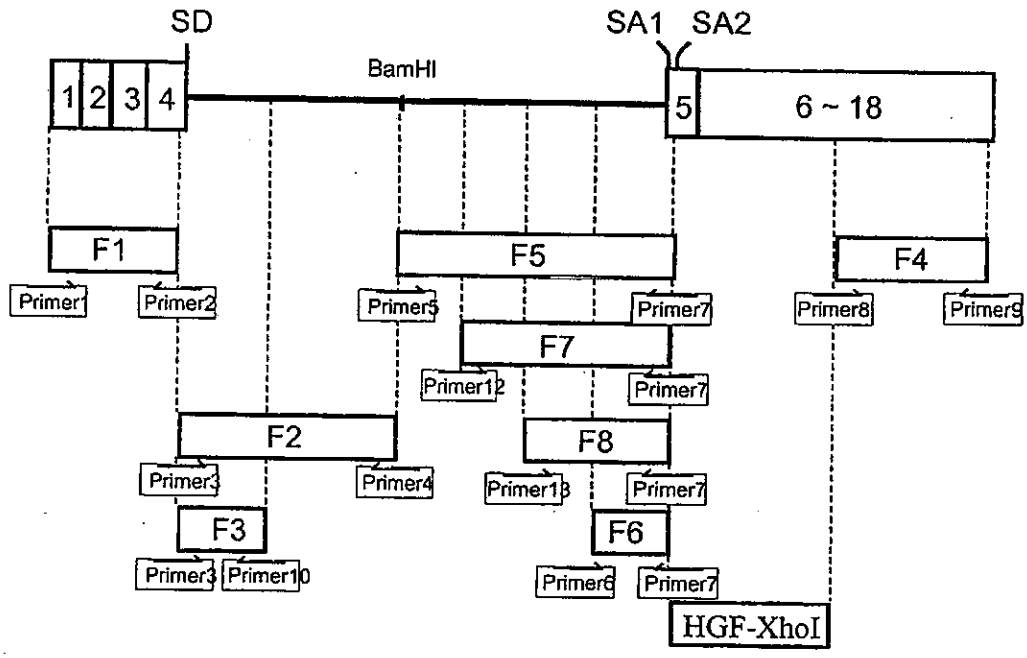

SD
SA1
SA2
BamHI
1
2
3
4
5
6 ~ 18
F1
F5
F4
Primer1
Primer2
Primer5
Primer7
Primer8
Primer9
F7
Primer12
Primer7
F2
F8
Primer3
Primer4
Primer13
Primer7
F3
F6
Primer3
Primer10
Primer6
Primer7
HGF-XhoI

FIG. 2

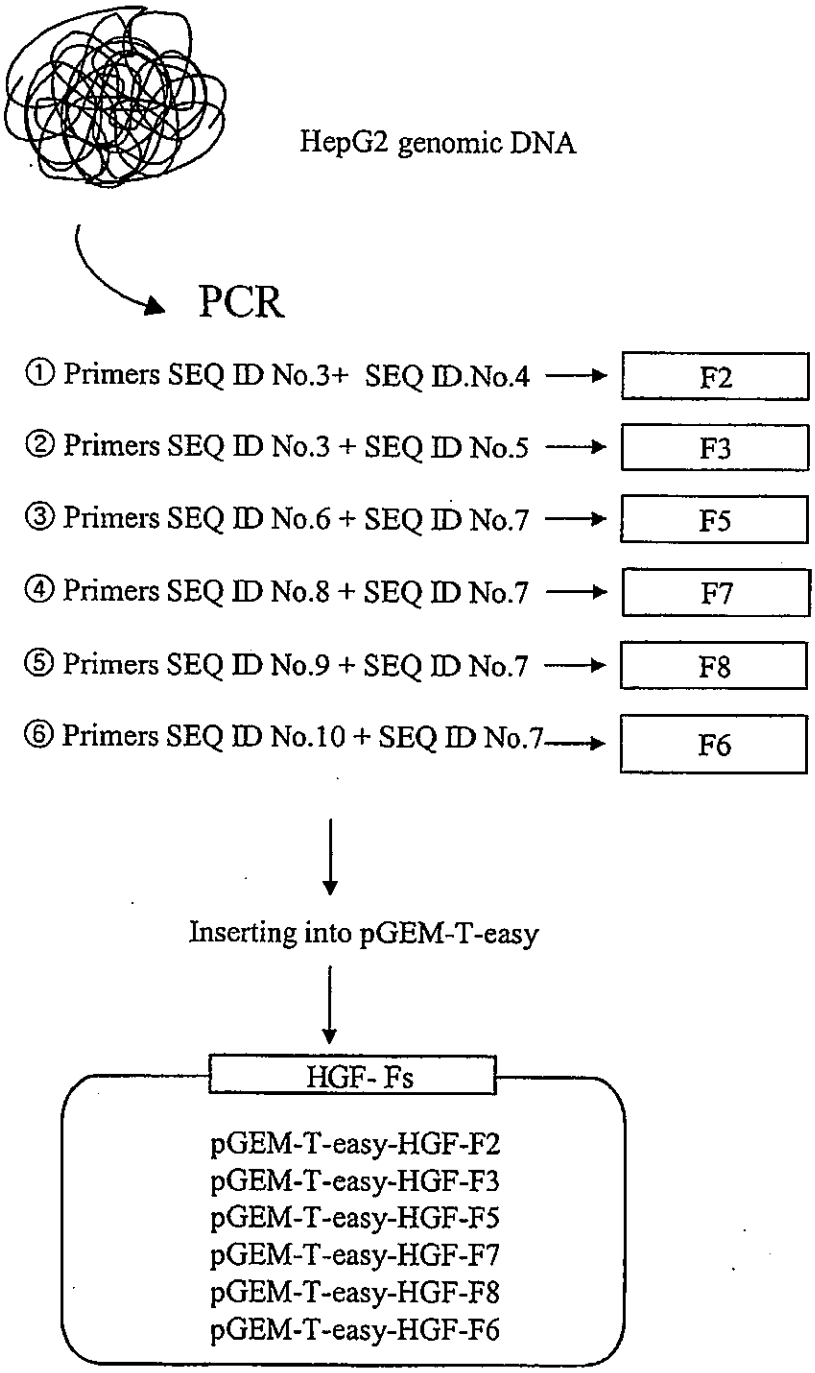

HepG2 genomic DNA
PCR
① Primers SEQ ID No.3+ SEQ ID.No.4
F2
② Primers SEQ ID No.3 + SEQ ID No.5
F3
③ Primers SEQ ID No.6 + SEQ ID No.7
F5
④ Primers SEQ ID No.8 + SEQ ID No.7
F7
⑤ Primers SEQ ID No.9 + SEQ ID No.7
F8
⑥ Primers SEQ ID No.10 + SEQ ID No.7
F6
Inserting into pGEM-T-easy
HGF- Fs
pGEM-T-easy-HGF-F2
pGEM-T-easy-HGF-F3
pGEM-T-easy-HGF-F5
pGEM-T-easy-HGF-F7
pGEM-T-easy-HGF-F8
pGEM-T-easy-HGF-F6

FIG. 3

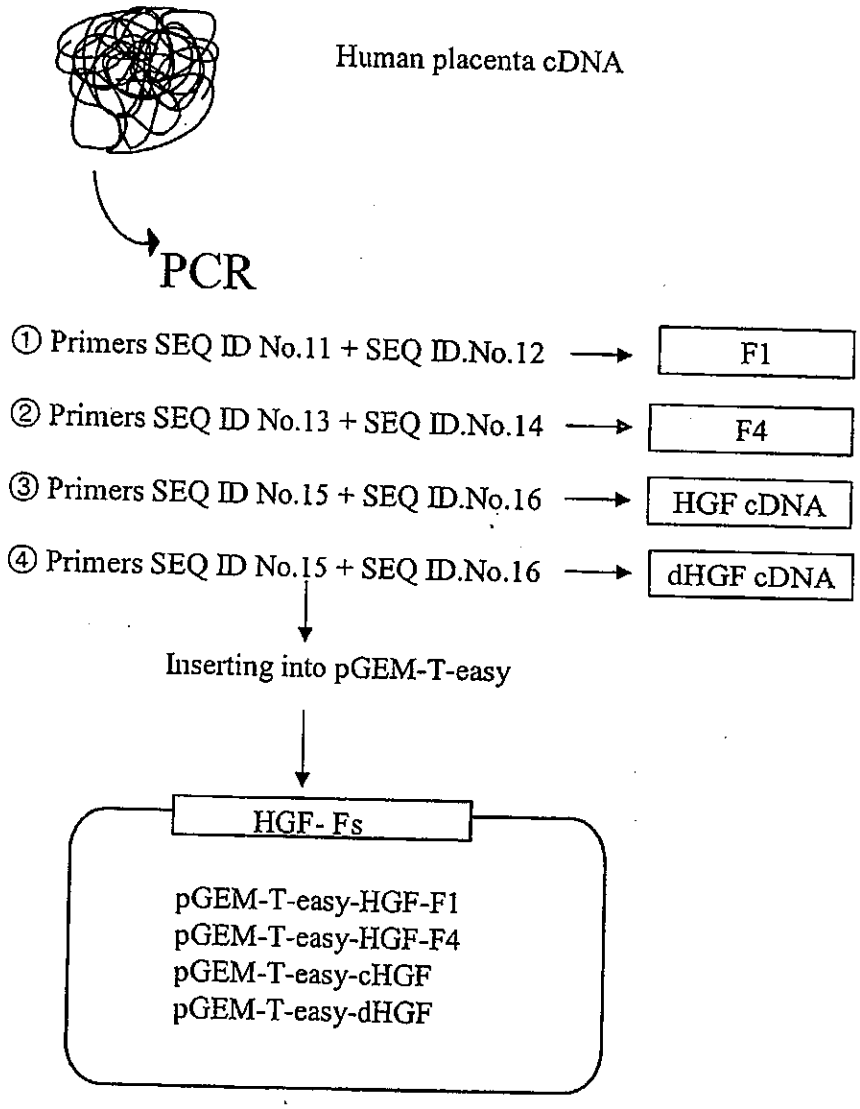

Human placenta cDNA
PCR
① Primers SEQ ID No.11 + SEQ ID.No.12
F1
② Primers SEQ ID No.13 + SEQ ID.No.14
F4
③ Primers SEQ ID No.15 + SEQ ID.No.16
HGF cDNA
④ Primers SEQ ID No.15 + SEQ ID.No.16
dHGF cDNA
Inserting into pGEM-T-easy
HGF- Fs
pGEM-T-easy-HGF-F1
pGEM-T-easy-HGF-F4
pGEM-T-easy-cHGF
pGEM-T-easy-dHGF

FIG. 4A

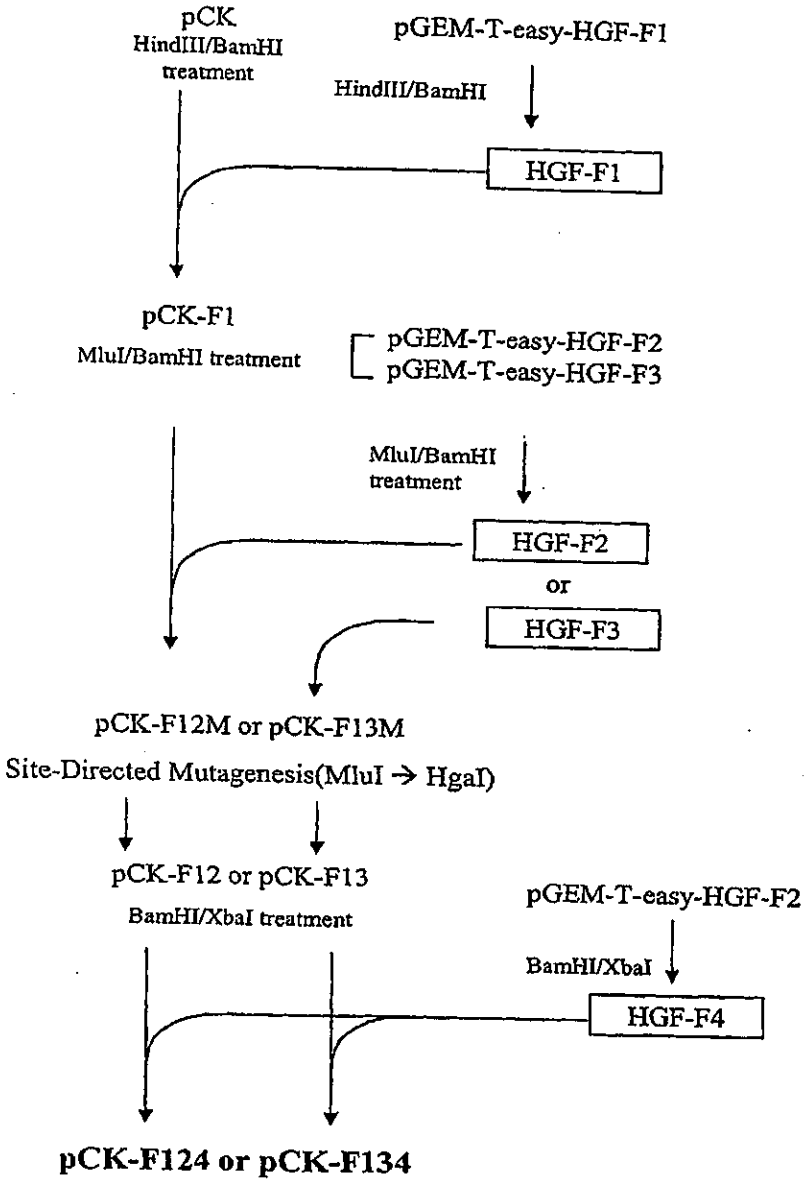

pCK
HindIII/BamHI
treatment
pGEM-T-easy-HGF-F1
HindIII/BamHI
HGF-F1
pCK-F1
MluI/BamHI treatment
pGEM-T-easy-HGF-F2
pGEM-T-easy-HGF-F3
MluI/BamHI
treatment
HGF-F2
or
HGF-F3
pCK-F12M or pCK-F13M
Site-Directed Mutagenesis(MluI → HgaI)
pCK-F12 or pCK-F13
BamHI/XbaI treatment
pGEM-T-easy-HGF-F2
BamHI/XbaI
HGF-F4
pCK-F124 or pCK-F134

FIG. 4B

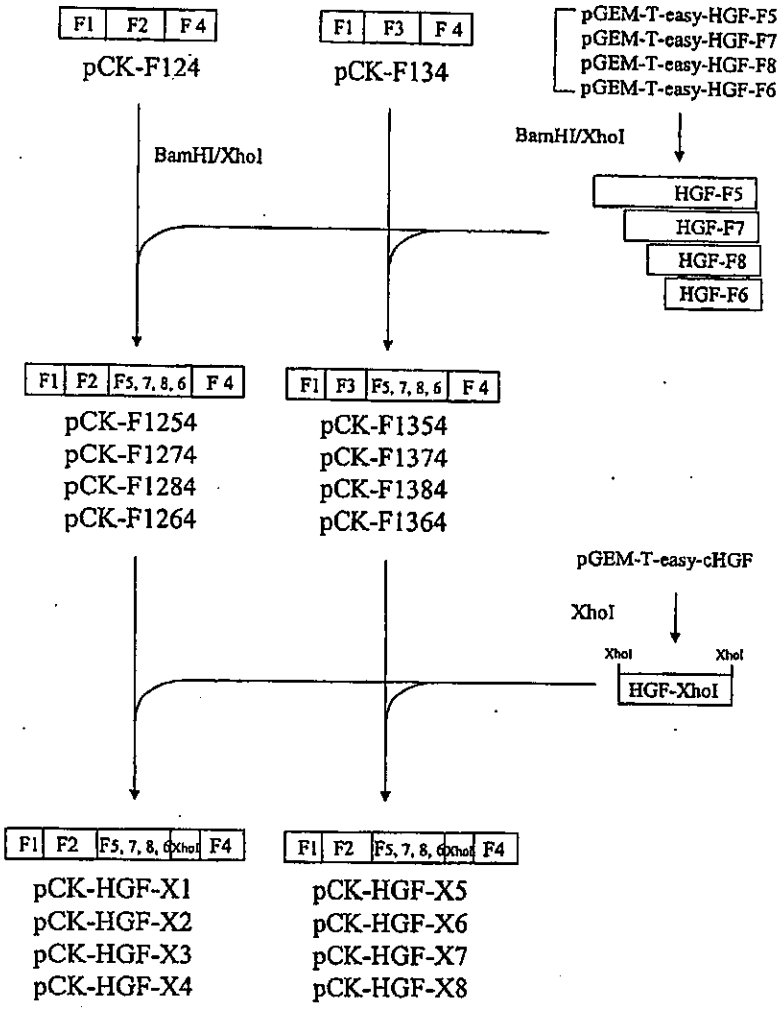

F1 F2 F4
pCK-F124
F1 F3 F4
pCK-F134
pGEM-T-easy-HGF-F5
pGEM-T-easy-HGF-F7
pGEM-T-easy-HGF-F8
pGEM-T-easy-HGF-F6
BamHI/XhoI
BamHI/XhoI
HGF-F5
HGF-F7
HGF-F8
HGF-F6
F1 F2 F5, 7, 8, 6 F4
pCK-F1254
pCK-F1274
pCK-F1284
pCK-F1264
F1 F3 F5, 7, 8, 6 F4
pCK-F1354
pCK-F1374
pCK-F1384
pCK-F1364
pGEM-T-easy-cHGF
XhoI
XhoI
XhoI
HGF-XhoI
F1 F2 F5, 7, 8, 6 XhoI F4
pCK-HGF-X1
pCK-HGF-X2
pCK-HGF-X3
pCK-HGF-X4
F1 F2 F5, 7, 8, 6 XhoI F4
pCK-HGF-X5
pCK-HGF-X6
pCK-HGF-X7
pCK-HGF-X8

FIG. 5

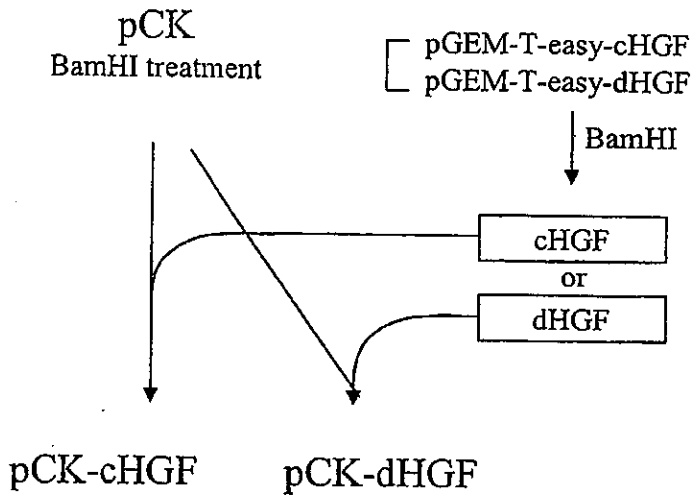

pCK
BamHI treatment
pGEM-T-easy-cHGF
pGEM-T-easy-dHGF
BamHI
cHGF
or
dHGF
pCK-cHGF
pCK-dHGF

FIG. 6

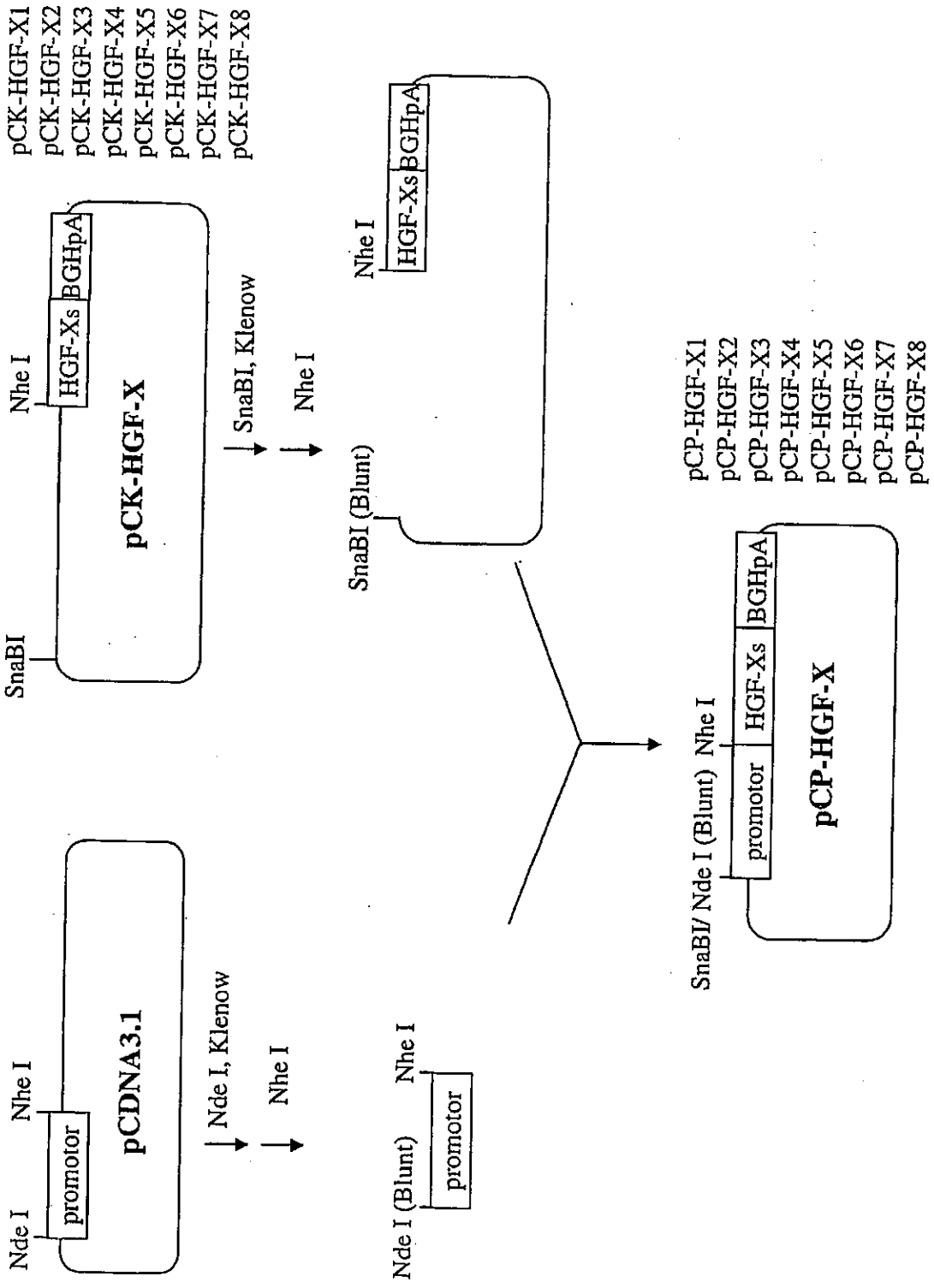

pCK-HGF-X1
pCK-HGF-X2
pCK-HGF-X3
pCK-HGF-X4
pCK-HGF-X5
pCK-HGF-X6
pCK-HGF-X7
pCK-HGF-X8
Nhe I
HGF-Xs
BGHpA
pCK-HGF-X
SnaBI
SnaBI, Klenow
Nhe I
Nhe I
HGF-Xs
BGHpA
SnaBI (Blunt)
pCP-HGF-X1
pCP-HGF-X2
pCP-HGF-X3
pCP-HGF-X4
pCP-HGF-X5
pCP-HGF-X6
pCP-HGF-X7
pCP-HGF-X8
SnaBI/ Nde I (Blunt)
Nhe I
promotor
HGF-Xs
BGHpA
pCP-HGF-X
Nde I
Nhe I
promotor
pCDNA3.1
Nde I, Klenow
Nhe I
Nde I (Blunt)
Nhe I
promotor

FIG. 7

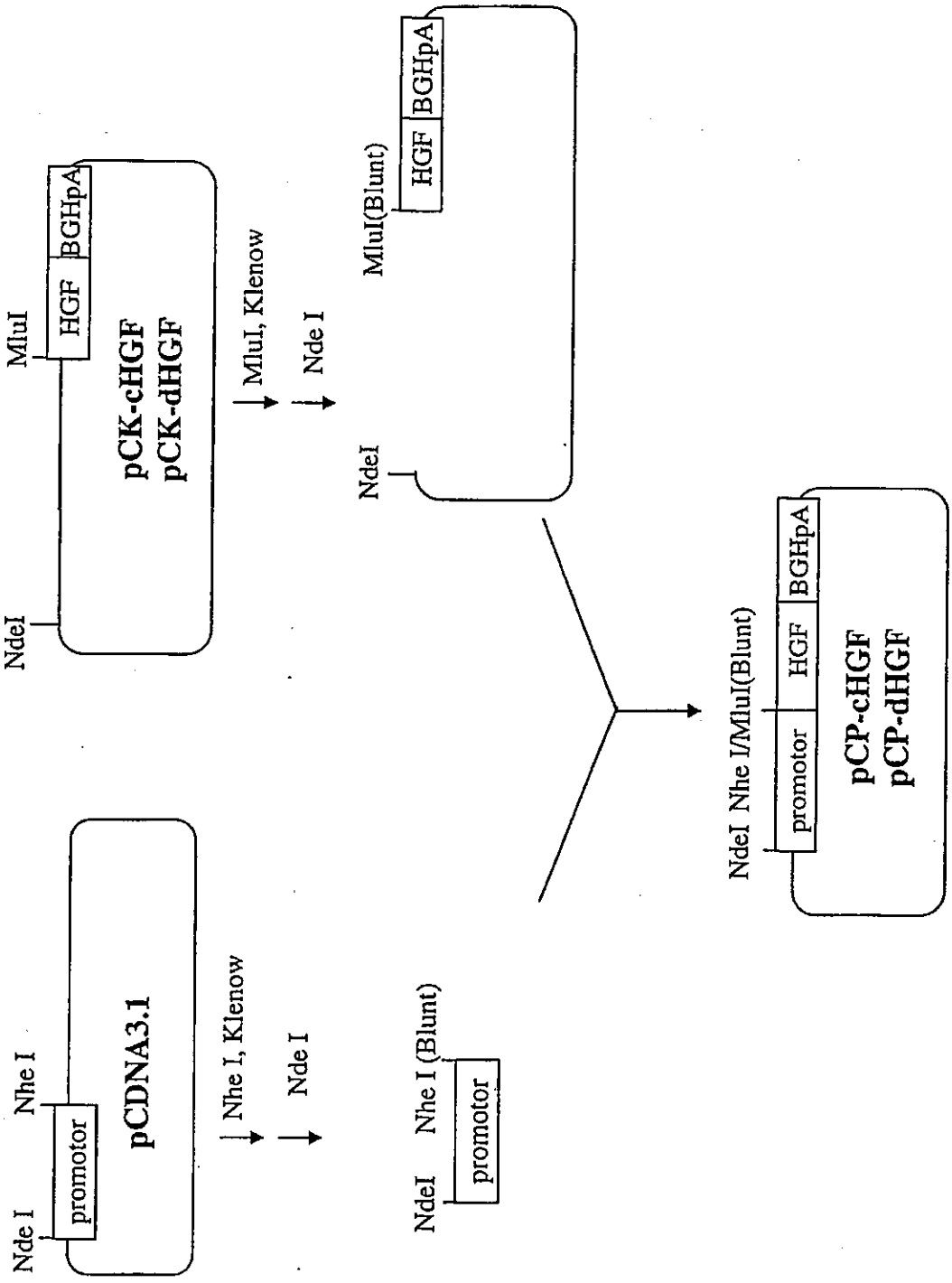

MluI
HGF
BGHpA
NdeI
pCK-cHGF
pCK-dHGF
MluI, Klenow
Nde I
MluI(Blunt)
HGF
BGHpA
NdeI
Nde I
Nhe I
promotor
pCDNA3.1
Nhe I, Klenow
Nde I
NdeI
Nhe I (Blunt)
promotor
NdeI Nhe I/MluI(Blunt)
promotor
HGF
BGHpA
pCP-cHGF
pCP-dHGF

FIG. 8

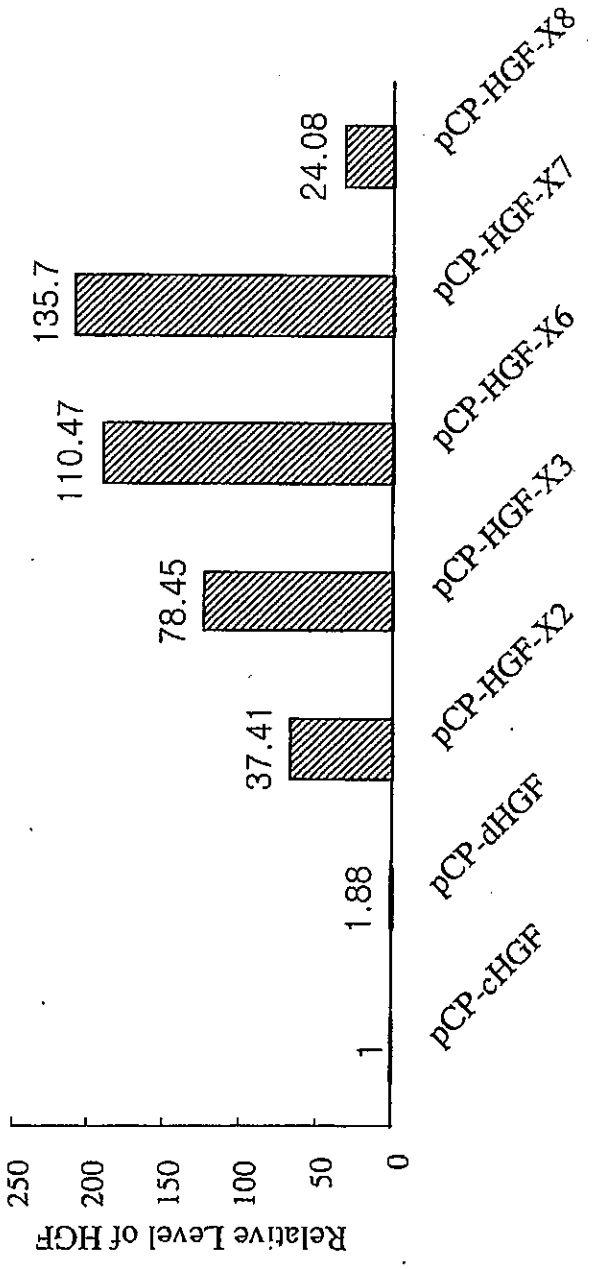

Relative Level of HGF
250
200
150
100
50
0
1
1.88
37.41
78.45
110.47
135.7
24.08
pCP-cHGF
pCP-dHGF
pCP-HGF-X2
pCP-HGF-X3
pCP-HGF-X6
pCP-HGF-X7
pCP-HGF-X8

FIG. 9

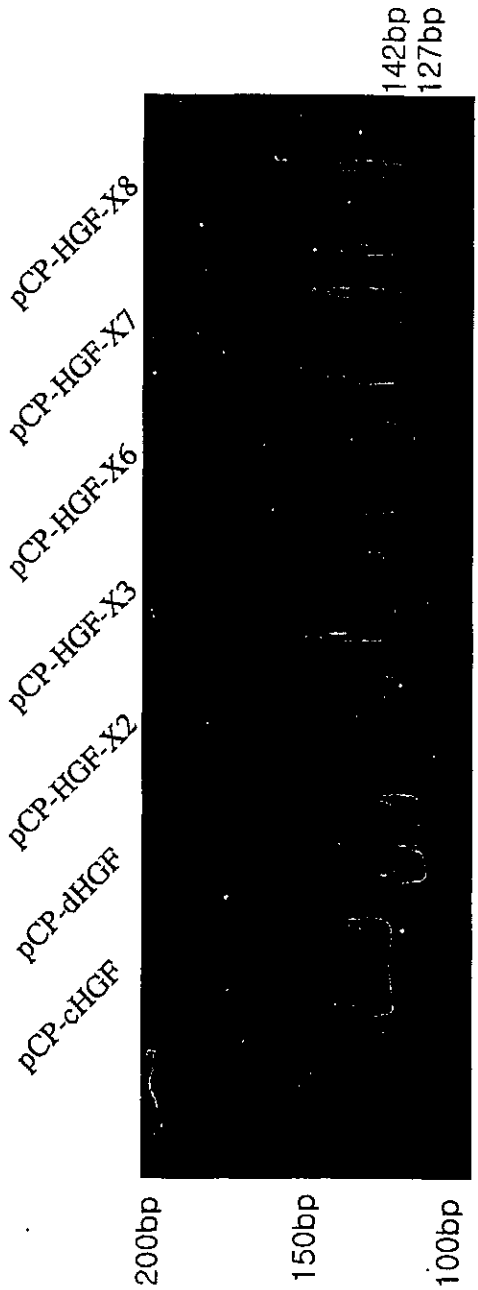

142bp
127bp
pCP-HGF-X8
pCP-HGF-X7
pCP-HGF-X6
pCP-HGF-X3
pCP-HGF-X2
pCP-dHGF
pCP-cHGF
200bp
150bp
100bp

FIG. 10

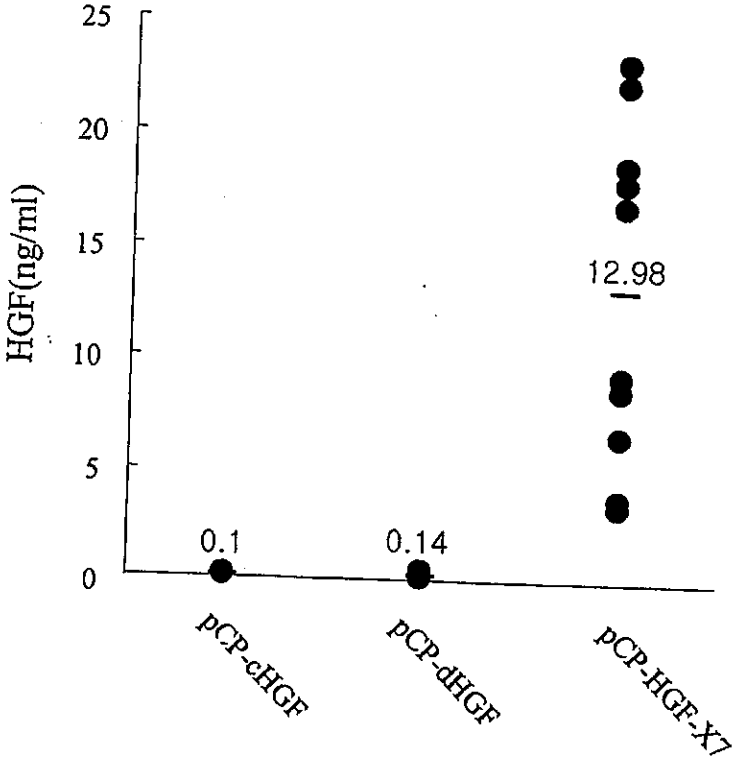
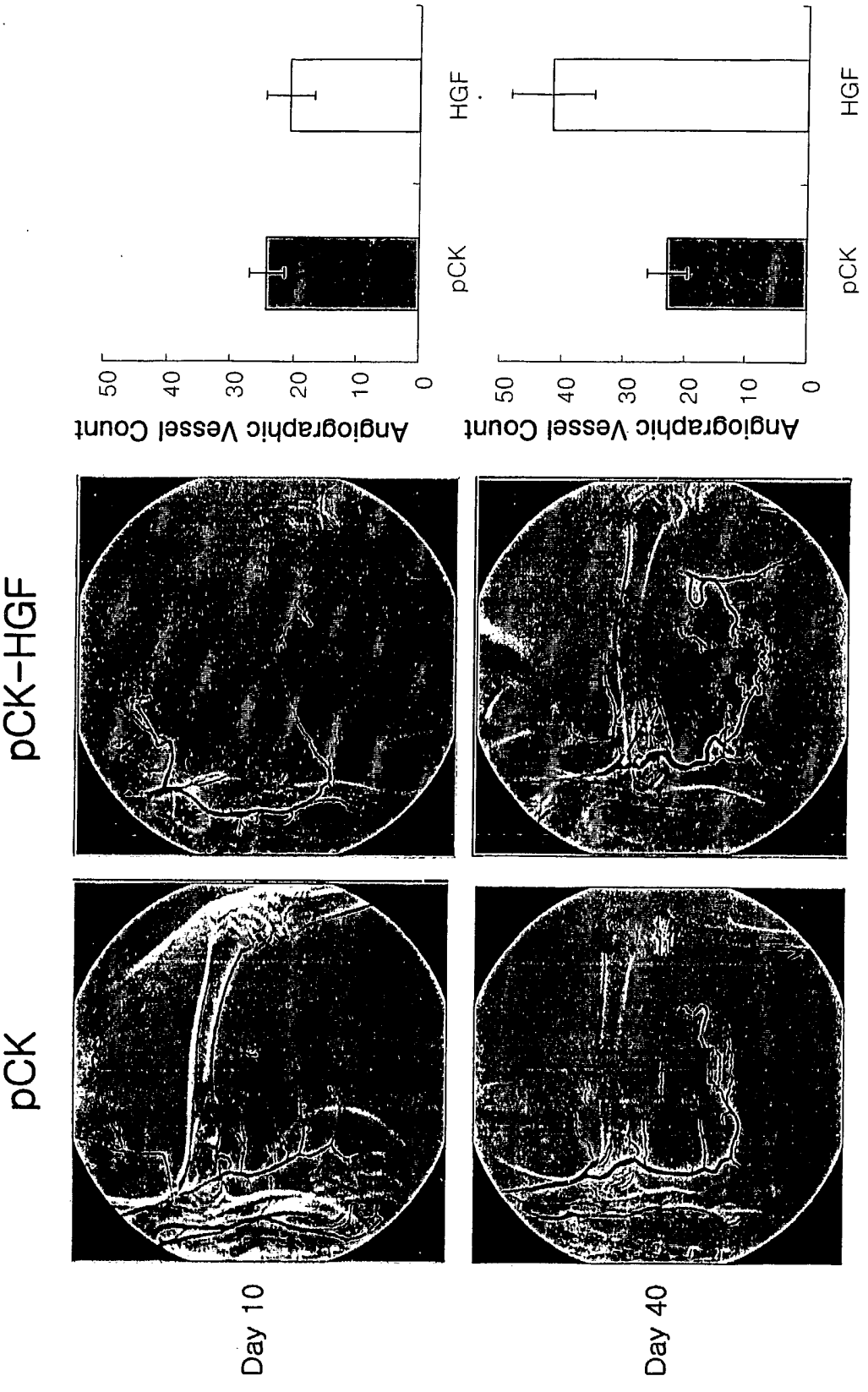


FIG. 11


Angiographic Vessel Count
0
10
20
30
40
50
pCK
HGF
Angiographic Vessel Count
0
10
20
30
40
50
pCK
HGF
pCK
pCK-HGF
Day 10
Day 40