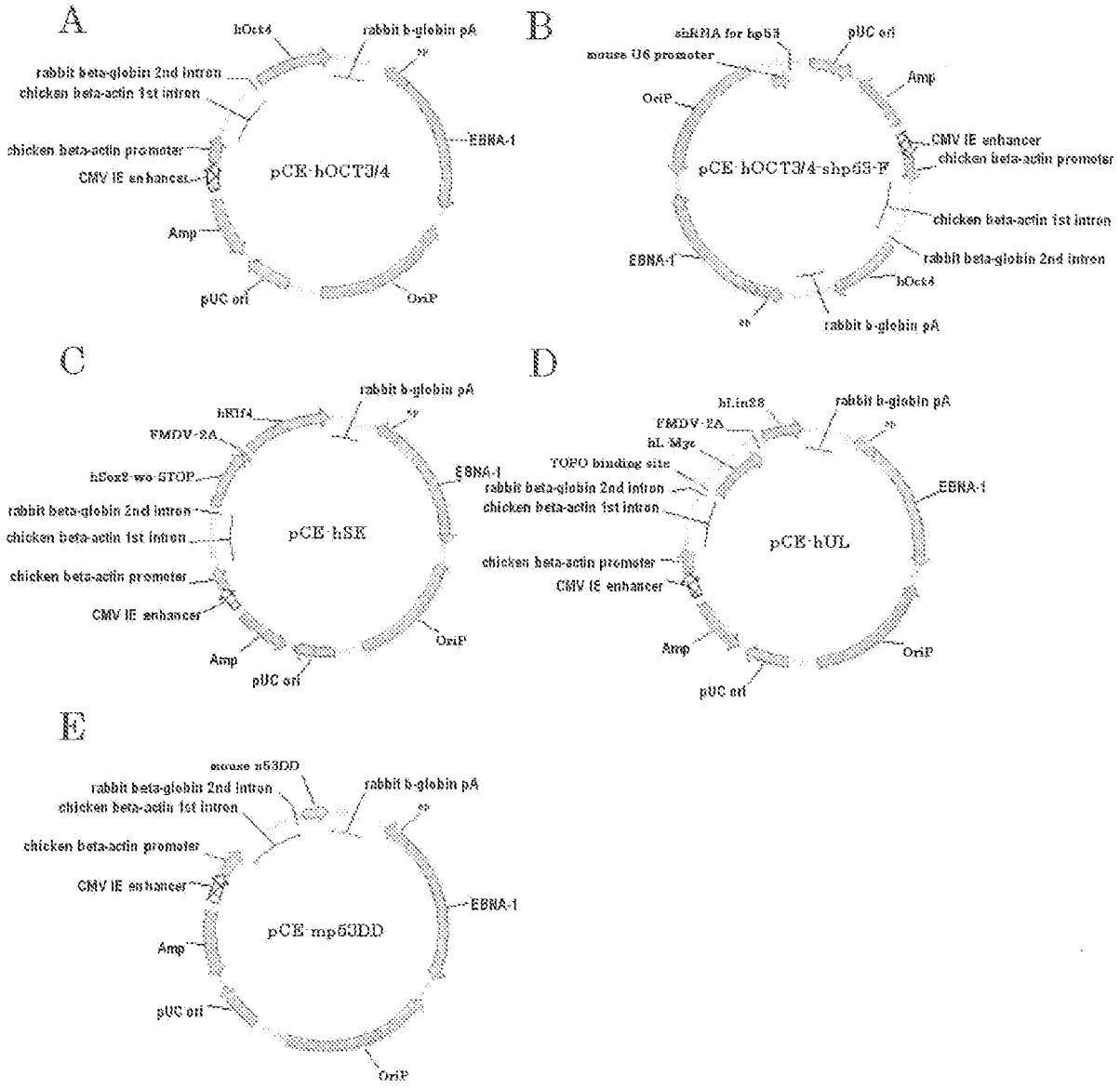
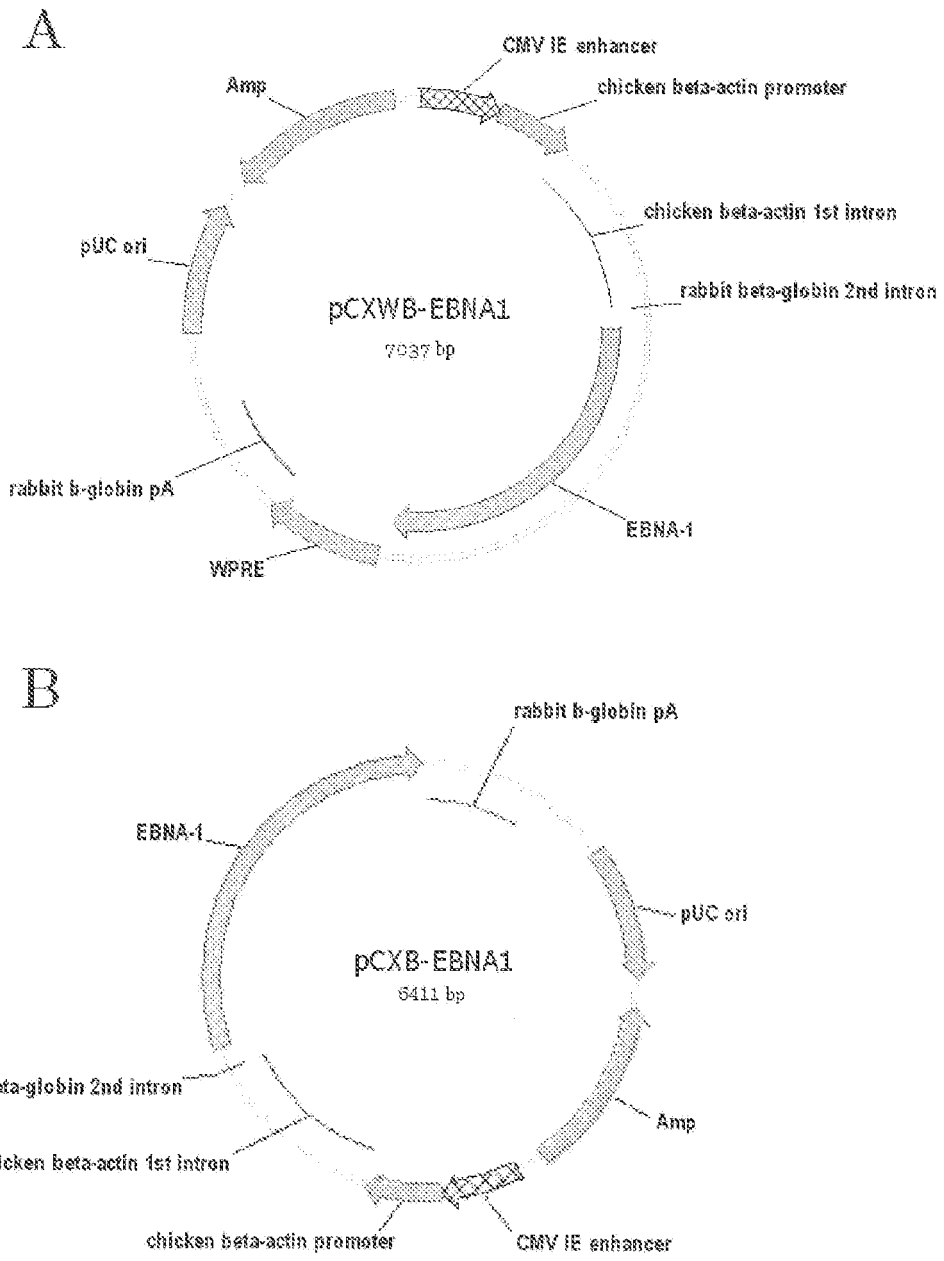
[図1]


A
pCEB-hSK-O (16.9 kb)
CAG
SOX2 – KLF4
WPRE
pA
pUCori
Amp'
oriP
EBNA-1
pA
WPRE
OCT4
CAG
B
pCEB-hUL-G (17.0 kb)
CAG
LMYC –LIN28
WPRE
pA
pUCori
Amp'
oriP
EBNA-1
pA
WPRE
GLIS1
CAG

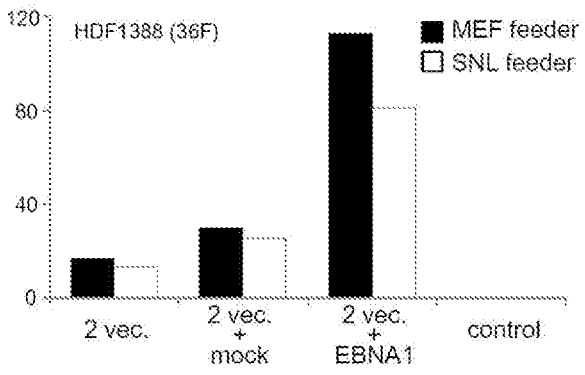
[図2]


A
hOct4
rabbit b-globin pA
rabbit beta-globin 2nd intron
chicken beta-actin 1st intron
chicken beta-actin promoter
CMV IE enhancer
pCE-hOCT3/4
EBNA-1
Amp
pUC ori
OriP
B
shRNA for hp53
pUC ori
mouse U6 promoter
Amp
OriP
CMV IE enhancer
chicken beta-actin promoter
pCE-hOCT3/4-shp53-F
chicken beta-actin 1st intron
rabbit beta-globin 2nd intron
EBNA-1
hOct4
rabbit b-globin pA
C
rabbit b-globin pA
hSlf4
FMDV-2A
EBNA-1
hSox2-wo-STOP
rabbit beta-globin 2nd intron
chicken beta-actin 1st intron
pCE-hSK
chicken beta-actin promoter
CMV IE enhancer
OriP
Amp
pUC ori
D
hL-in28
rabbit b-globin pA
FMDV-2A
hL-Myc
TOPO binding site
rabbit beta-globin 2nd intron
EBNA-1
chicken beta-actin 1st intron
pCE-hUL
chicken beta-actin promoter
CMV IE enhancer
Amp
OriP
pUC ori
E
mouse p53DD
rabbit beta-globin 2nd intron
rabbit b-globin pA
chicken beta-actin 1st intron
chicken beta-actin promoter
CMV IE enhancer
EBNA-1
pCE-mp53DD
Amp
pUC ori
OriP

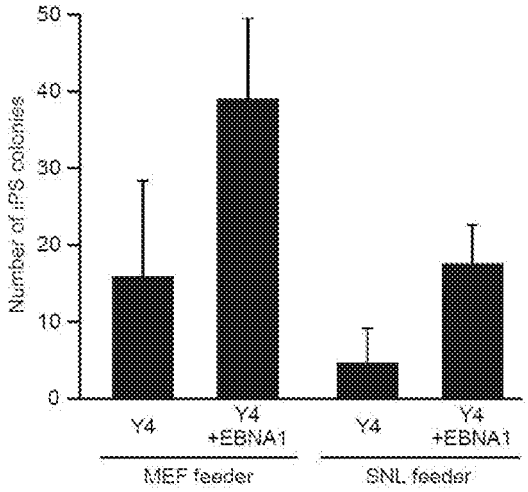
[図3]


A
CMV IE enhancer
Amp
chicken beta-actin promoter
chicken beta-actin 1st intron
pUC ori
rabbit beta-globin 2nd intron
pCXWB-EBNA1
7937 bp
rabbit b-globin pA
EBNA-1
WPRE
B
rabbit b-globin pA
EBNA-1
pUC ori
pCXB-EBNA1
6411 bp
rabbit beta-globin 2nd intron
Amp
chicken beta-actin 1st intron
chicken beta-actin promoter
CMV IE enhancer

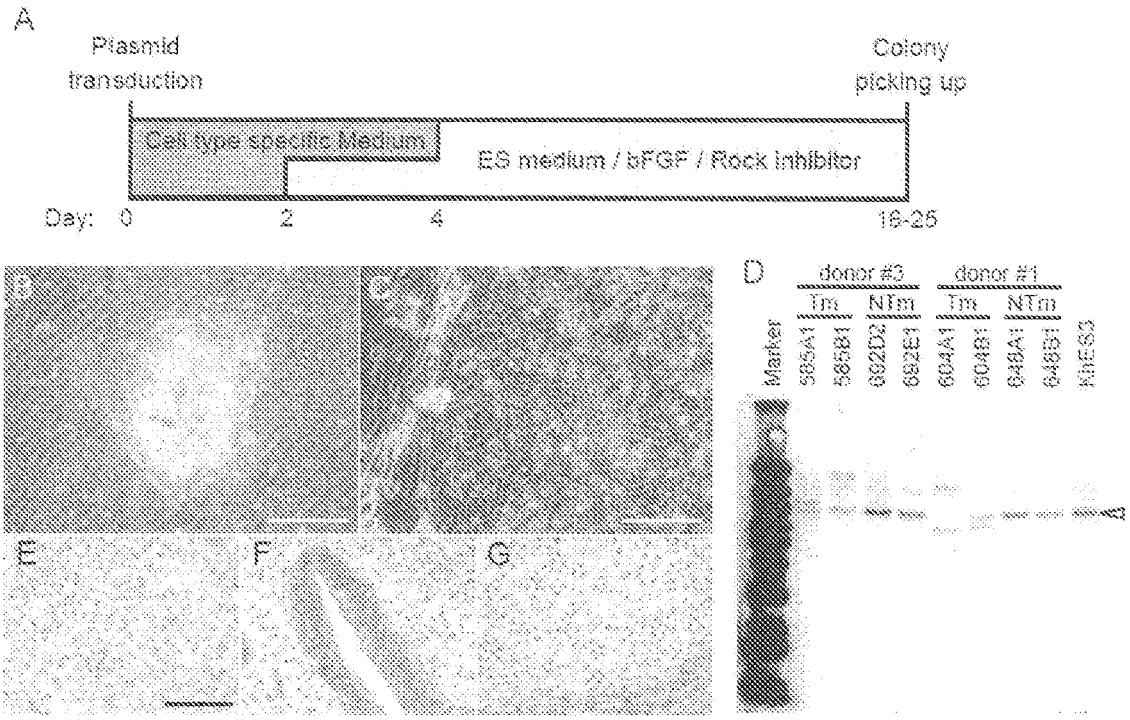
[図4]


120
80
40
0
HDF1388 (36F)
MEF feeder
SNL feeder
2 vec.
2 vec. + mock
2 vec. + EBNA1
control

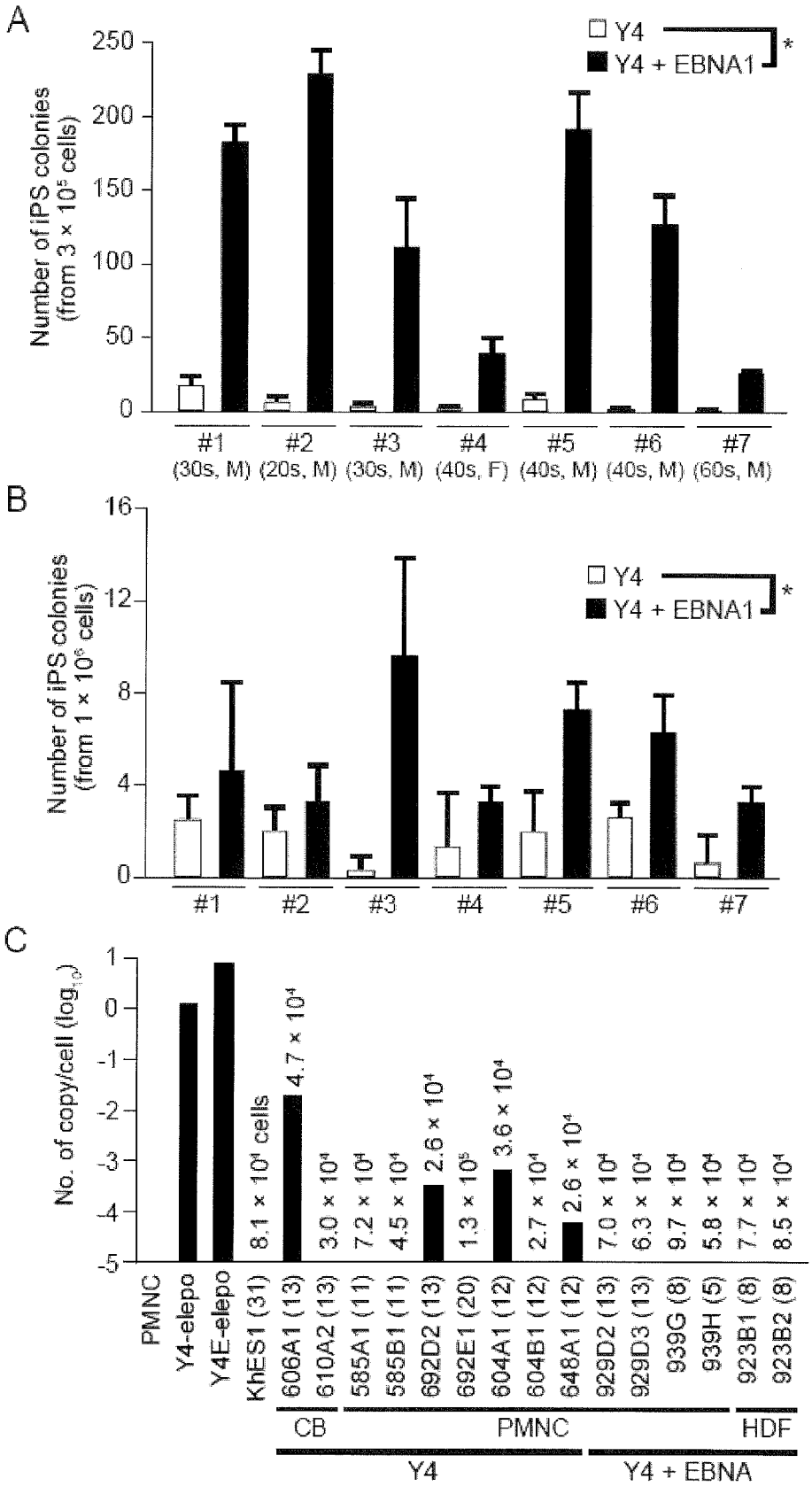
[図5]


Number of iPS colonies
50
40
30
20
10
0
Y4
Y4 +EBNA1
Y4
Y4 +EBNA1
MEF feeder
SNL feeder

[図6]


A
Plasmid transduction
Colony picking up
Cell type specific Medium
ES medium / bFGF / Rock inhibitor
Day: 0
2
4
16-25
E
F
G
D
donor #3
donor #1
Tm
NTm
Tm
NTm
Marker
585A1
585B1
692D2
692E1
604A1
604B1
648A1
648B1
KhES3

[図7]


A
Number of iPS colonies (from 3 × 10⁵ cells)
250
200
150
100
50
0
Y4
Y4 + EBNA1
*
#1 (30s, M)
#2 (20s, M)
#3 (30s, M)
#4 (40s, F)
#5 (40s, M)
#6 (40s, M)
#7 (60s, M)
B
Number of iPS colonies (from 1 × 10⁶ cells)
16
12
8
4
0
Y4
Y4 + EBNA1
*
#1
#2
#3
#4
#5
#6
#7
C
No. of copy/cell (log10)
1
0
-1
-2
-3
-4
-5
8.1 × 10⁴ cells
4.7 × 10⁴
3.0 × 10⁴
7.2 × 10⁴
4.5 × 10⁴
2.6 × 10⁴
1.3 × 10⁵
3.6 × 10⁴
2.7 × 10⁴
2.6 × 10⁴
7.0 × 10⁴
6.3 × 10⁴
9.7 × 10⁴
5.8 × 10⁴
7.7 × 10⁴
8.5 × 10⁴
PMNC
Y4-elepo
Y4E-elepo
KhES1 (31)
606A1 (13)
610A2 (13)
585A1 (11)
585B1 (11)
692D2 (13)
692E1 (20)
604A1 (12)
604B1 (12)
648A1 (12)
929D2 (13)
929D3 (13)
939G (8)
939H (5)
923B1 (8)
923B2 (8)
CB
PMNC
HDF
Y4
Y4 + EBNA