Fig. 1

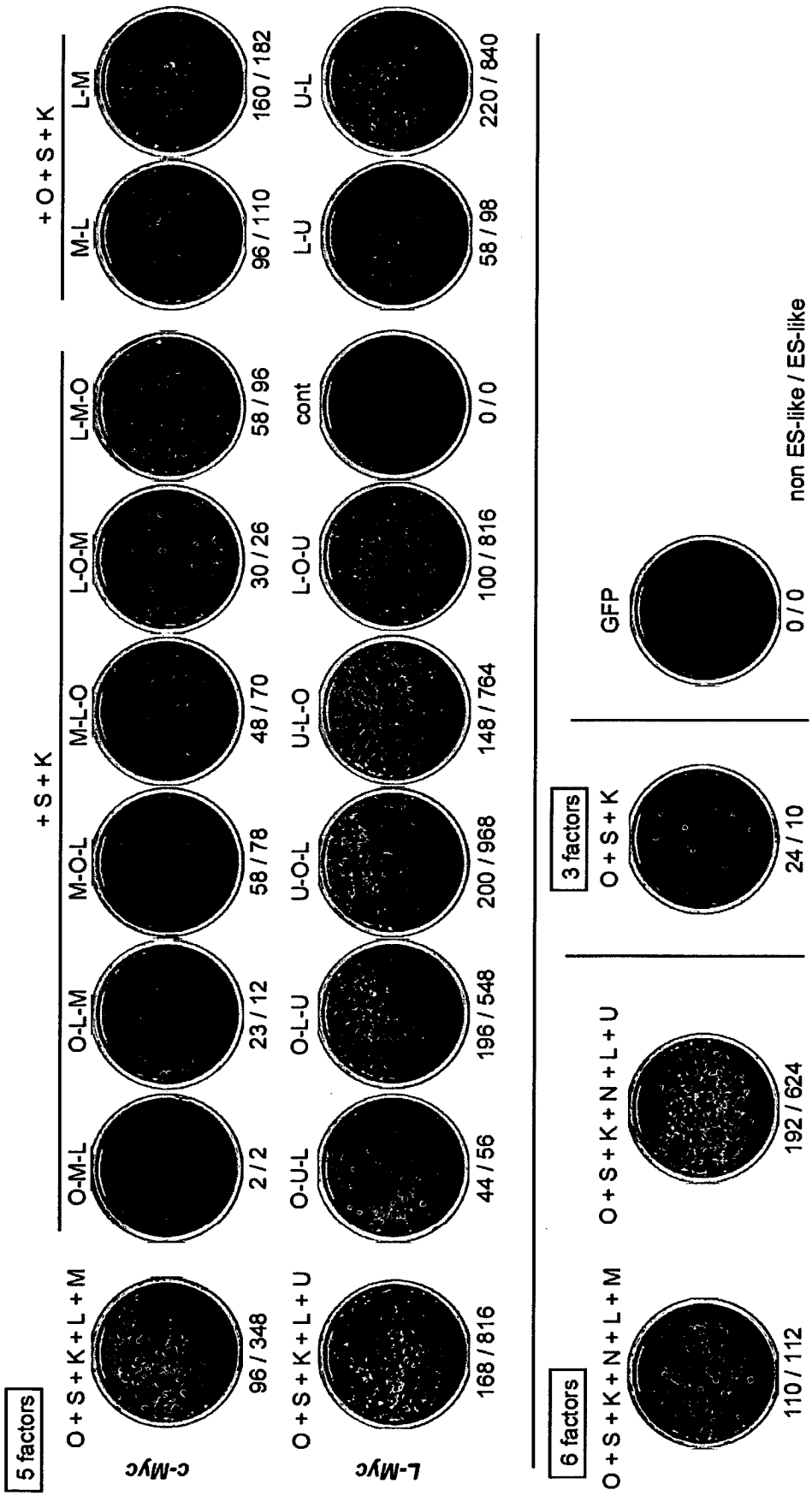

5 factors
O+S+K+L+M
c-Myc
96 / 348
+S+K
O-M-L
2 / 2
O-L-M
23 / 12
M-O-L
58 / 78
M-L-O
48 / 70
L-O-M
30 / 26
L-M-O
58 / 96
+O+S+K
M-L
96 / 110
L-M
160 / 182
O+S+K+L+U
L-Myc
168 / 816
O-U-L
44 / 56
O-L-U
196 / 548
U-O-L
200 / 968
U-L-O
148 / 764
L-O-U
100 / 816
cont
0 / 0
L-U
58 / 98
U-L
220 / 840
6 factors
O+S+K+N+L+M
110 / 112
O+S+K+N+L+U
192 / 624
3 factors
O+S+K
24 / 10
GFP
0 / 0
non ES-like / ES-like

Fig. 2

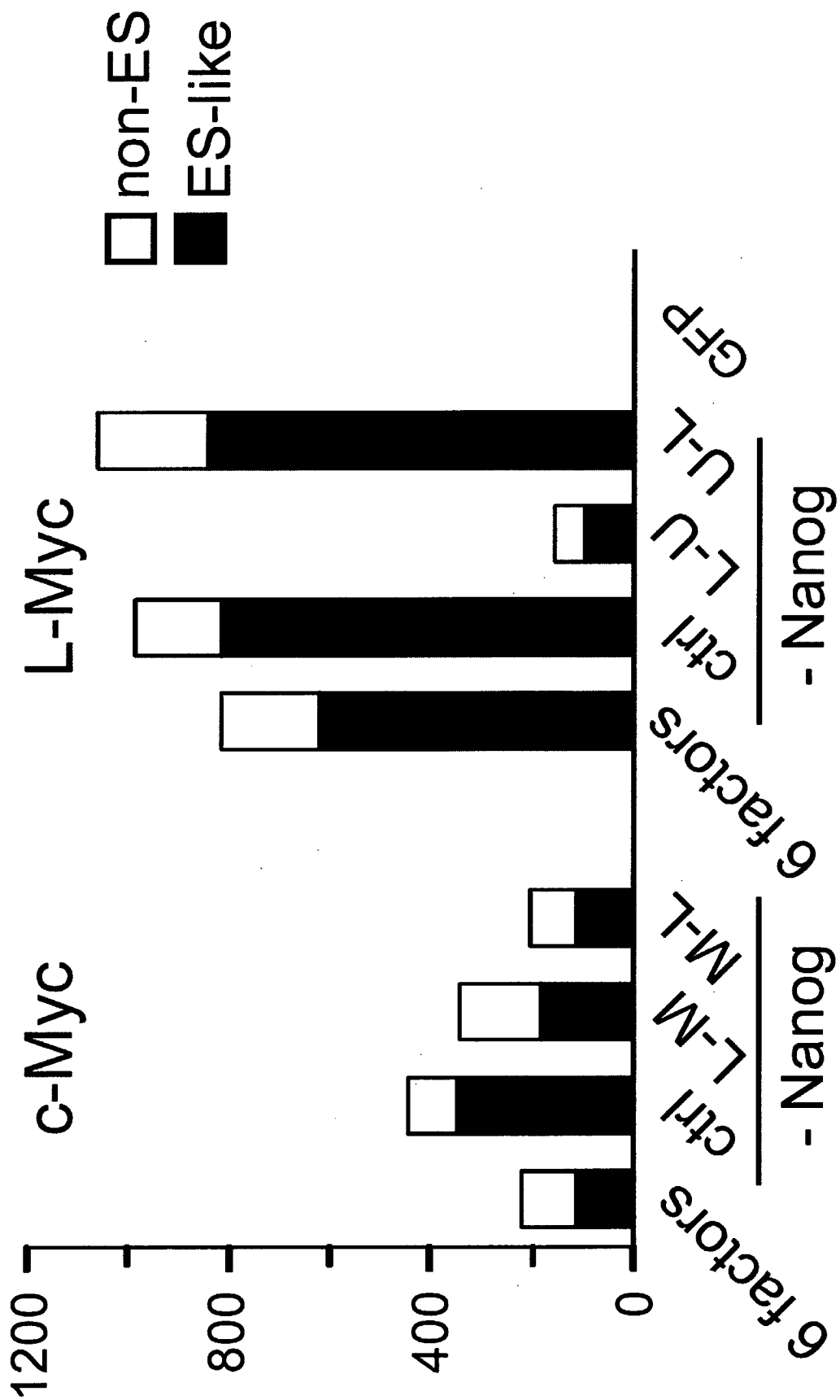
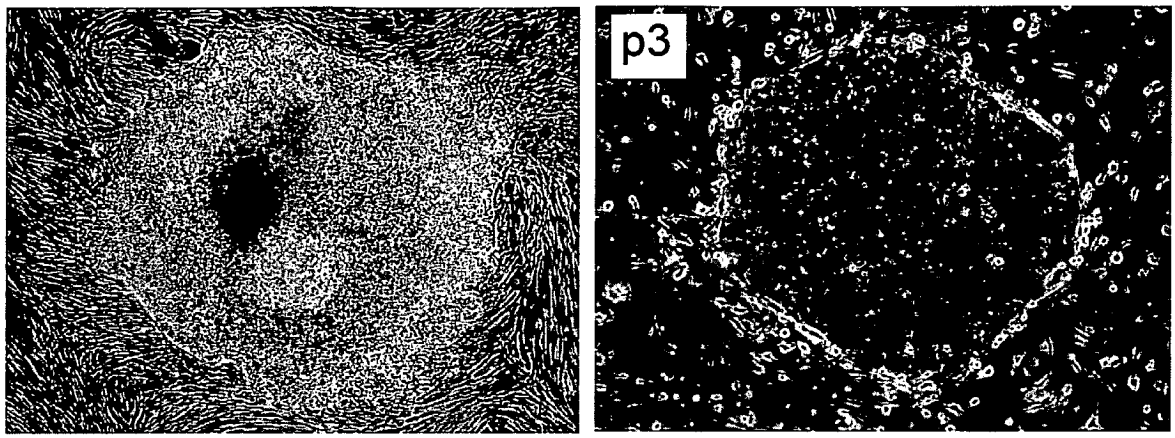
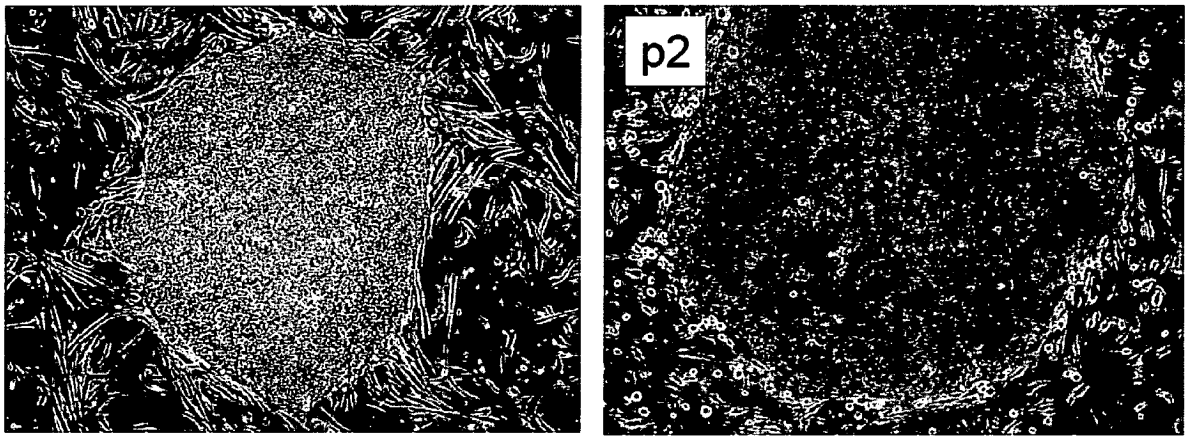

non-ES
ES-like
c-Myc
L-Myc
1200
800
400
0
6 factors
- Nanog
Ctrl
L-M
M-L
6 factors
- Nanog
Ctrl
L-U
U-L
GFP

Fig. 3



1 colony / 2 x 10^5 cells

Fig. 4



1 colony / 1 x 10^5 cells

Fig. 5

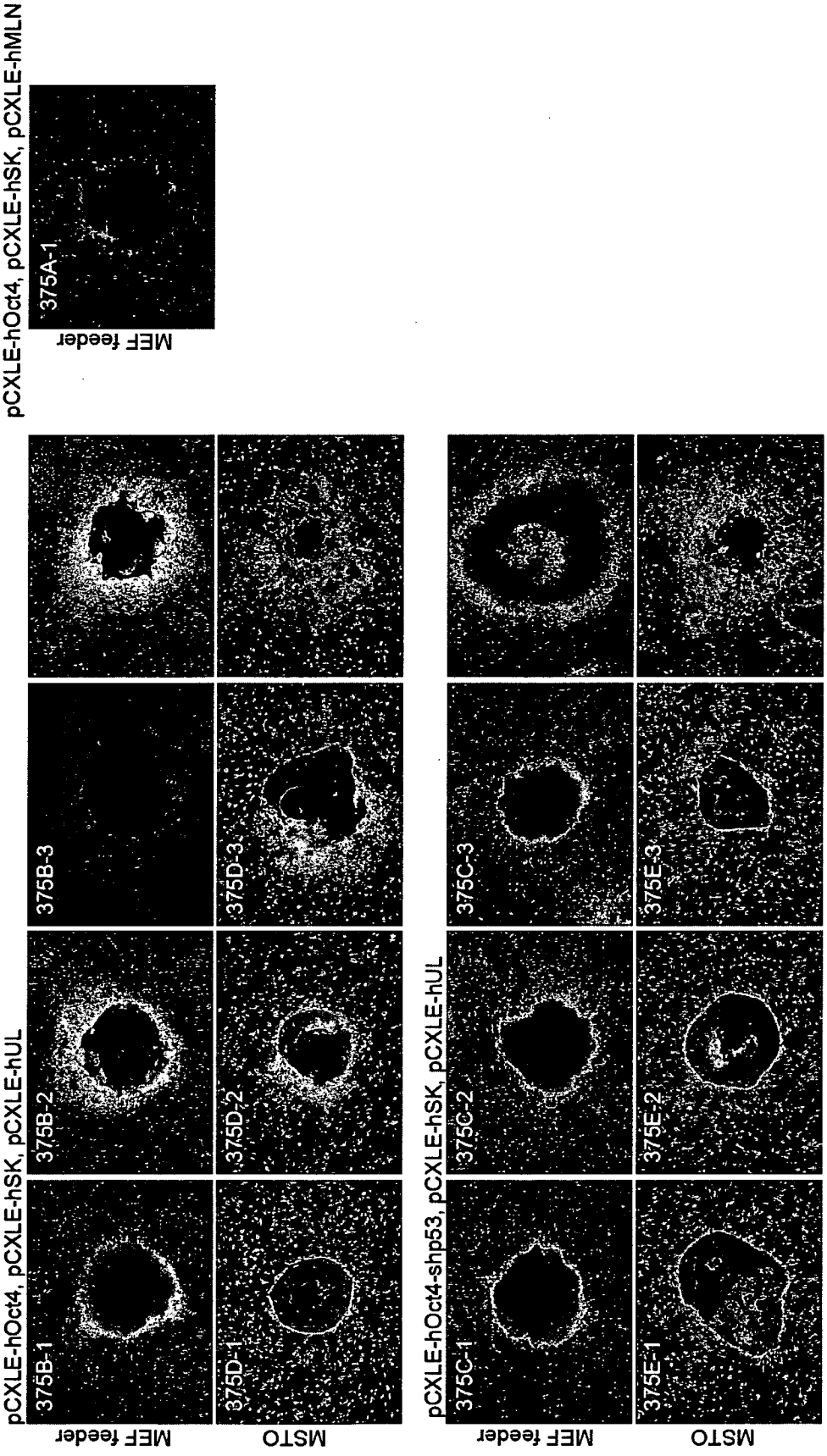

pCXLE-hOct4, pCXLE-hSK, pCXLE-hMLN
MEF feeder
375A-1
pCXLE-hOct4, pCXLE-hSK, pCXLE-hUL
MEF feeder
375B-1
375B-2
375B-3
MSTO
375D-1
375D-2
375D-3
pCXLE-hOct4-shp53, pCXLE-hSK, pCXLE-hUL
MEF feeder
375C-1
375C-2
375C-3
MSTO
375E-1
375E-2
375E-3

Fig. 6

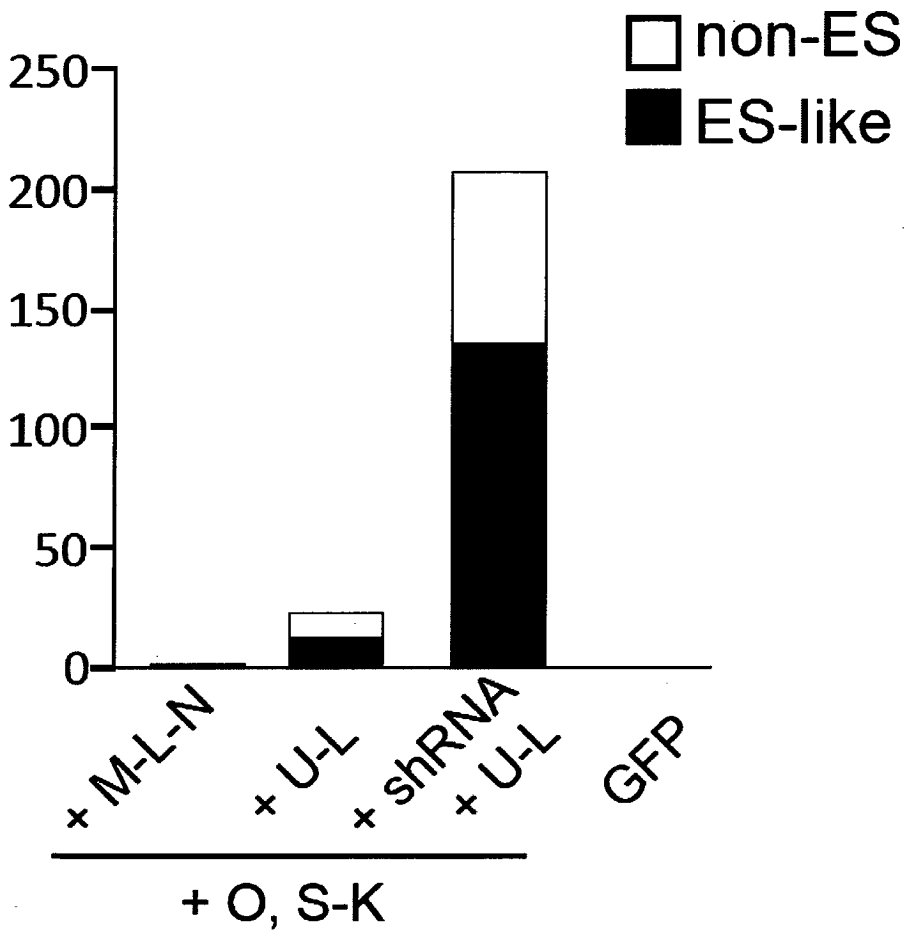


Fig. 7

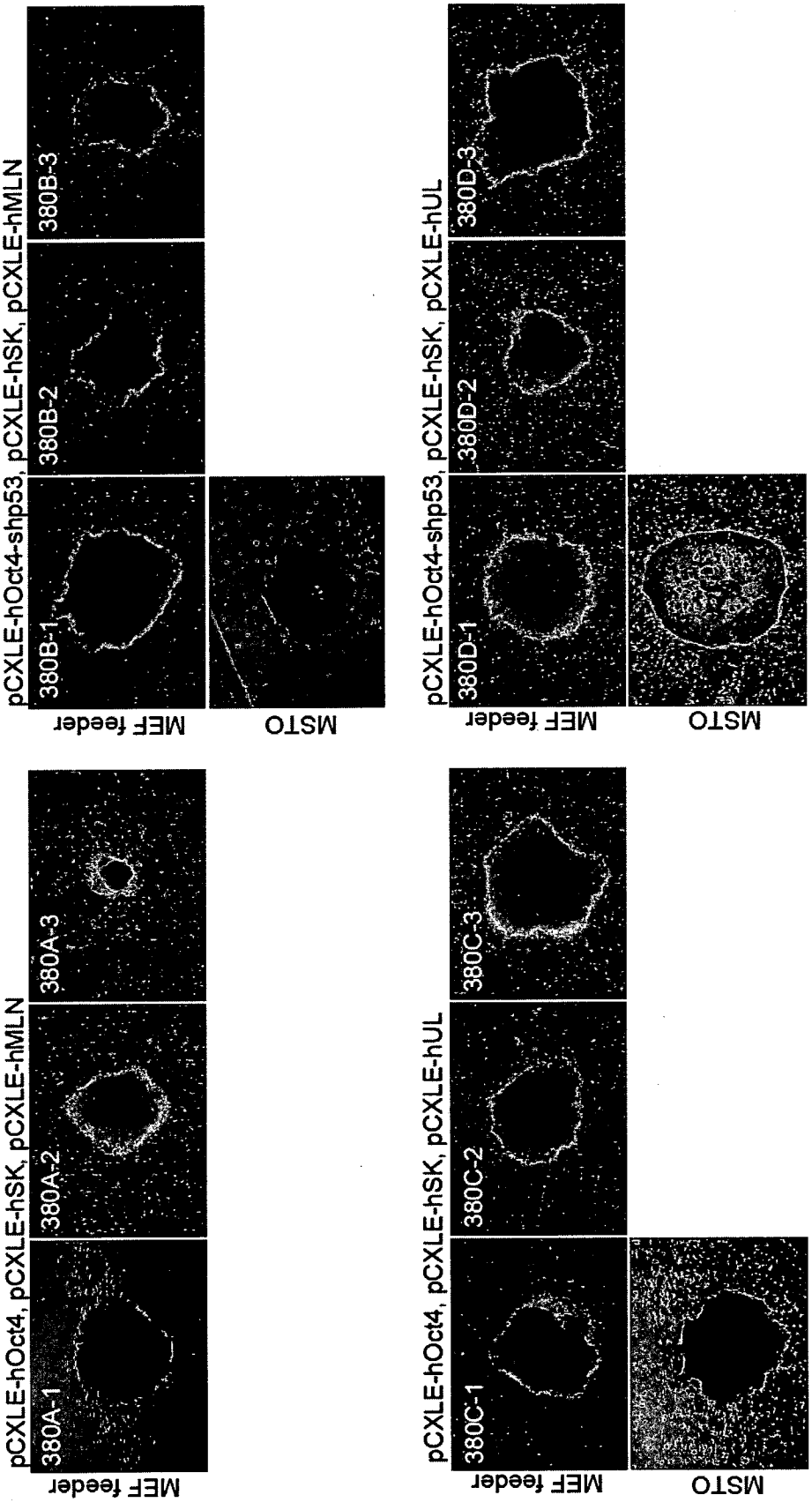

pCXLE-hOct4-shp53, pCXLE-hSK, pCXLE-hMLN
380B-1
380B-2
380B-3
MEF feeder
MSTO
pCXLE-hOct4-shp53, pCXLE-hSK, pCXLE-hUL
380D-1
380D-2
380D-3
MEF feeder
MSTO
pCXLE-hOct4, pCXLE-hSK, pCXLE-hMLN
380A-1
380A-2
380A-3
MEF feeder
pCXLE-hOct4, pCXLE-hSK, pCXLE-hUL
380C-1
380C-2
380C-3
MEF feeder
MSTO

Fig. 8

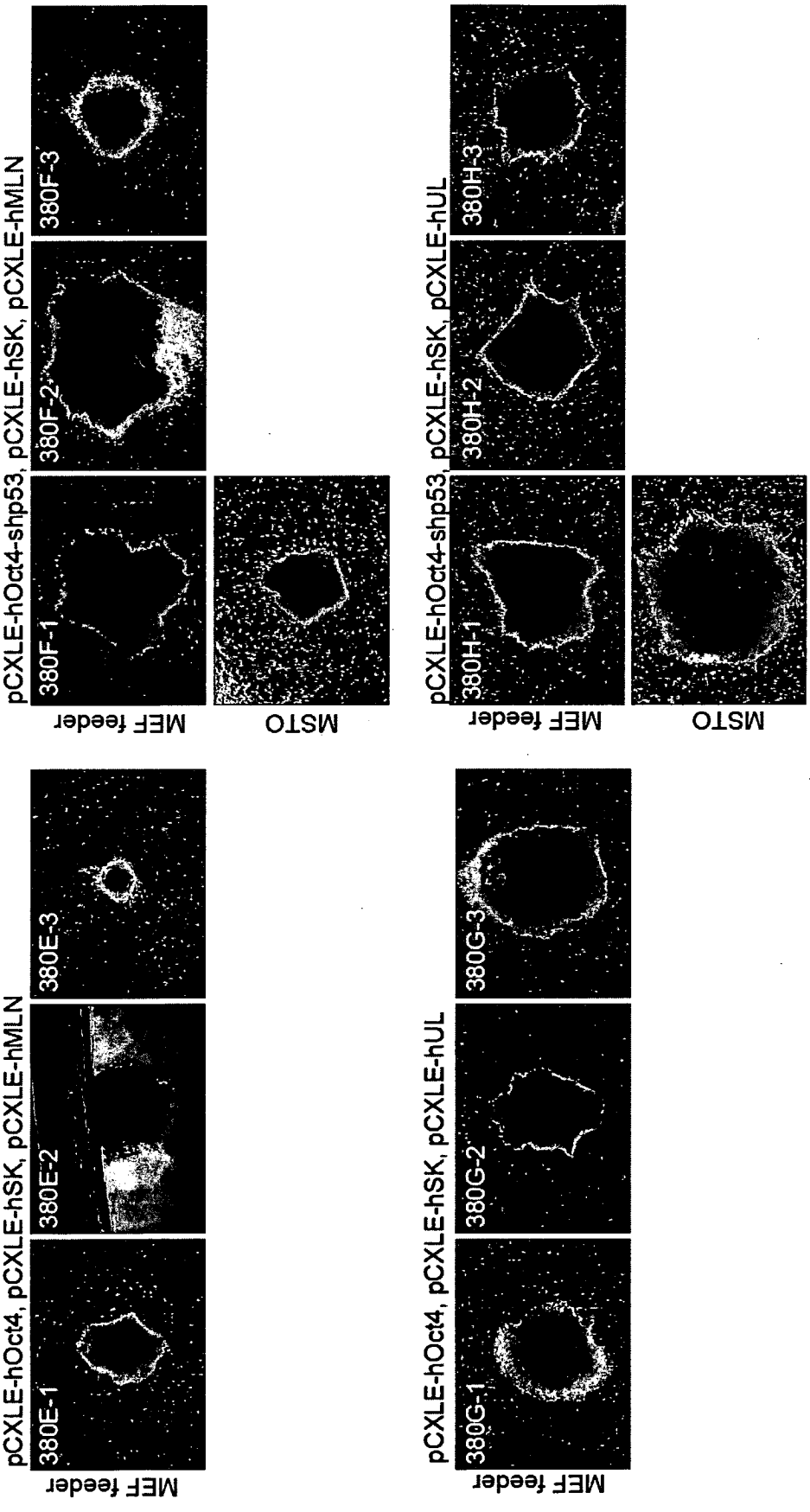

pCXLE-hOct4-shp53, pCXLE-hSK, pCXLE-hMLN
380F-1
380F-2
380F-3
MEF feeder
MSTO
pCXLE-hOct4-shp53, pCXLE-hSK, pCXLE-hUL
380H-1
380H-2
380H-3
MEF feeder
MSTO
pCXLE-hOct4, pCXLE-hSK, pCXLE-hMLN
380E-1
380E-2
380E-3
MEF feeder
pCXLE-hOct4, pCXLE-hSK, pCXLE-hUL
380G-1
380G-2
380G-3
MEF feeder

Fig. 9

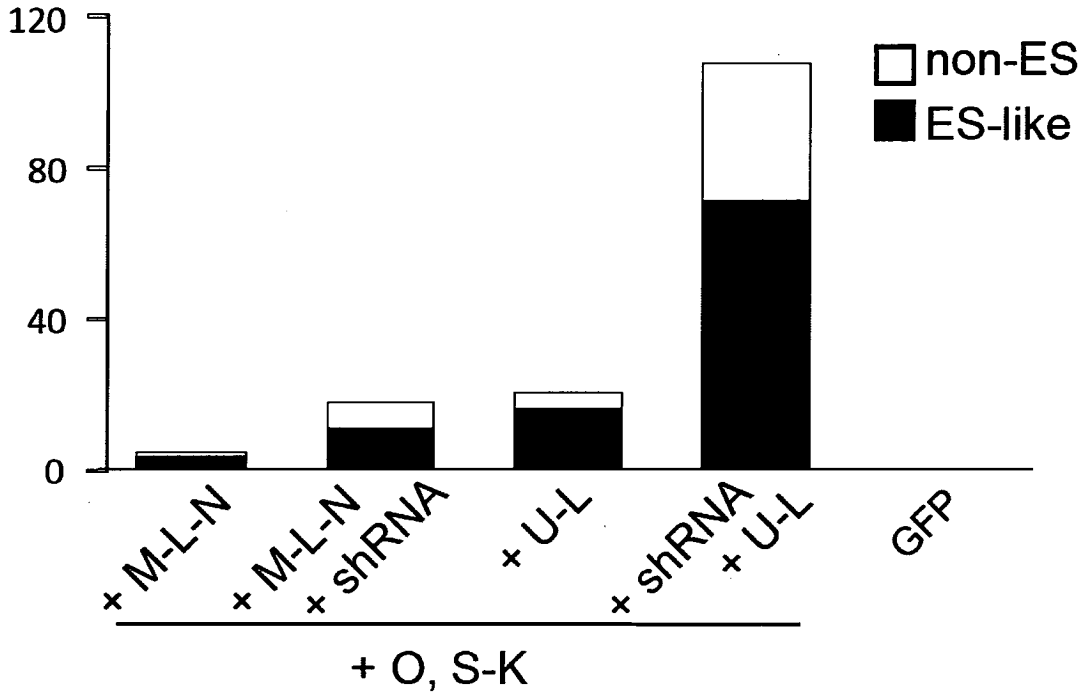

120
80
40
0
non-ES
ES-like
+ M-L-N
+ M-L-N + shRNA
+ U-L
+ shRNA + U-L
GFP
+ O, S-K

Fig. 10

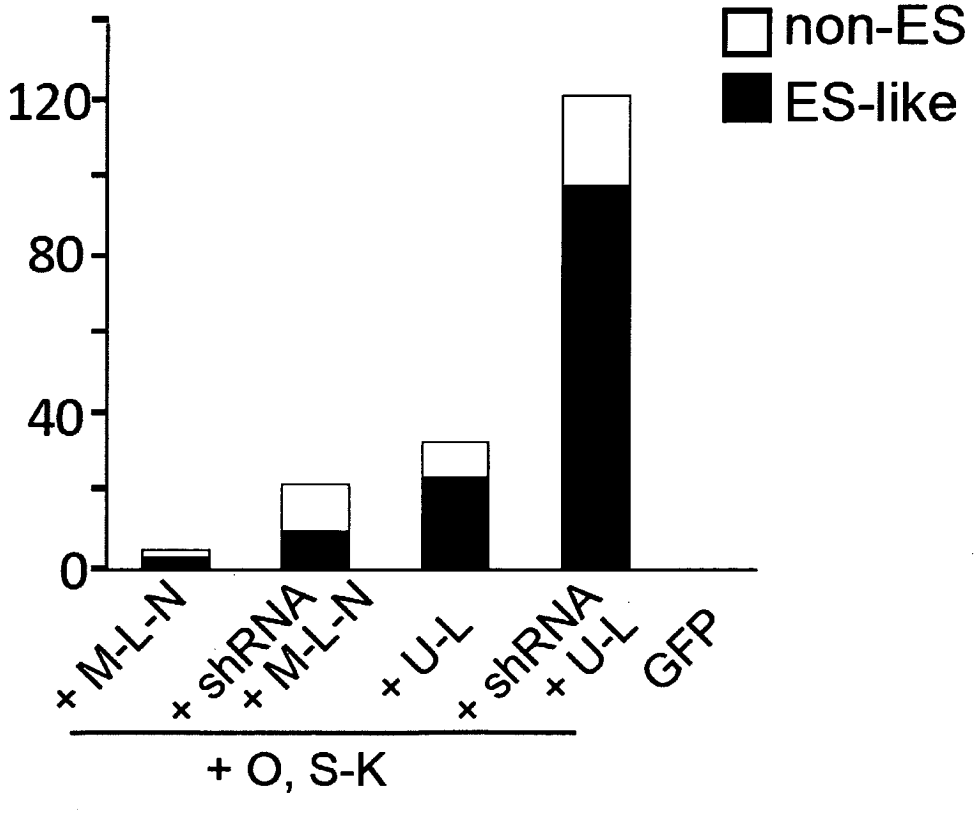

non-ES
ES-like
120
80
40
0
+ M-L-N
+ shRNA + M-L-N
+ U-L
+ shRNA + U-L
GFP
+ O, S-K

Fig. 11

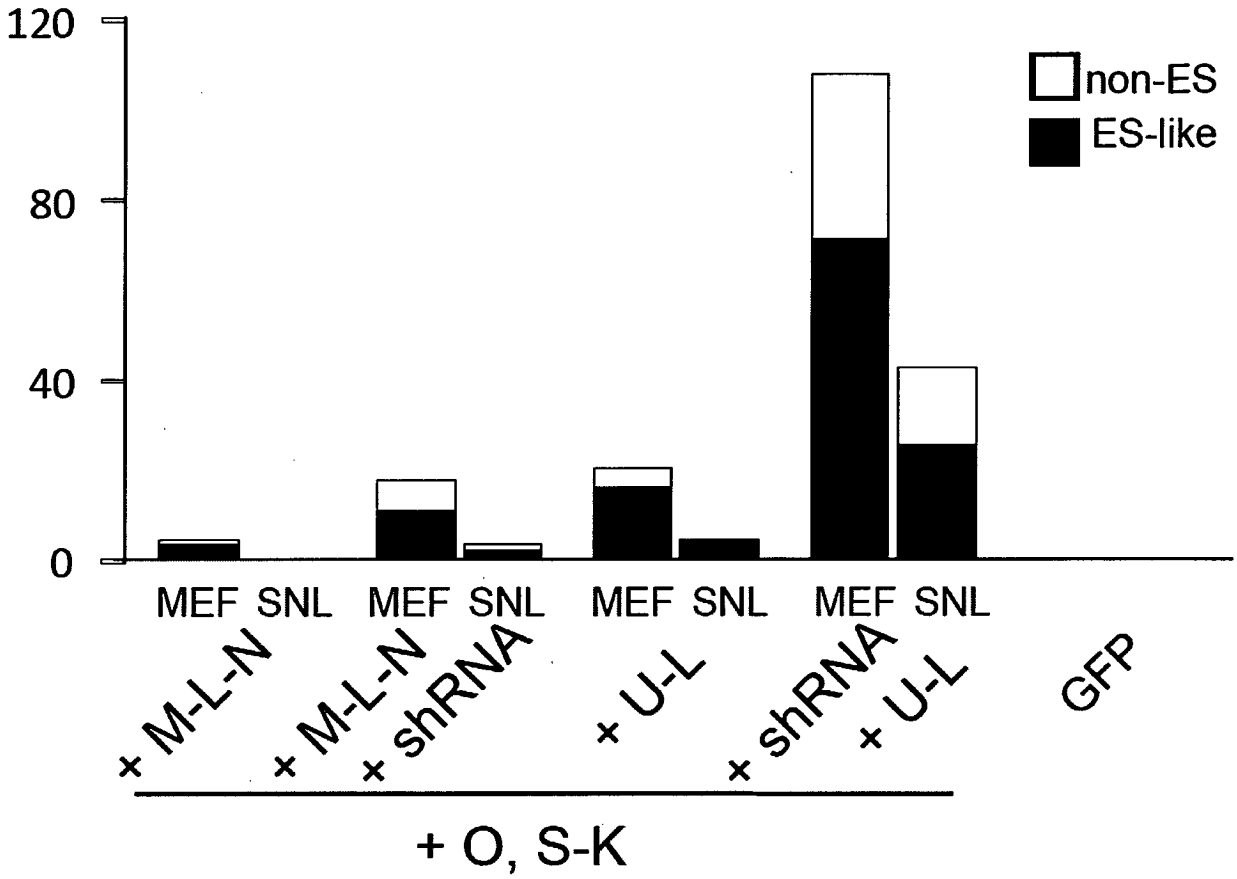

120
80
40
0
non-ES
ES-like
MEF SNL MEF SNL MEF SNL MEF SNL
+ M-L-N
+ M-L-N + shRNA
+ U-L
+ shRNA + U-L
GFP
+ O, S-K

Fig. 12

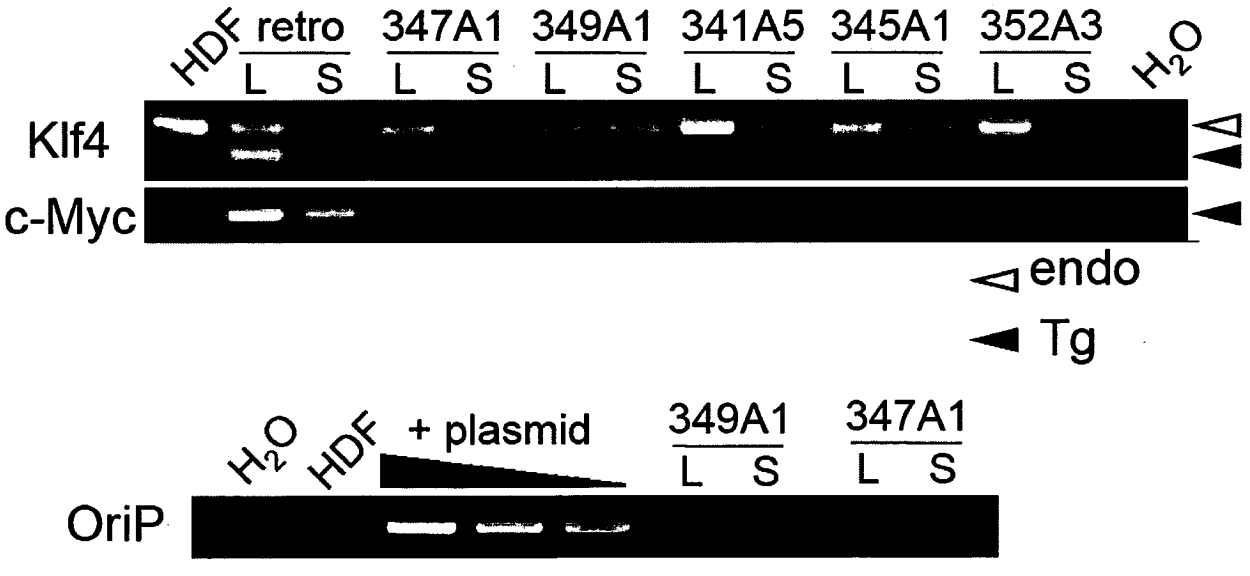

HDF
retro
347A1
349A1
341A5
345A1
352A3
H2O
L S L S L S L S L S L S
Klf4
c-Myc
endo
Tg
H2O
HDF
+ plasmid
349A1
347A1
L S L S
OriP

Fig. 13

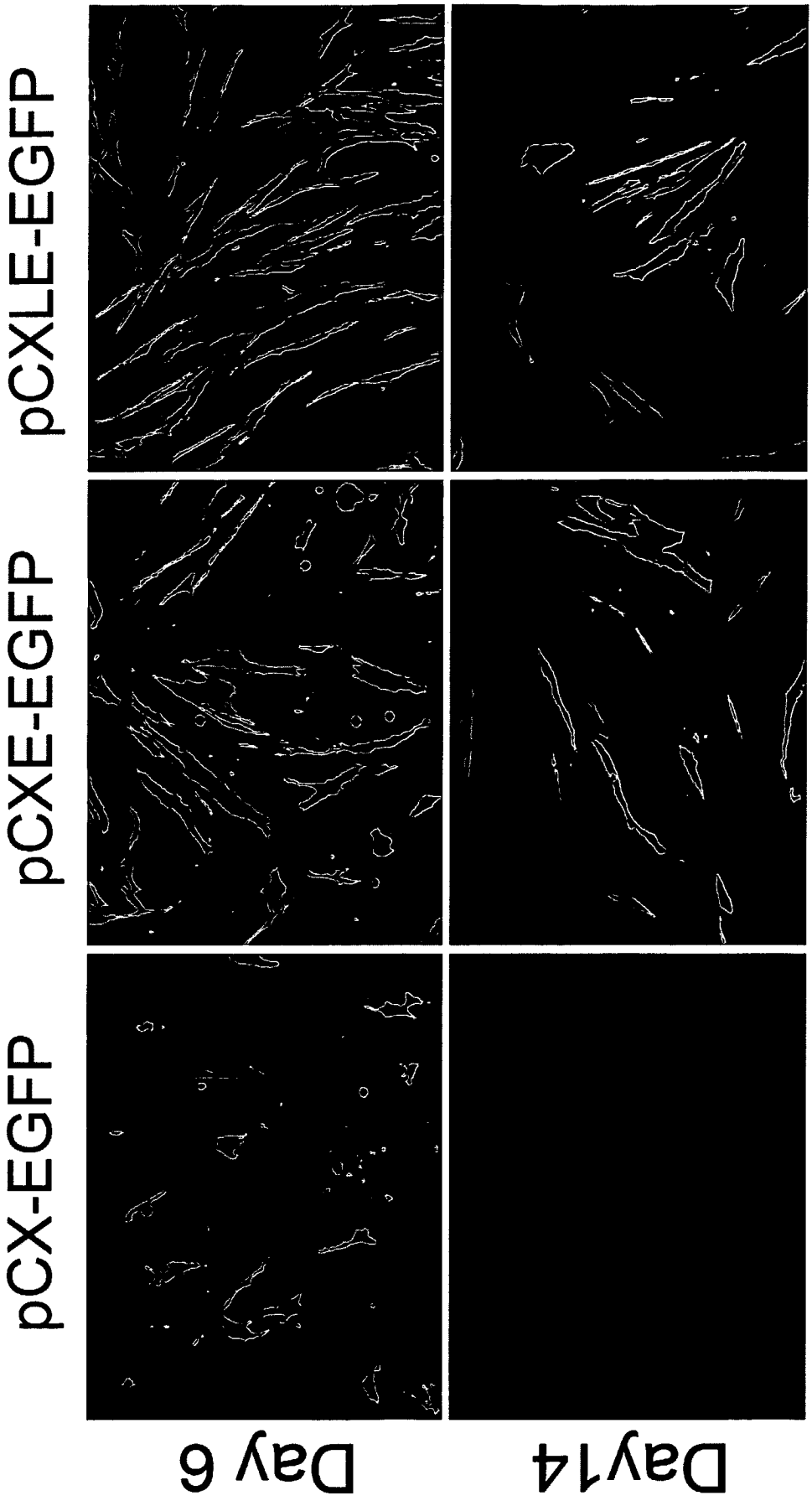


Fig. 14

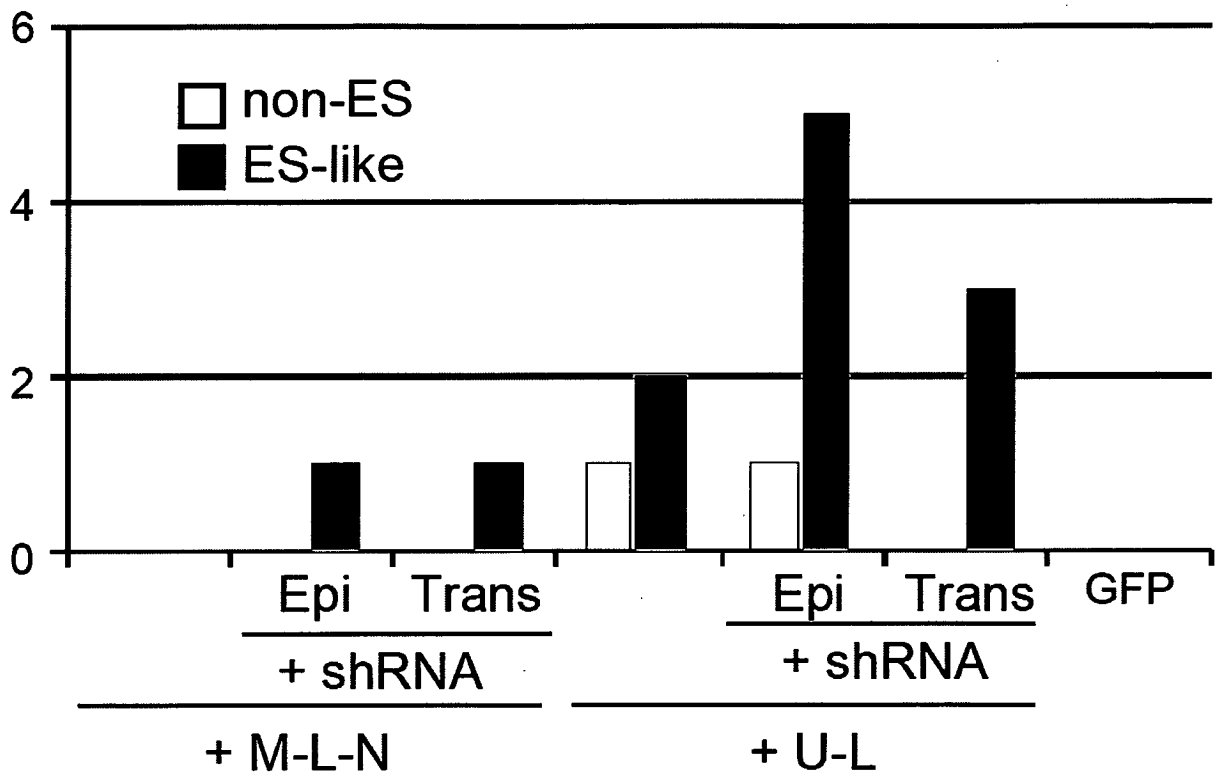

6
4
2
0
non-ES
ES-like
Epi
Trans
Epi
Trans
GFP
+ shRNA
+ shRNA
+ M-L-N
+ U-L

Fig. 15

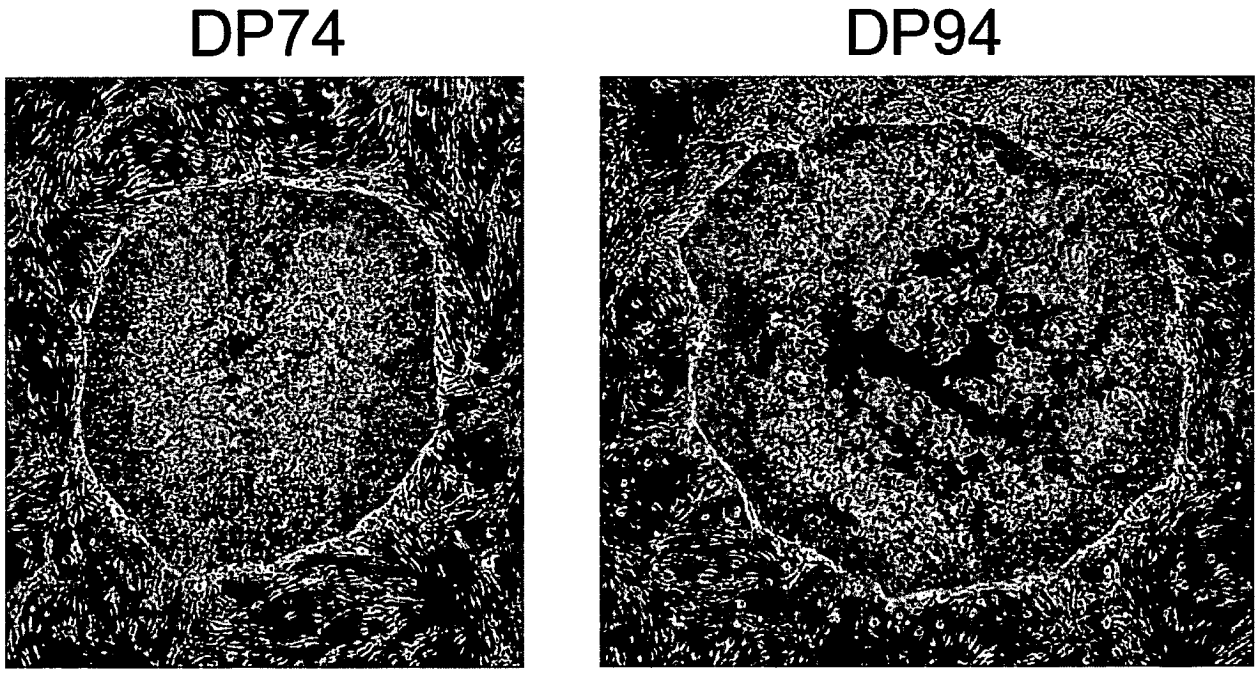

DP74
DP94

Fig. 16

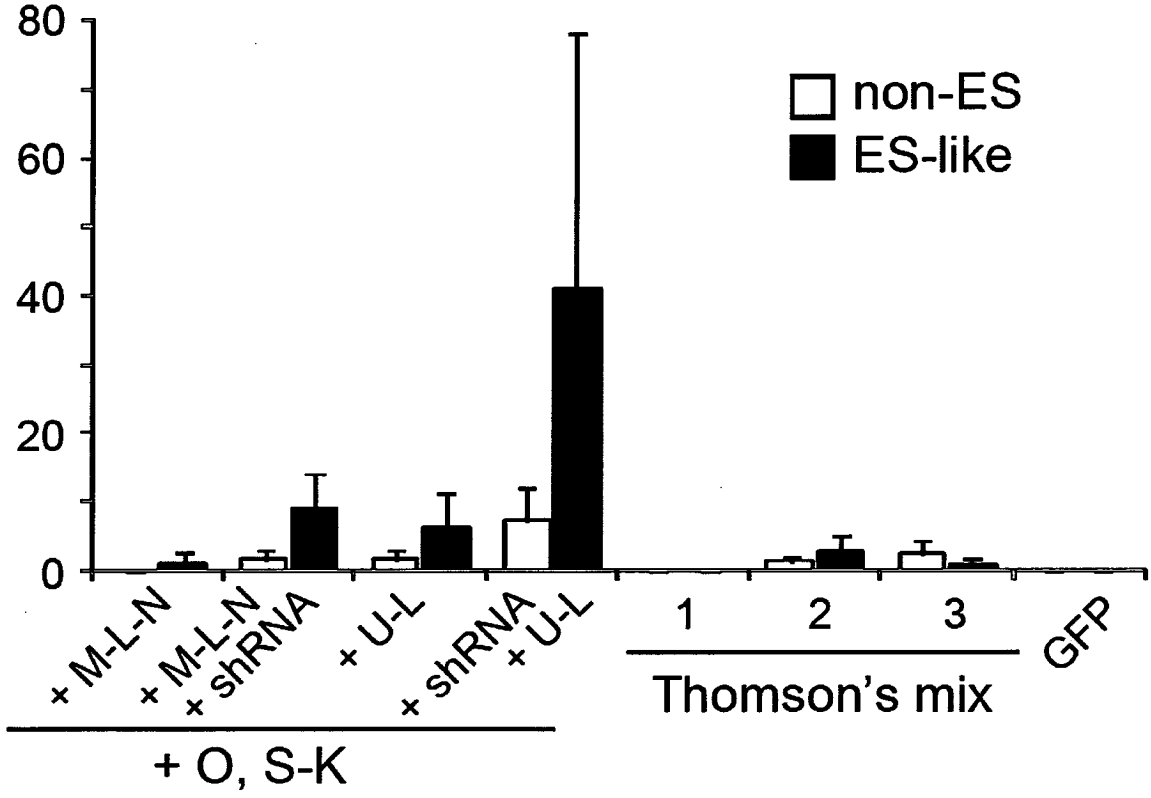

80
60
40
20
0
non-ES
ES-like
+ M-L-N
+ M-L-N + shRNA
+ U-L
+ shRNA + U-L
1
2
3
GFP
Thomson's mix
+ O, S-K

Fig. 17

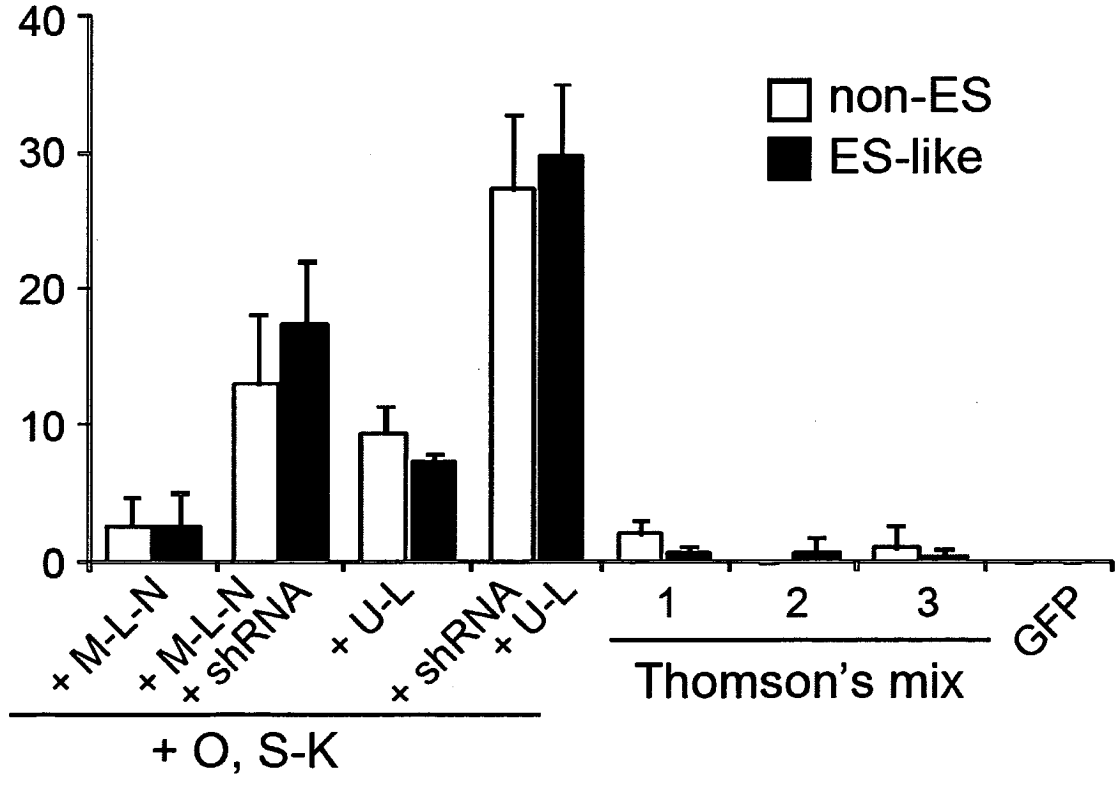

40
30
20
10
0
non-ES
ES-like
+ M-L-N
+ M-L-N + shRNA
+ U-L
+ shRNA + U-L
1
2
3
GFP
Thomson's mix
+ O, S-K

Fig. 18

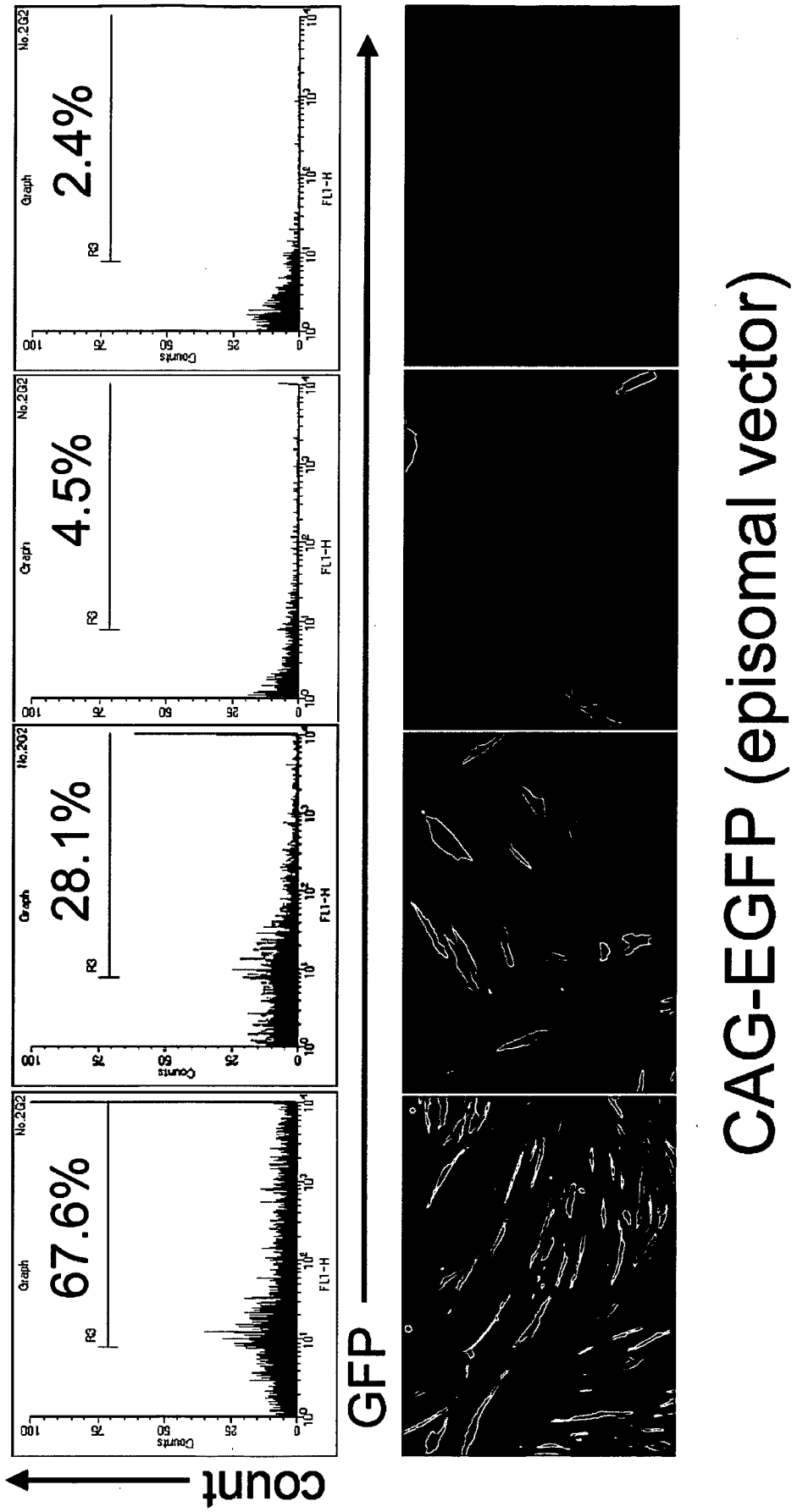


Fig. 19

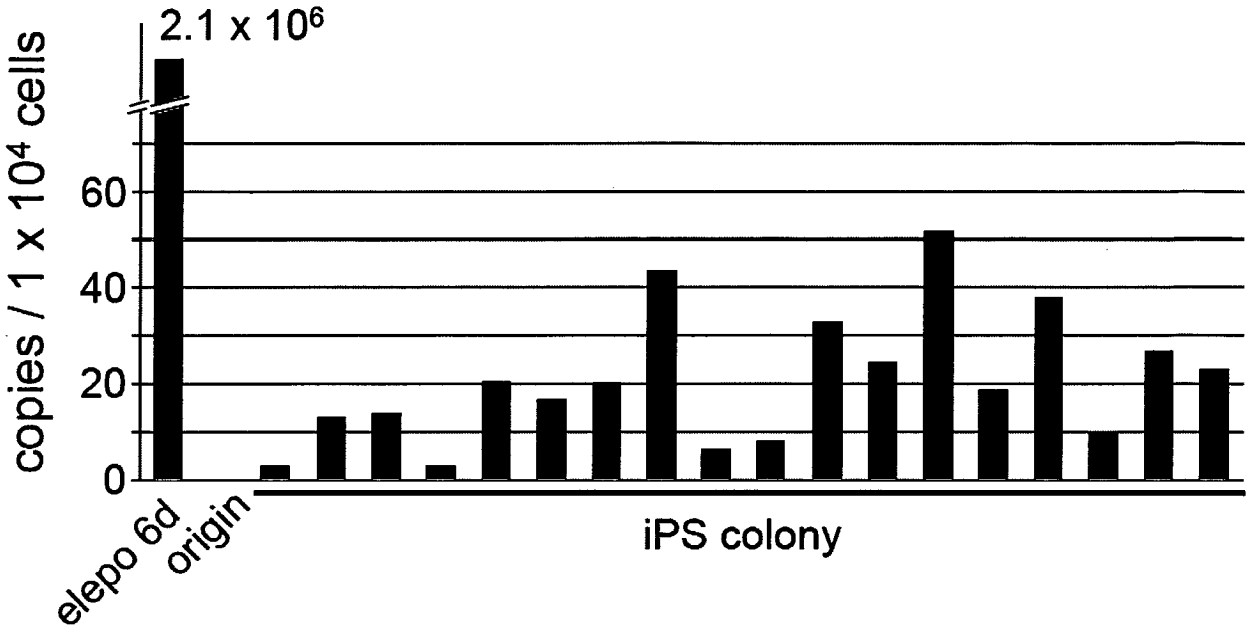

2.1 x 10^6
copies / 1 x 10^4 cells
60
40
20
0
elepo 6d
origin
iPS colony

Fig. 20

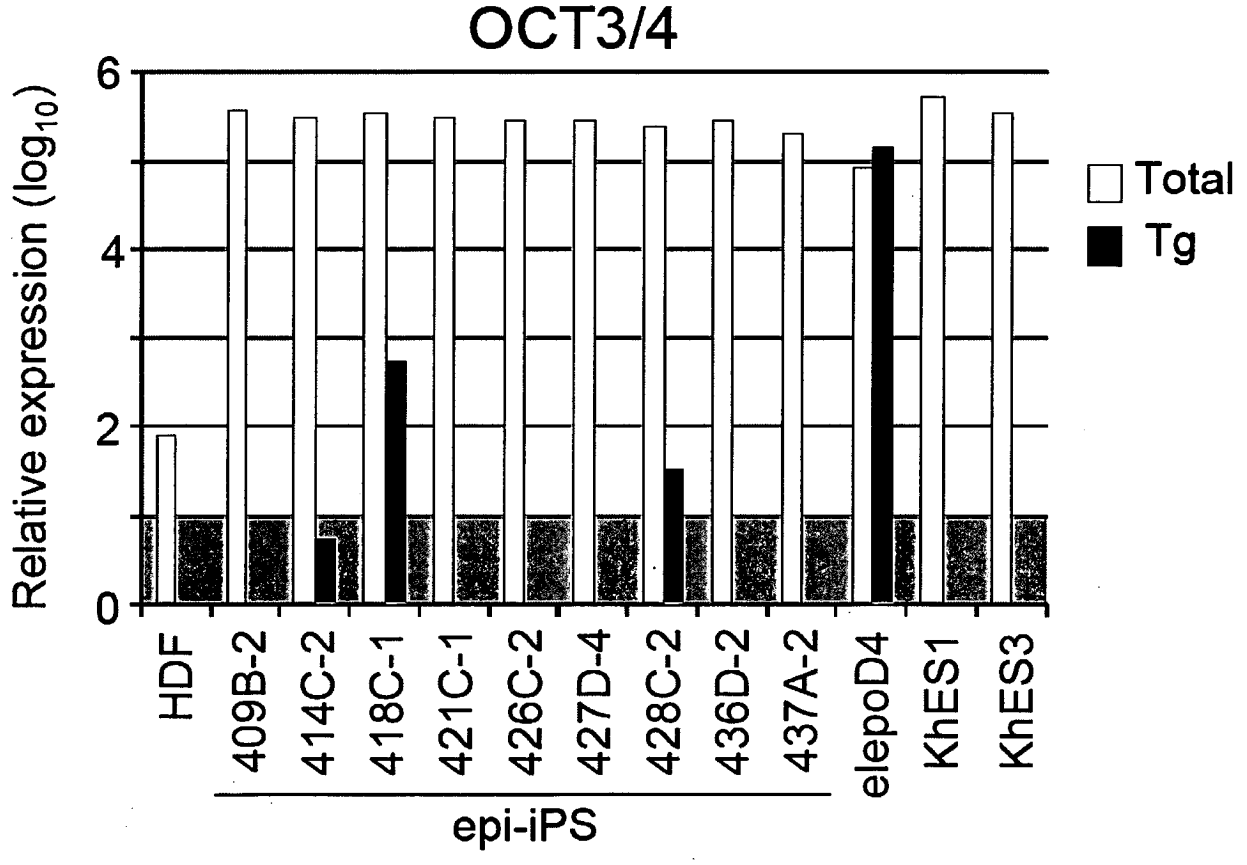

OCT3/4
Relative expression (log10)
6
4
2
0
Total
Tg
HDF
409B-2
414C-2
418C-1
421C-1
426C-2
427D-4
428C-2
436D-2
437A-2
elepoD4
KhES1
KhES3
epi-iPS

Fig. 21

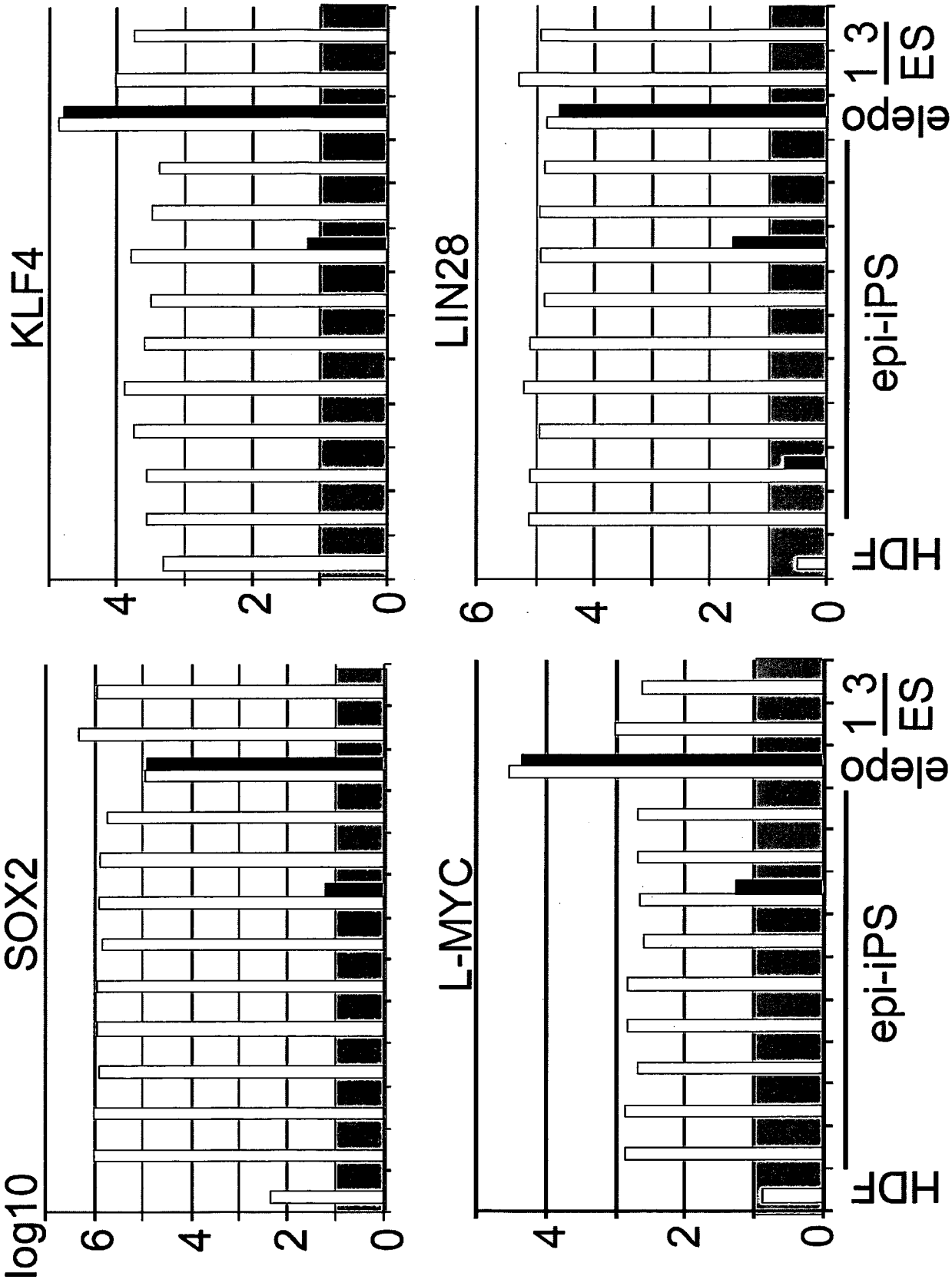


Fig. 22

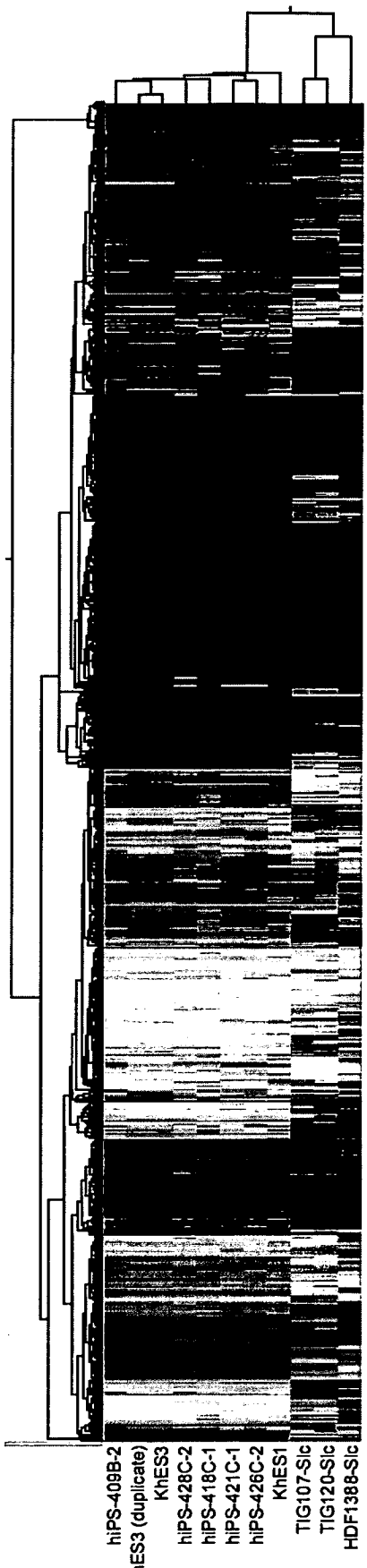

hiPS-409B-2
KhES3 (duplicate)
KhES3
hiPS-428C-2
hiPS-418C-1
hiPS-421C-1
hiPS-426C-2
KhES1
TIG107-Slc
TIG120-Slc
HDF1388-Slc

Fig. 23

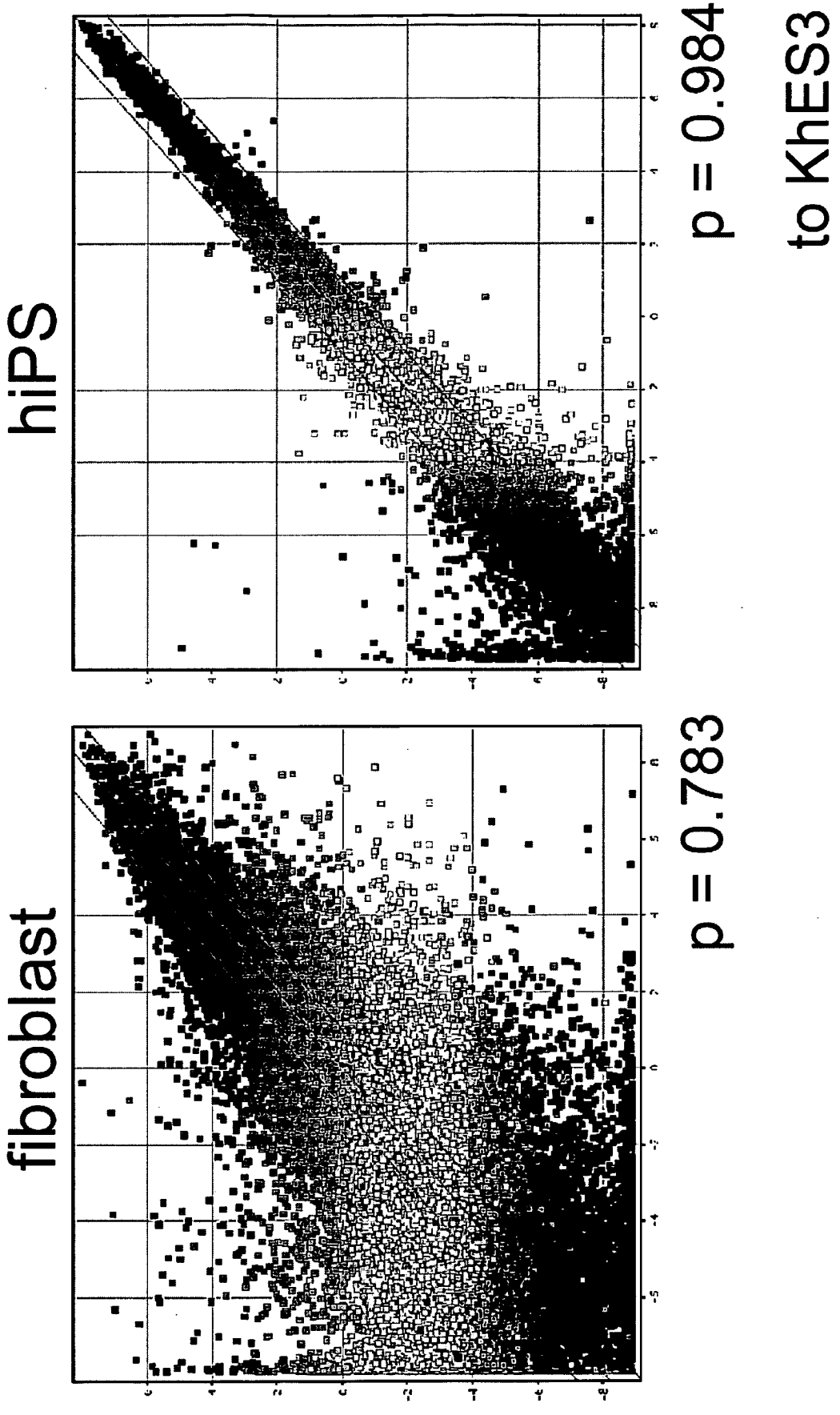


Fig. 24

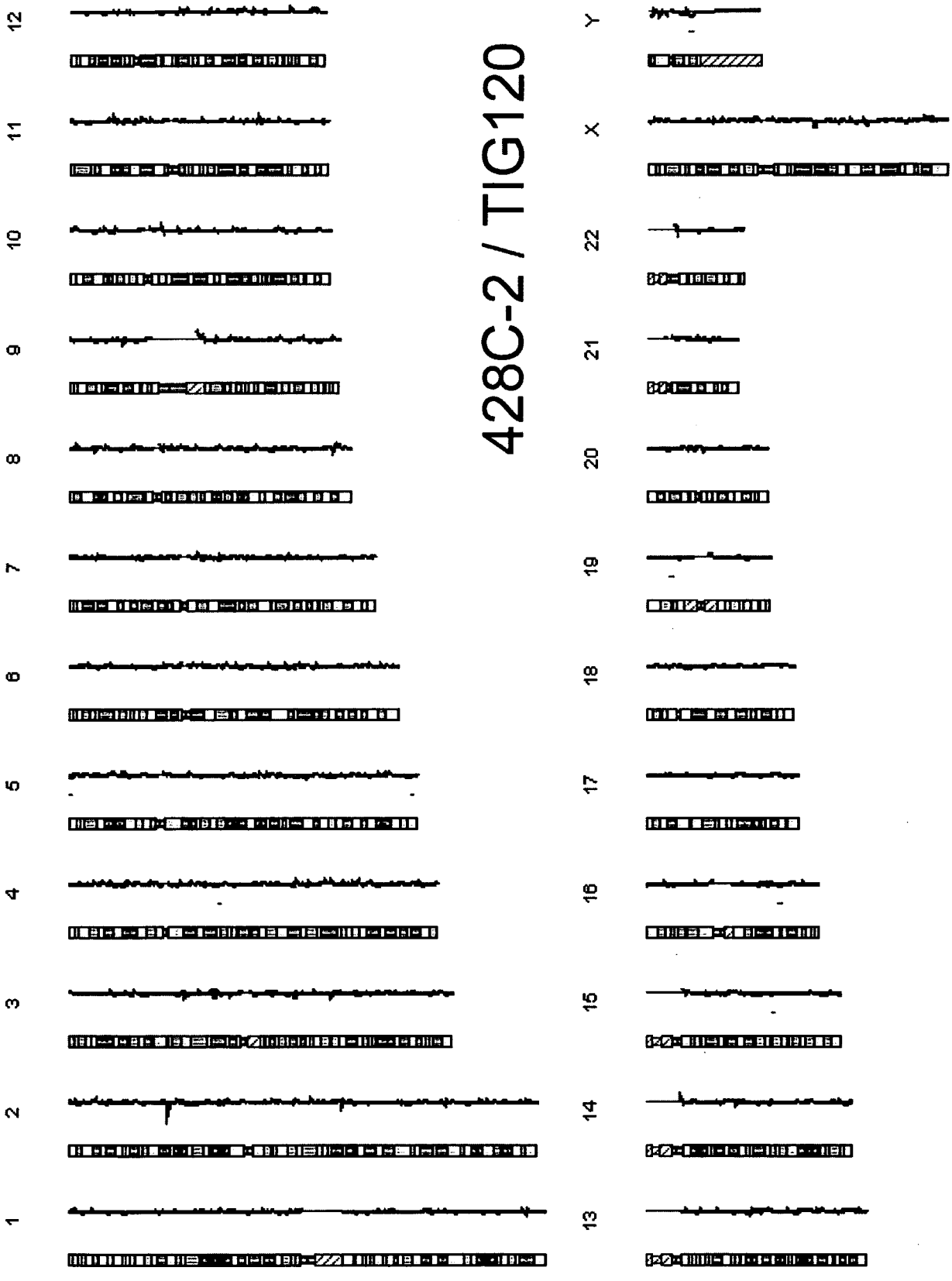


Fig. 25

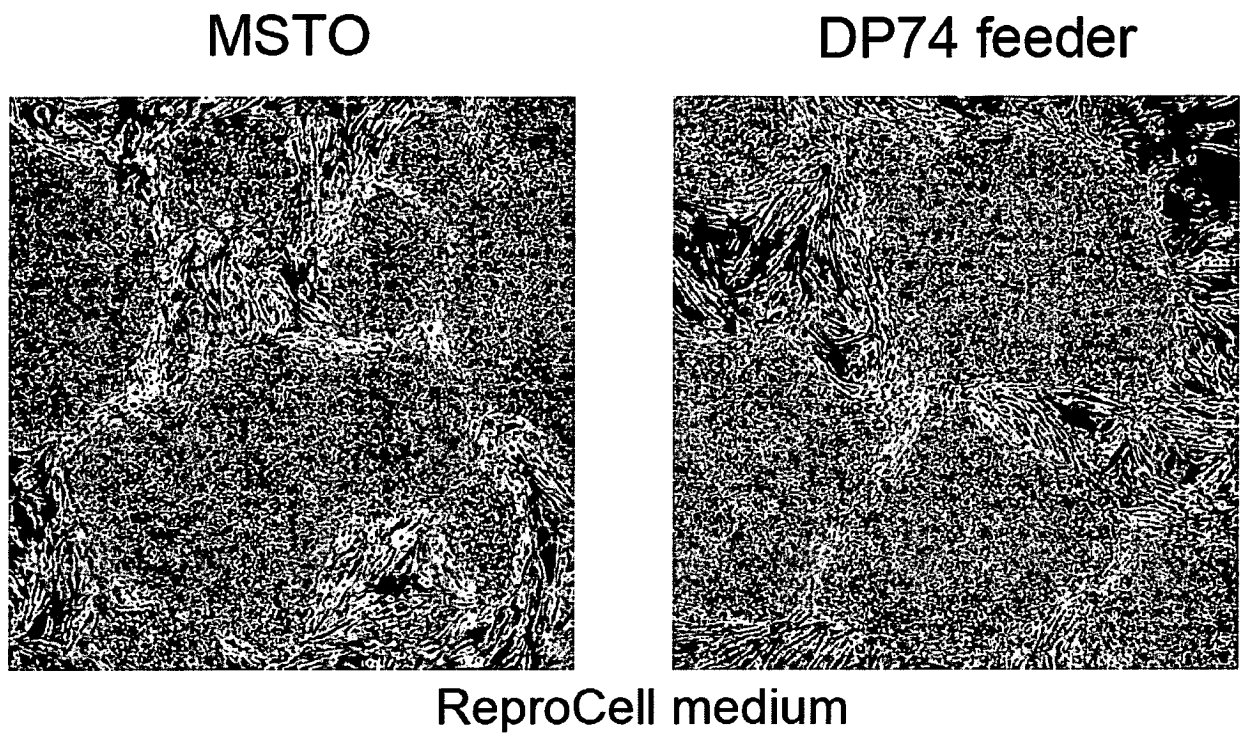

MSTO
DP74 feeder
ReproCell medium

Fig. 26

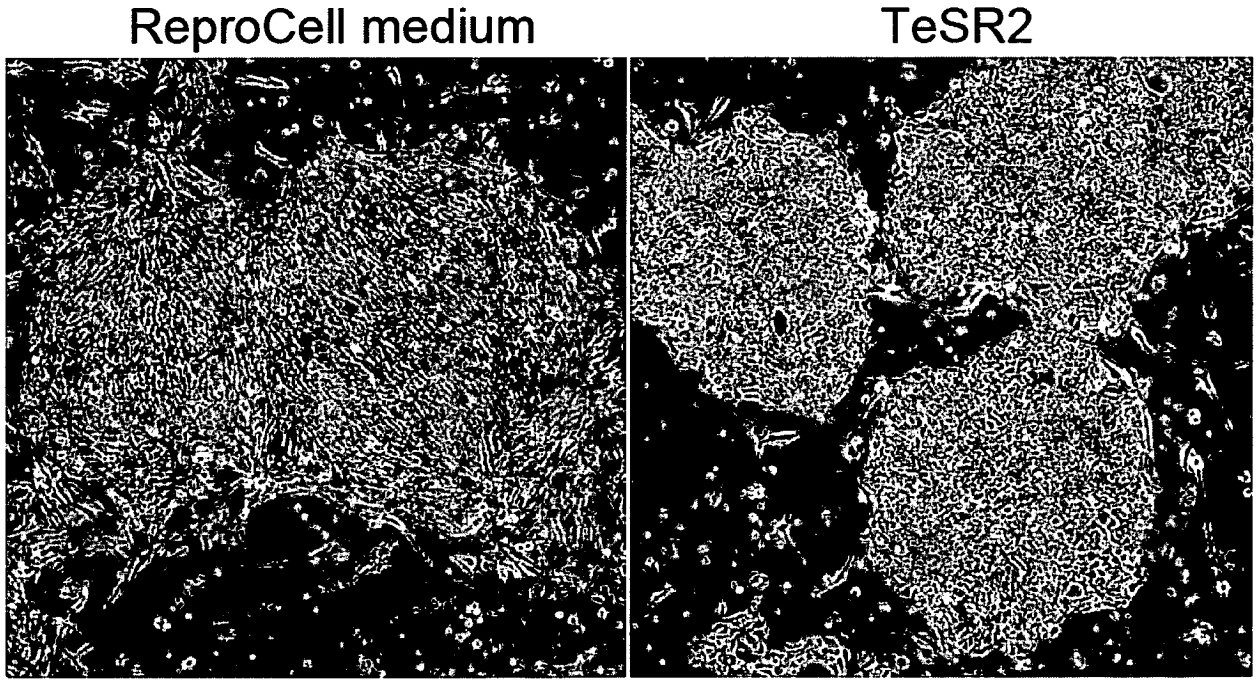

ReproCell medium
TeSR2
CellStart coat

Fig. 27

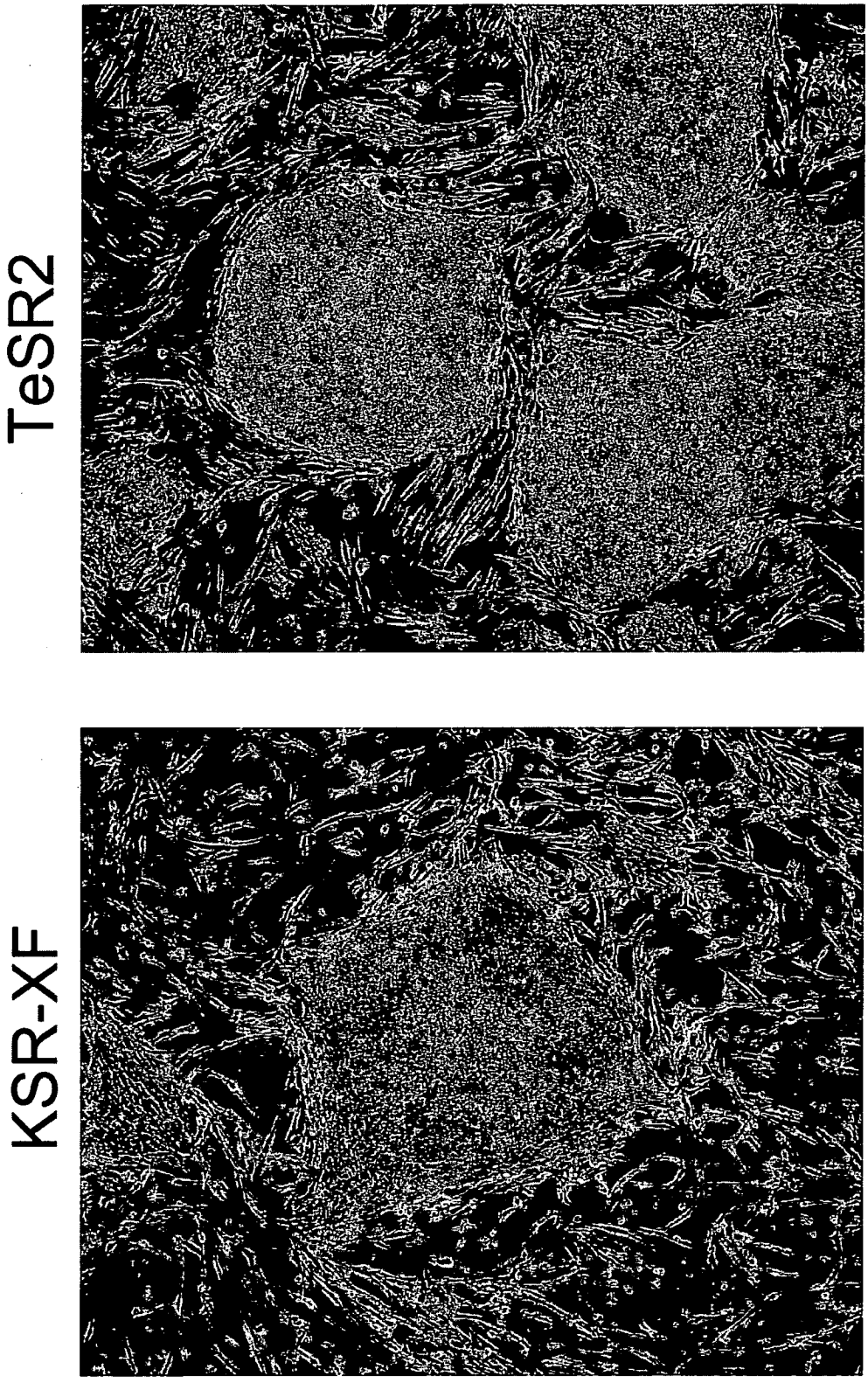


Fig. 28

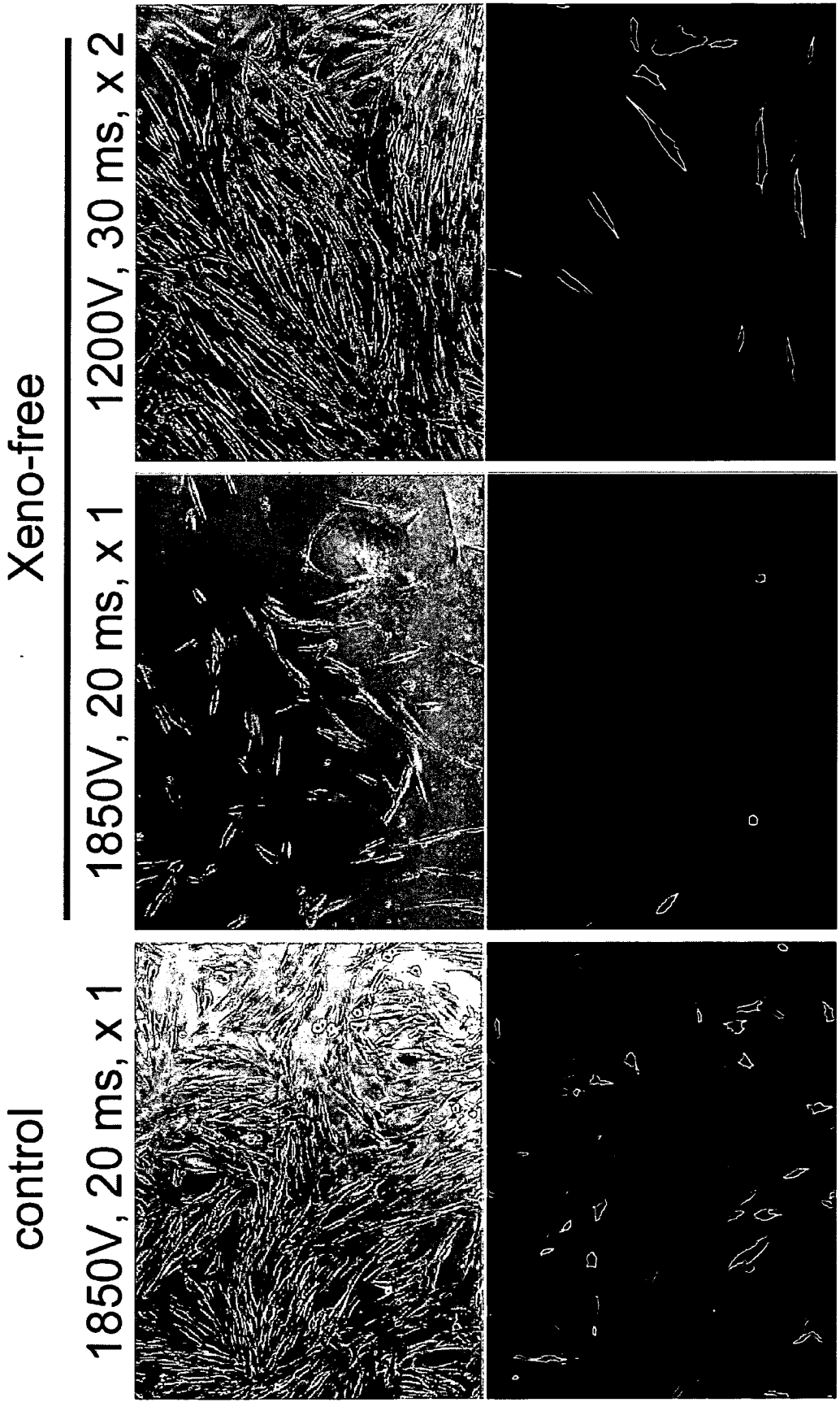


Fig. 29

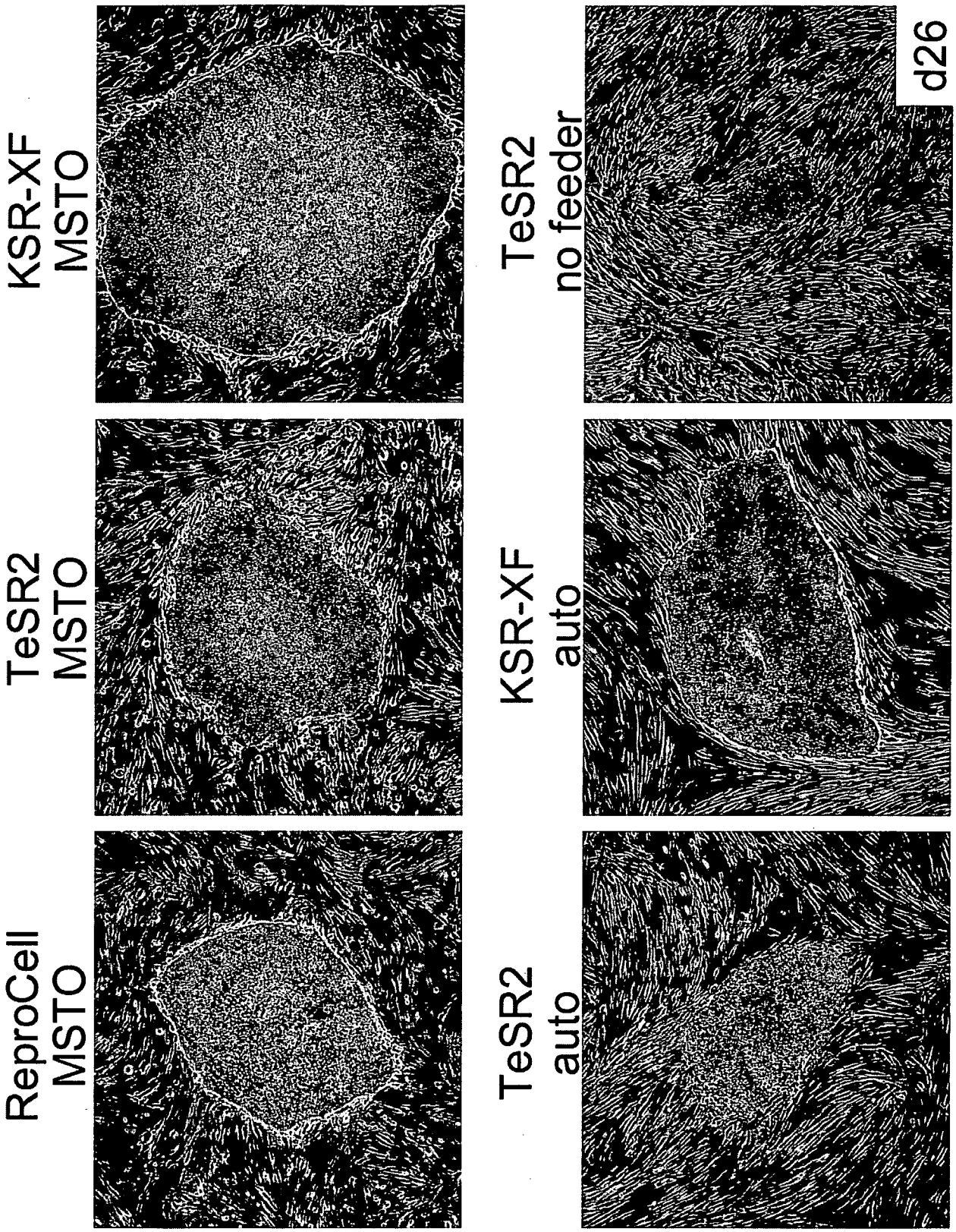

KSR-XF
MSTO
TeSR2
MSTO
ReproCell
MSTO
TeSR2
no feeder
d26
KSR-XF
auto
TeSR2
auto

Fig. 30

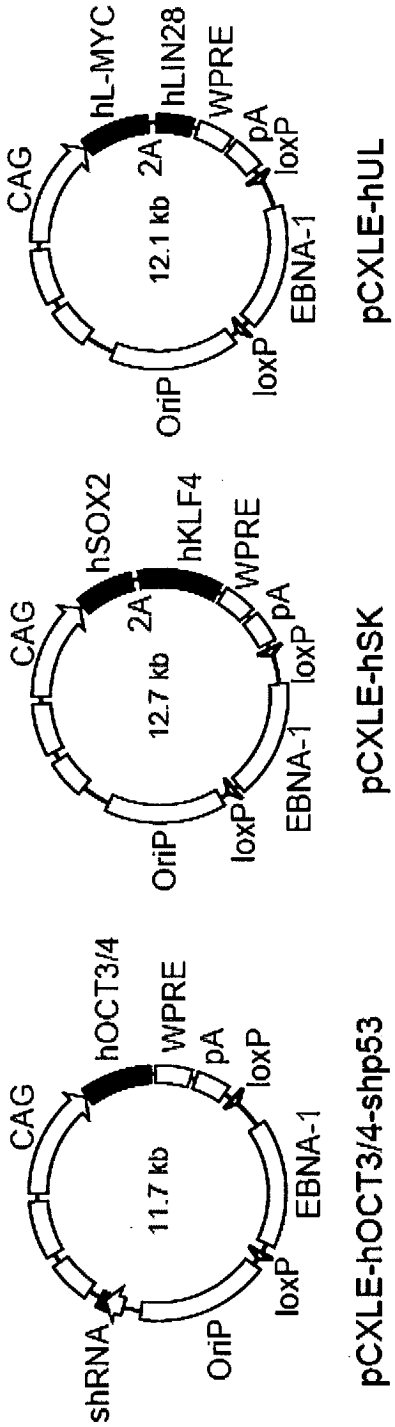

CAG
hL-MYC
hLIN28
2A
WPRE
pA
loxP
12.1 kb
EBNA-1
loxP
OriP
pCXLE-hUL
CAG
hSOX2
hKLF4
2A
WPRE
pA
loxP
12.7 kb
EBNA-1
loxP
OriP
pCXLE-hSK
CAG
hOCT3/4
WPRE
pA
loxP
11.7 kb
EBNA-1
loxP
OriP
shRNA
pCXLE-hOCT3/4-shp53

Fig. 31

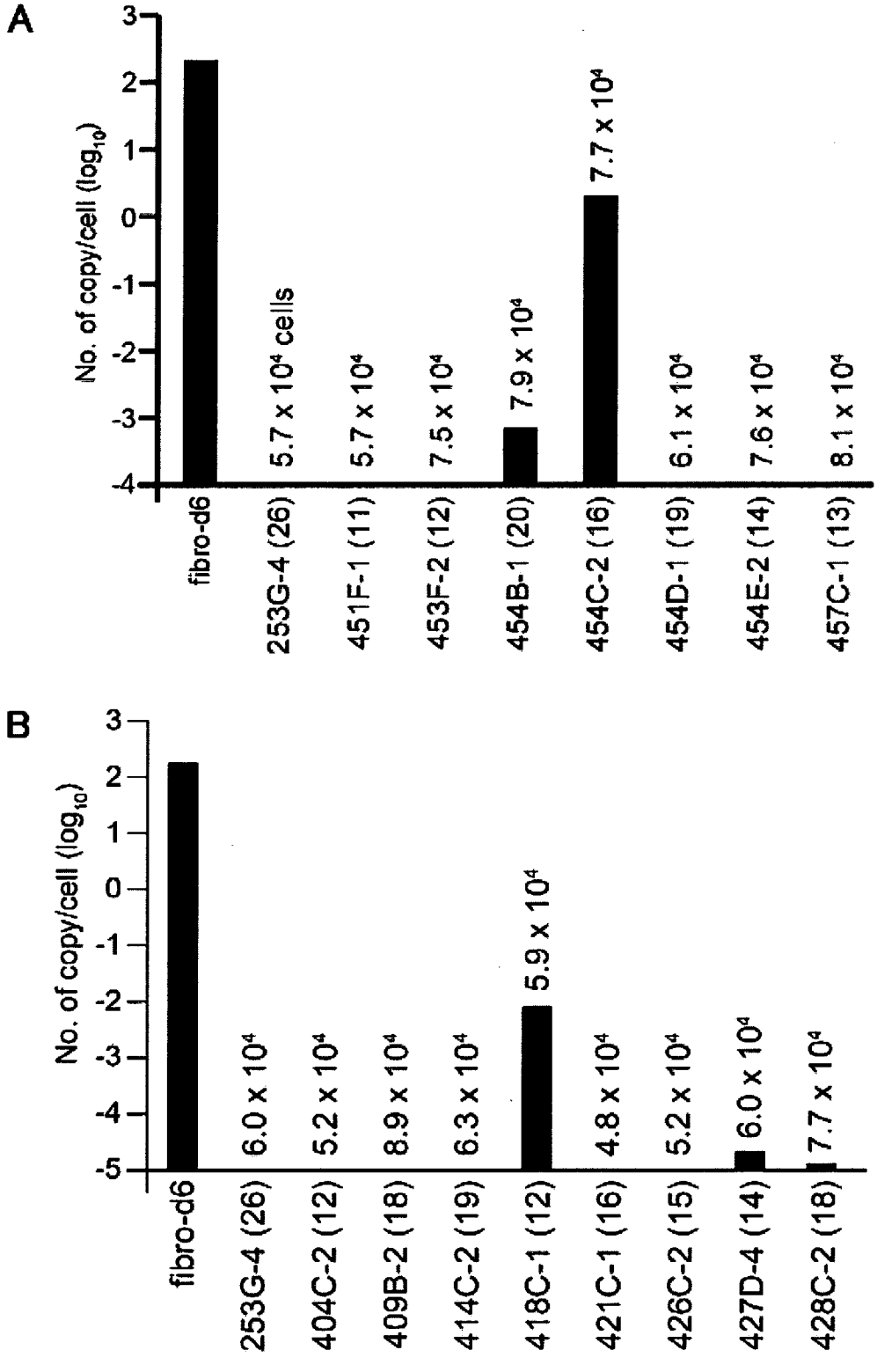

A
No. of copy/cell (log10)
3
2
1
0
-1
-2
-3
-4
fibro-d6
253G-4 (26)
451F-1 (11)
453F-2 (12)
454B-1 (20)
454C-2 (16)
454D-1 (19)
454E-2 (14)
457C-1 (13)
5.7 x 10⁴ cells
5.7 x 10⁴
7.5 x 10⁴
7.9 x 10⁴
7.7 x 10⁴
6.1 x 10⁴
7.6 x 10⁴
8.1 x 10⁴
B
No. of copy/cell (log10)
3
2
1
0
-1
-2
-3
-4
-5
fibro-d6
253G-4 (26)
404C-2 (12)
409B-2 (18)
414C-2 (19)
418C-1 (12)
421C-1 (16)
426C-2 (15)
427D-4 (14)
428C-2 (18)
6.0 x 10⁴
5.2 x 10⁴
8.9 x 10⁴
6.3 x 10⁴
5.9 x 10⁴
4.8 x 10⁴
5.2 x 10⁴
6.0 x 10⁴
7.7 x 10⁴

Fig. 32

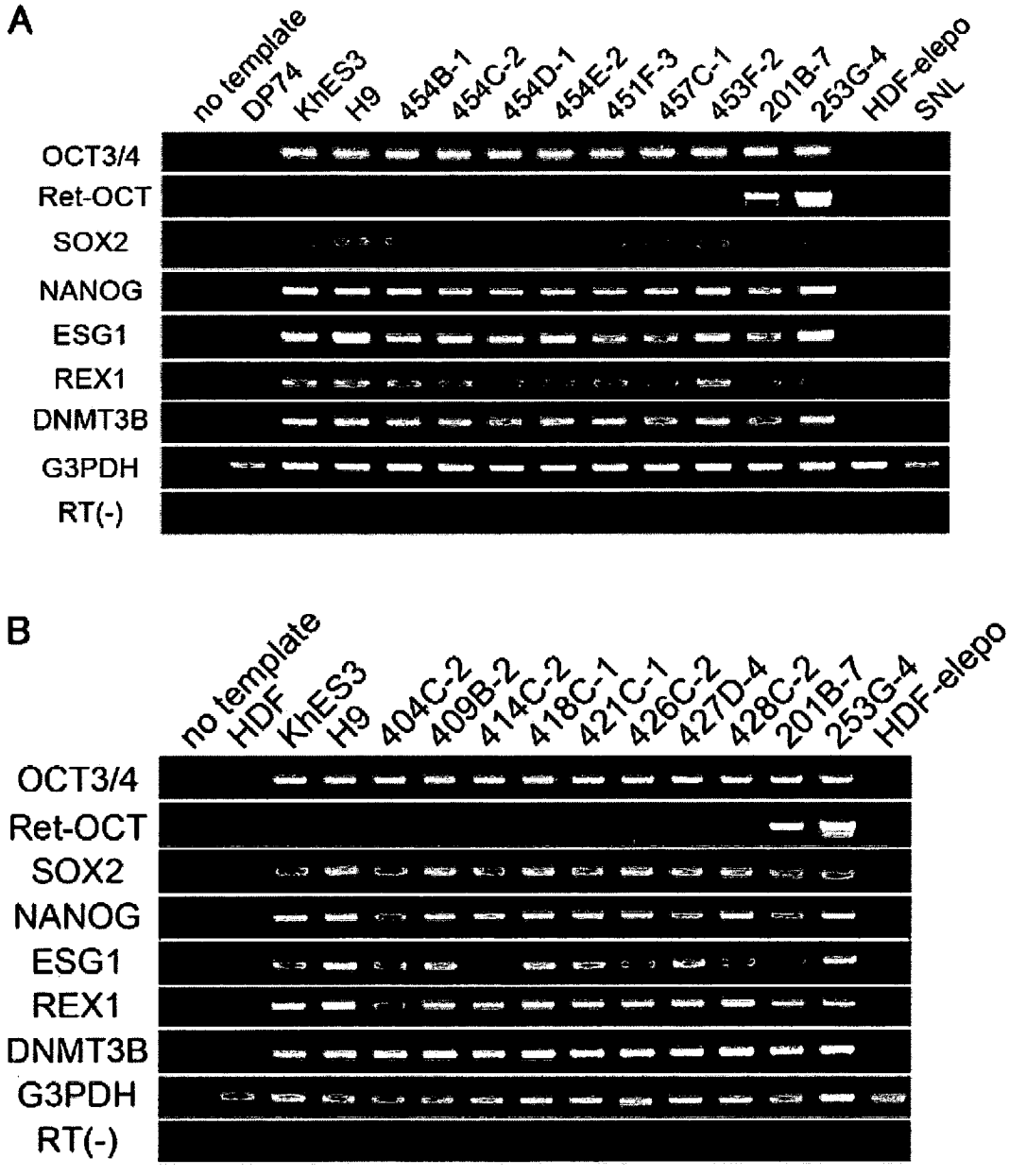

A
no template
DP74
KhES3
H9
454B-1
454C-2
454D-1
454E-2
451F-3
457C-1
453F-2
201B-7
253G-4
HDF-elepo
SNL
OCT3/4
Ret-OCT
SOX2
NANOG
ESG1
REX1
DNMT3B
G3PDH
RT(-)
B
no template
HDF
KhES3
H9
404C-2
409B-2
414C-2
418C-1
421C-1
426C-2
427D-4
428C-2
201B-7
253G-4
HDF-elepo
OCT3/4
Ret-OCT
SOX2
NANOG
ESG1
REX1
DNMT3B
G3PDH
RT(-)

Fig. 33

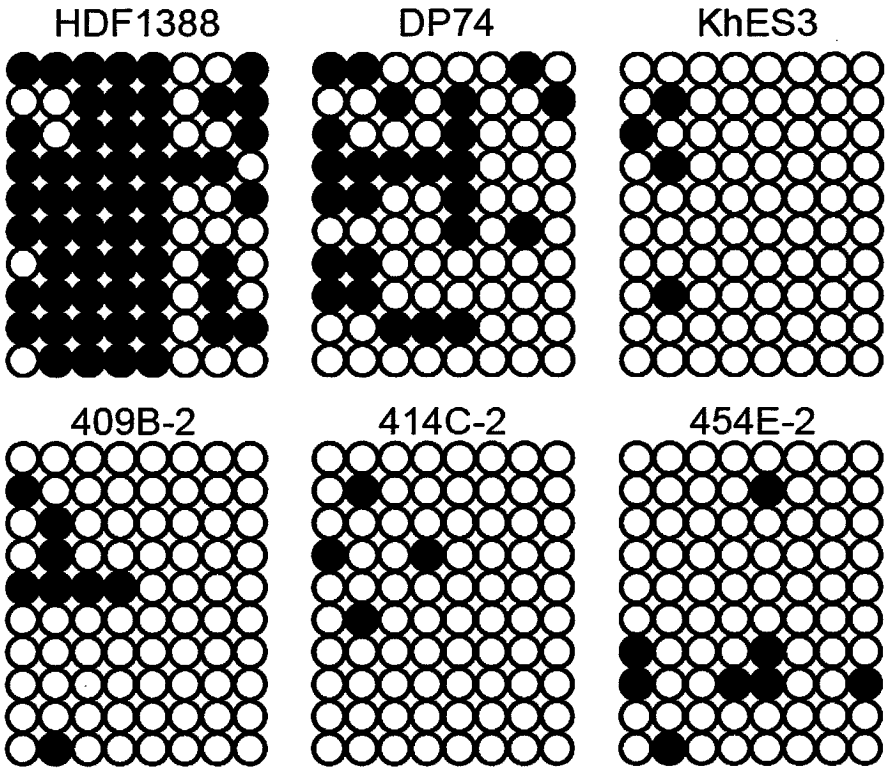


Fig. 34A

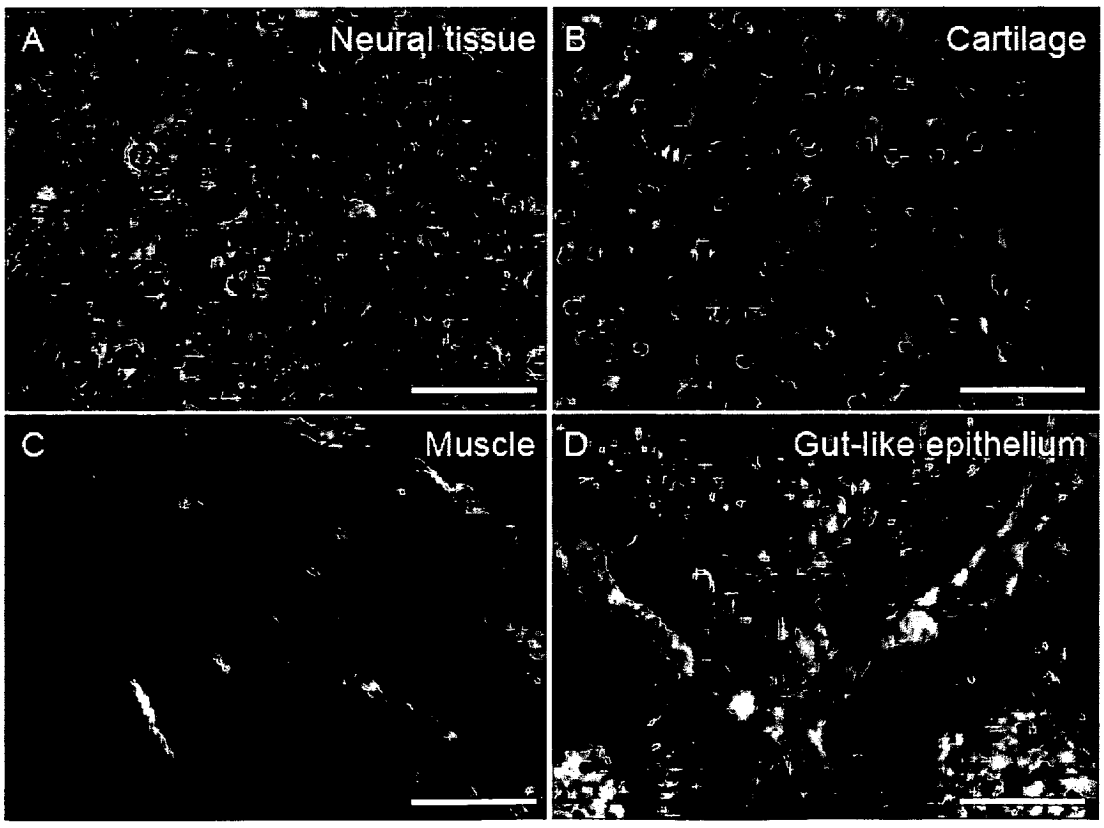


Fig. 34B

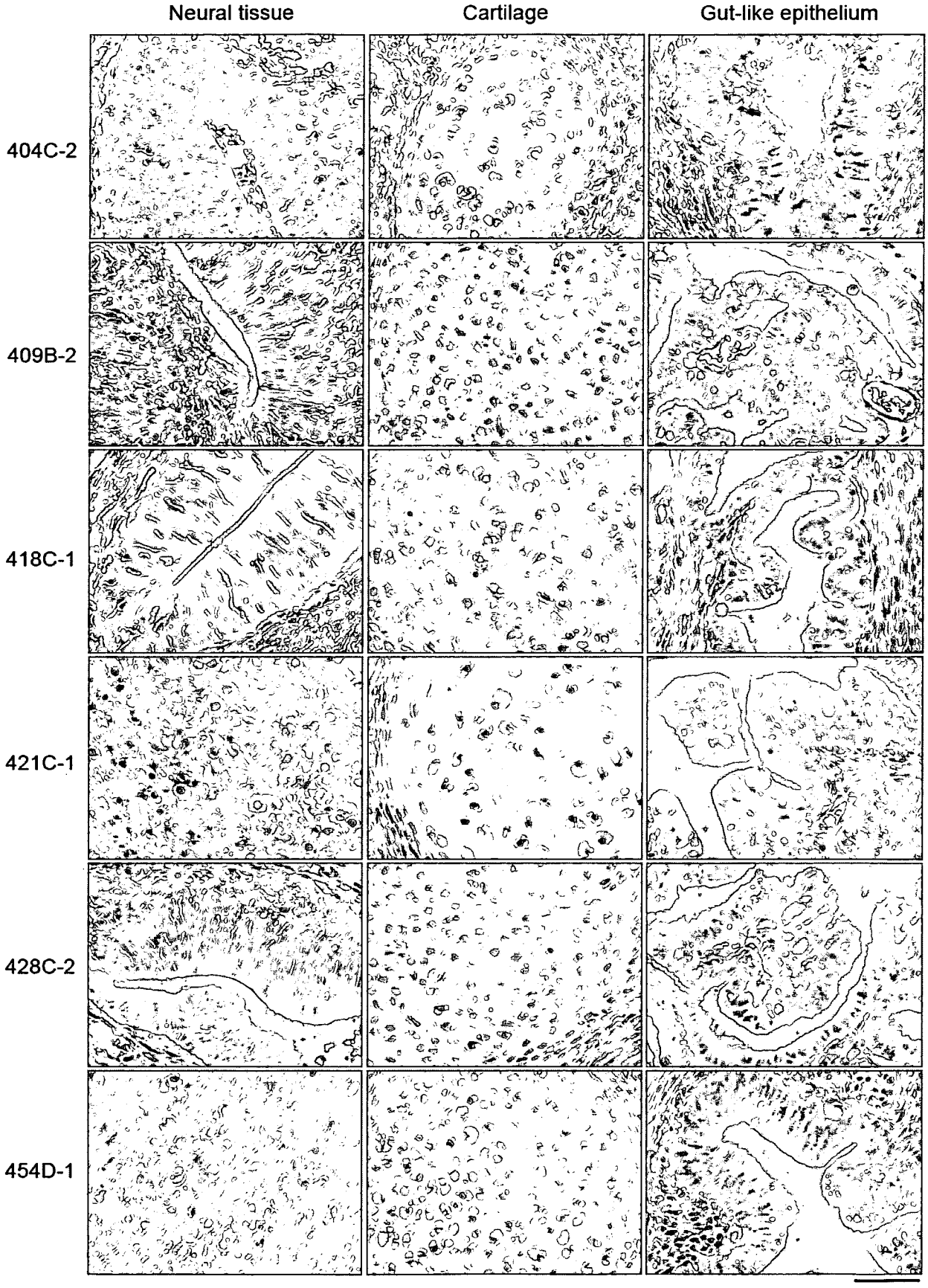

Neural tissue
Cartilage
Gut-like epithelium
404C-2
409B-2
418C-1
421C-1
428C-2
454D-1

Fig. 35A

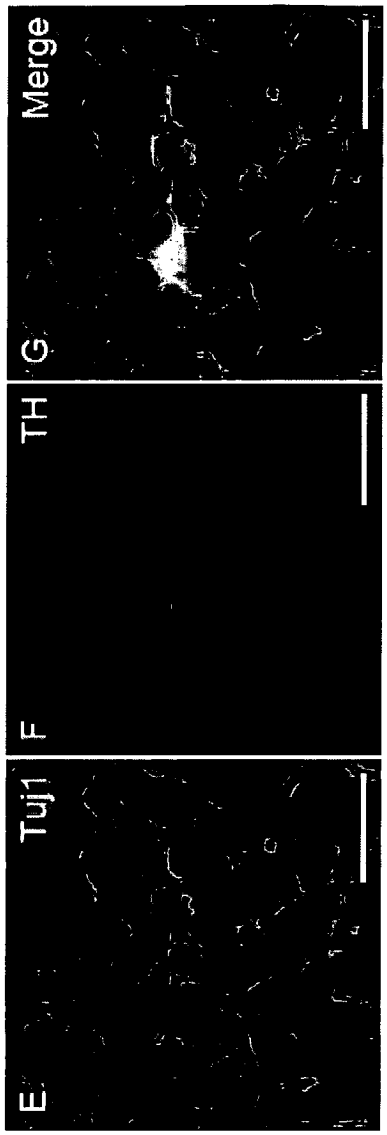


Fig. 35B

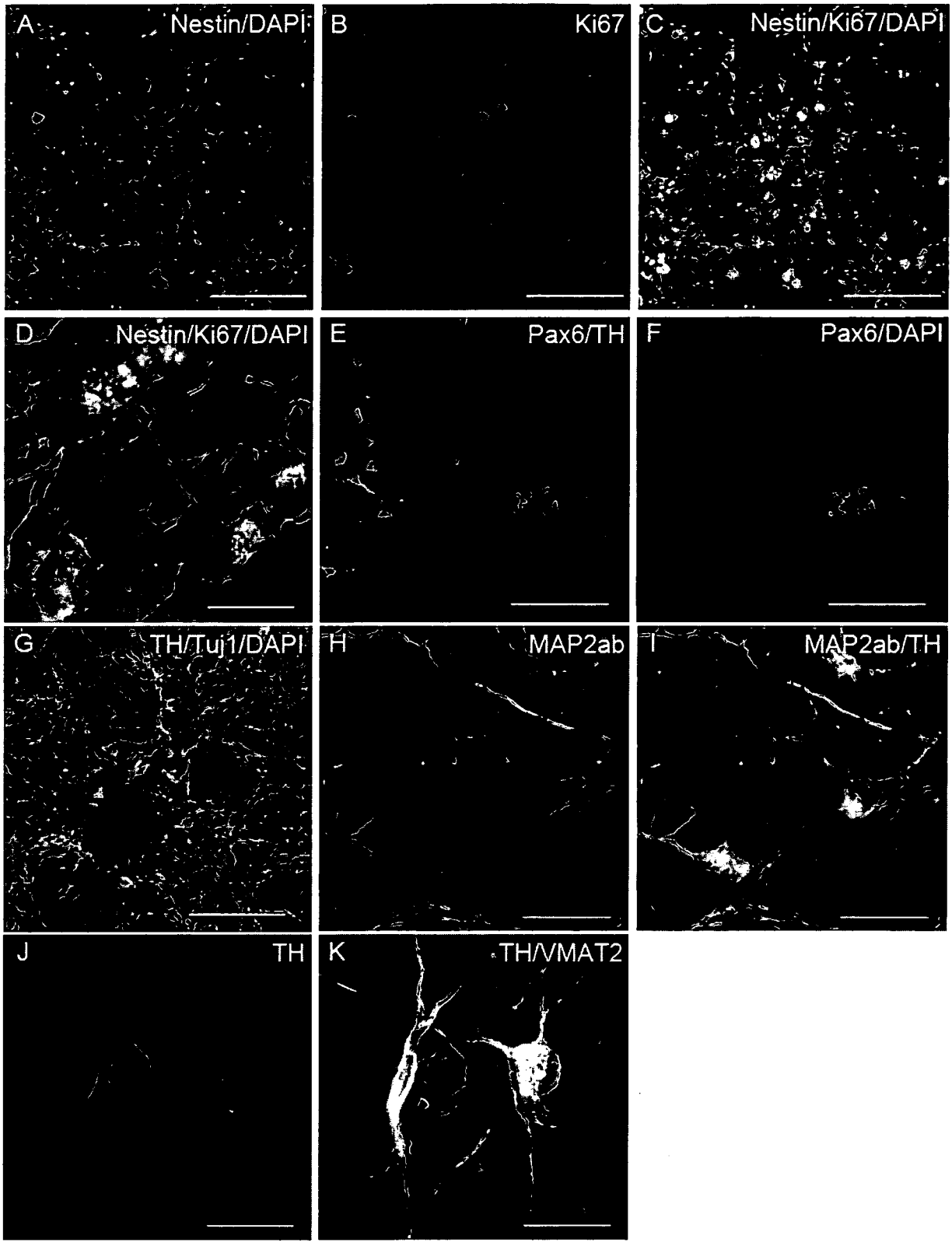
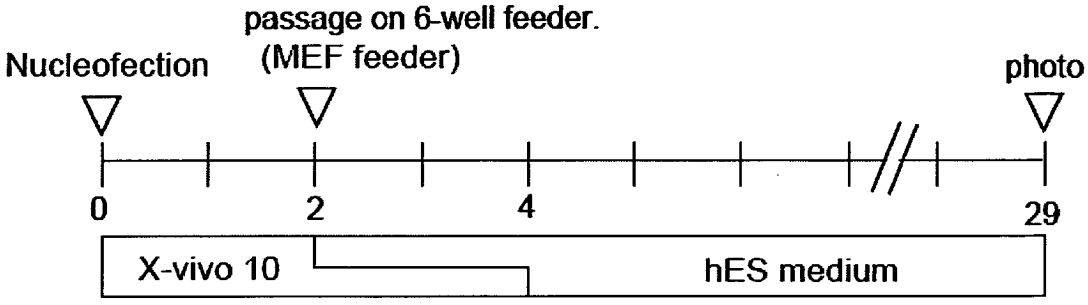

A
Nestin/DAPI
B
Ki67
C
Nestin/Ki67/DAPI
D
Nestin/Ki67/DAPI
E
Pax6/TH
F
Pax6/DAPI
G
TH/Tuj1/DAPI
H
MAP2ab
I
MAP2ab/TH
J
TH
K
TH/VMAT2

Fig. 36

a


passage on 6-well feeder.
(MEF feeder)
Nucleofection
photo
0
2
4
29
X-vivo 10
hES medium

b

