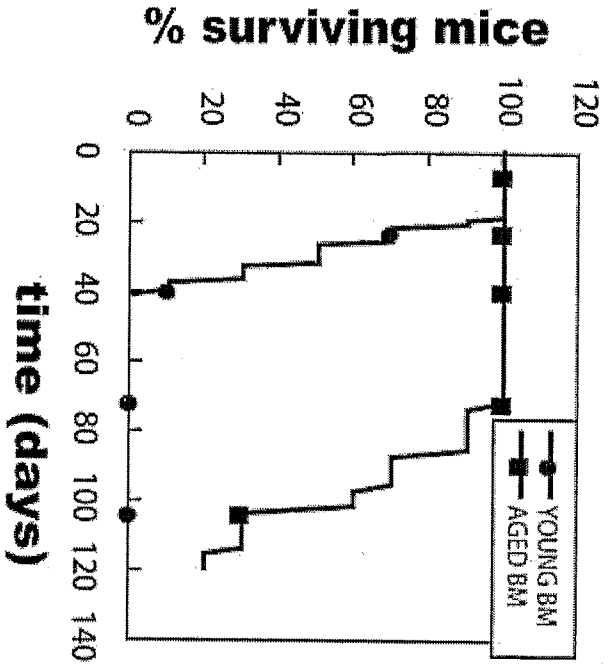

% surviving mice
0
20
40
60
80
100
120
time (days)
0
20
40
60
80
100
120
140
YOUNG BM
AGED BM

FIG. 1

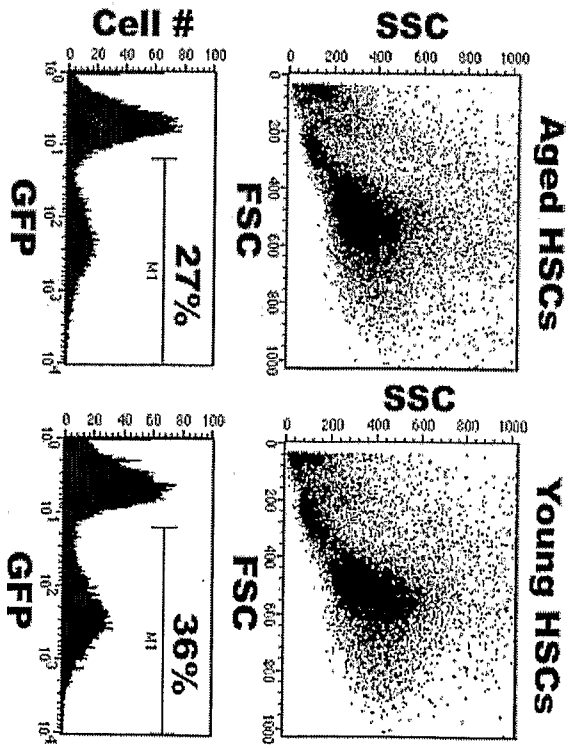

Cell #
SSC
Aged HSCs
GFP
FSC
27%
M1
SSC
Young HSCs
GFP
FSC
36%
M1

FIG. 2

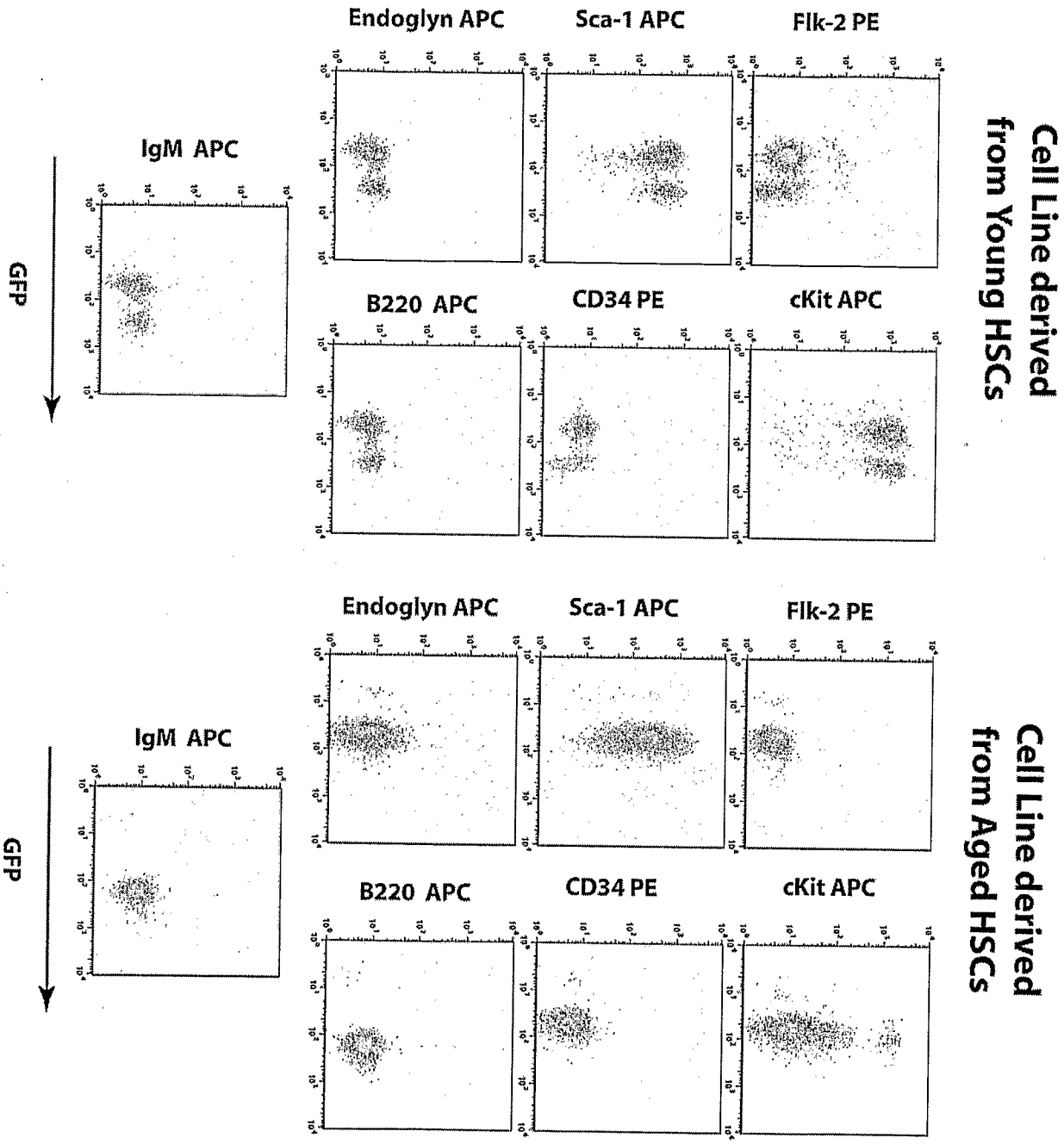

Endoglyn APC
Sca-1 APC
Flk-2 PE
IgM APC
GFP
B220 APC
CD34 PE
cKit APC
Cell Line derived from Young HSCs
Endoglyn APC
Sca-1 APC
Flk-2 PE
IgM APC
GFP
B220 APC
CD34 PE
cKit APC
Cell Line derived from Aged HSCs

FIG. 3

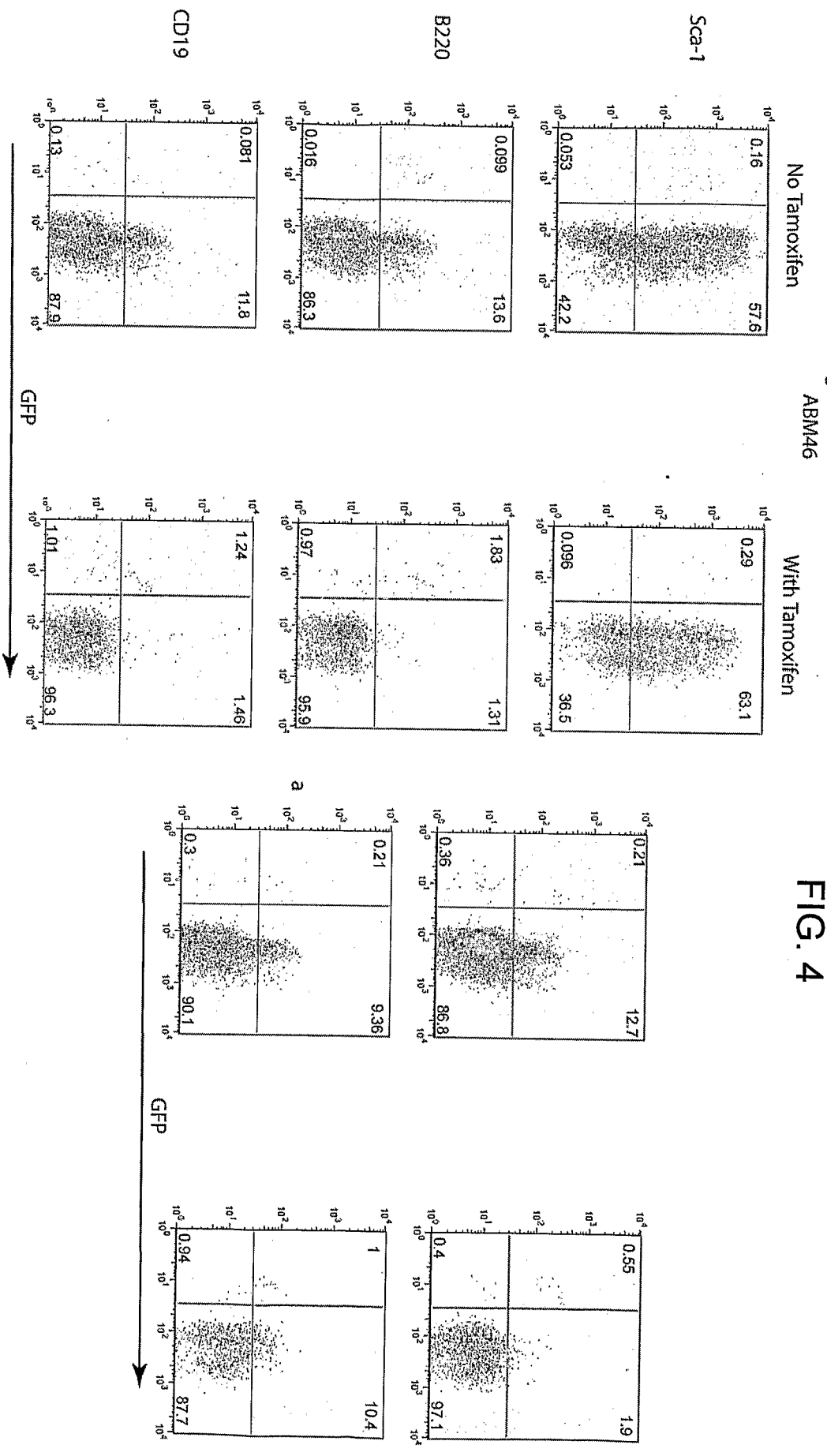

Sca-1
B220
CD19
No Tamoxifen
With Tamoxifen
Aged HSC line
ABM46
GFP
0.16
57.6
0.053
42.2
0.099
13.6
0.016
86.3
0.081
11.8
0.13
87.9
0.29
63.1
0.096
36.5
1.83
1.31
0.97
95.9
1.24
1.46
1.01
96.3
a
0.21
12.7
0.36
86.8
0.21
9.36
0.3
90.1
0.55
1.9
0.4
97.1
1
10.4
0.94
87.7

FIG. 4

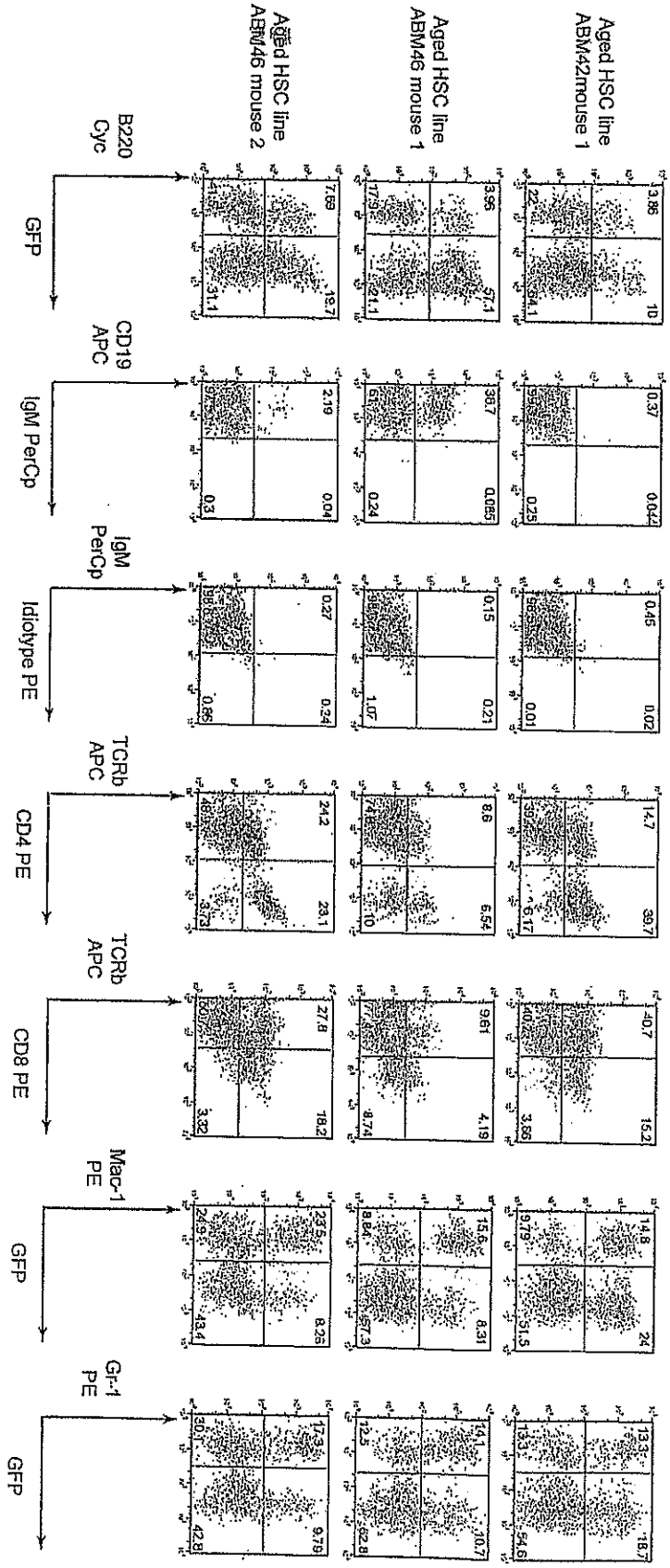

Aged HSC line ABM42mouse 1
Aged HSC line ABM46 mouse 1
Aged HSC line ABM46 mouse 2
B220 Cyc
GFP
CD19 APC
IgM PerCp
IgM PerCp
Idiotype PE
TCRb APC
CD4 PE
TCRb APC
CD8 PE
Mac-1 PE
GFP
Gr-1 PE
GFP

FIG. 5

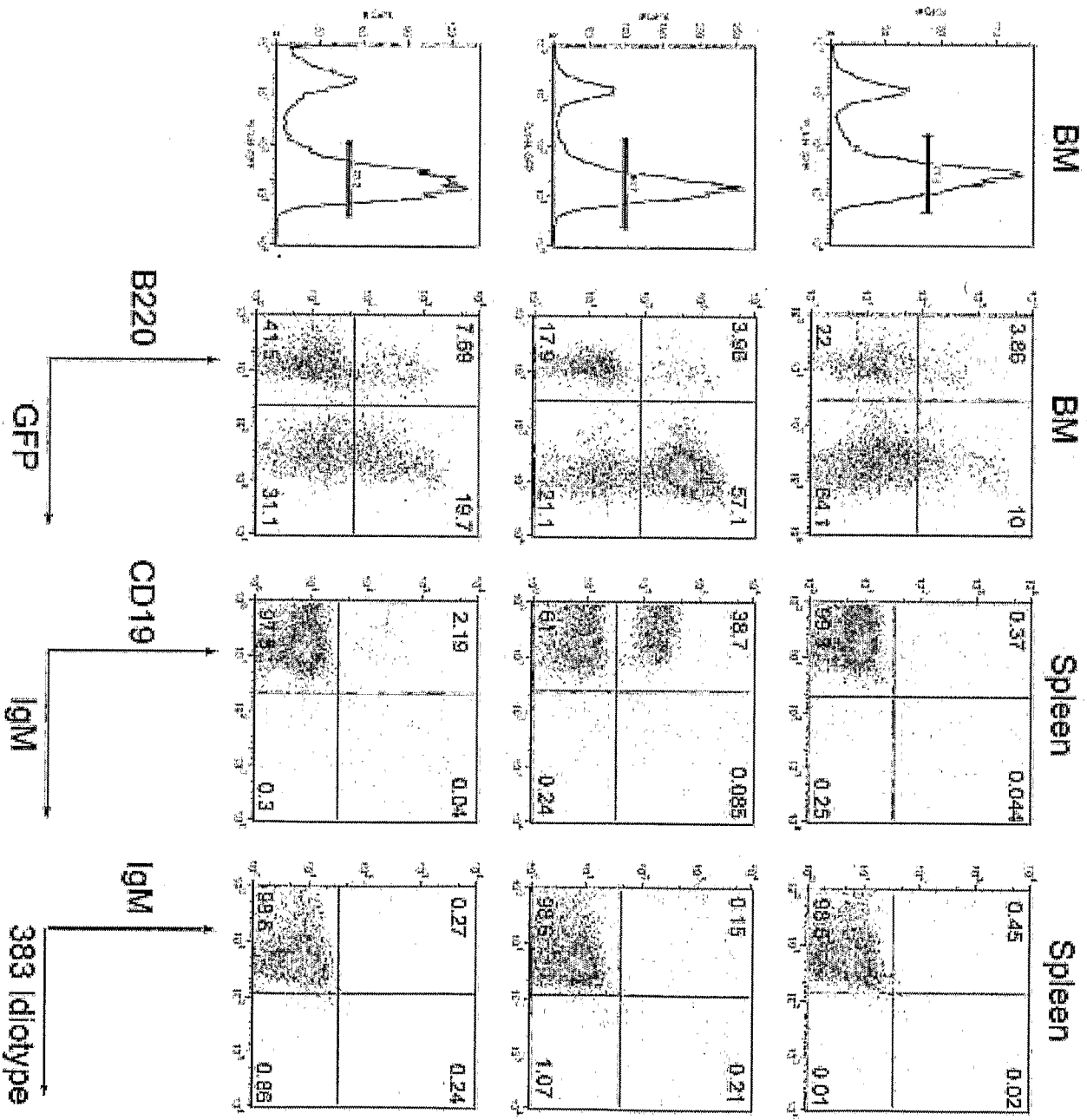

Aged HSC line ABM42 mouse 1
Aged HSC line ABM46 mouse 1
Aged HSC line ABM46 mouse 2
BM
BM
Spleen
Spleen
B220
GFP
CD19
IgM
IgM
383 idiotype
3.86
22
64.1
10
3.98
17.9
21.1
57.1
0.37
99.2
0.25
0.044
38.7
61.1
0.24
0.085
0.45
98.5
0.01
0.02
0.15
99.5
1.07
0.21
7.69
41.5
31.1
19.7
2.19
97.5
0.3
0.04
0.27
99.5
0.86
0.24

FIG. 6

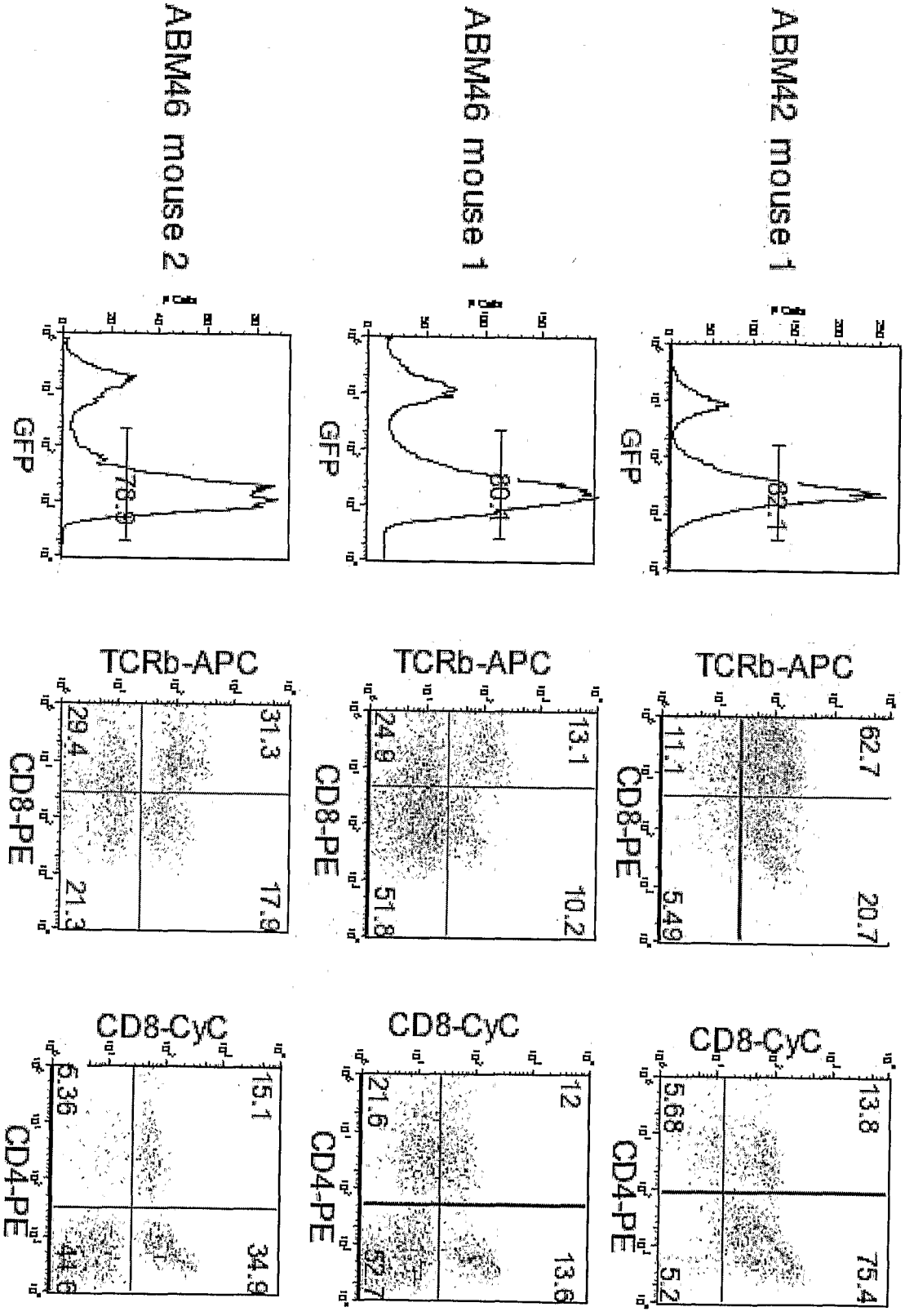

THYMUS
ABM42 mouse 1
ABM46 mouse 1
ABM46 mouse 2
GFP
82.1
80.4
78.8
TCRb-APC
CD8-PE
62.7
11.1
20.7
5.49
13.1
24.9
10.2
51.8
31.3
29.4
17.9
21.3
CD8-CyC
CD4-PE
13.8
5.68
75.4
5.2
12
21.6
13.6
52.7
15.1
5.36
34.9
44.6

FIG. 7

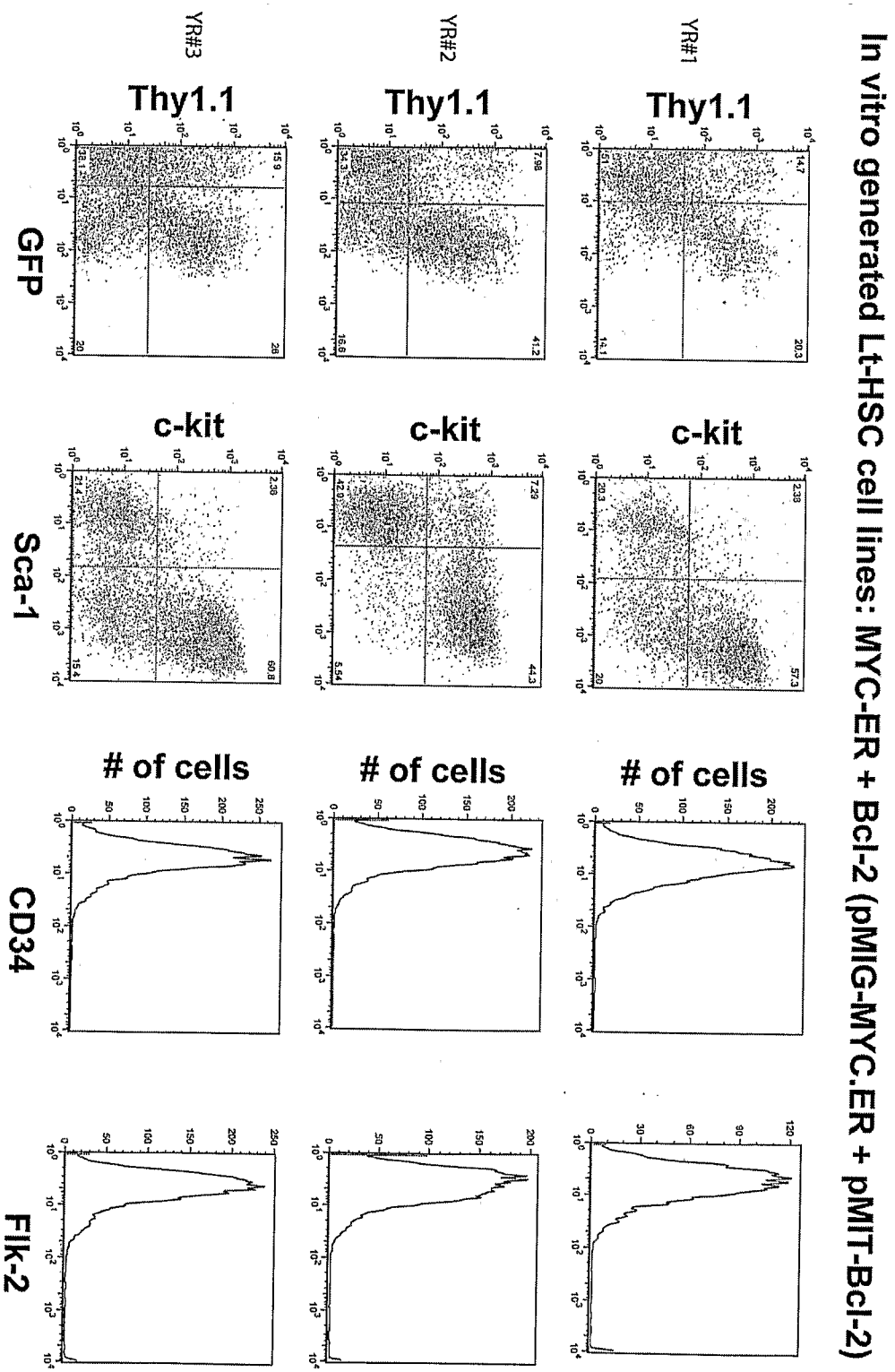

In vitro generated Lt-HSC cell lines: MYC-ER + Bcl-2 (pMIG-MYC.ER + pMIT-Bcl-2)
YR#1
YR#2
YR#3
Thy1.1
c-kit
# of cells
GFP
Sca-1
CD34
Flk-2

FIG. 8

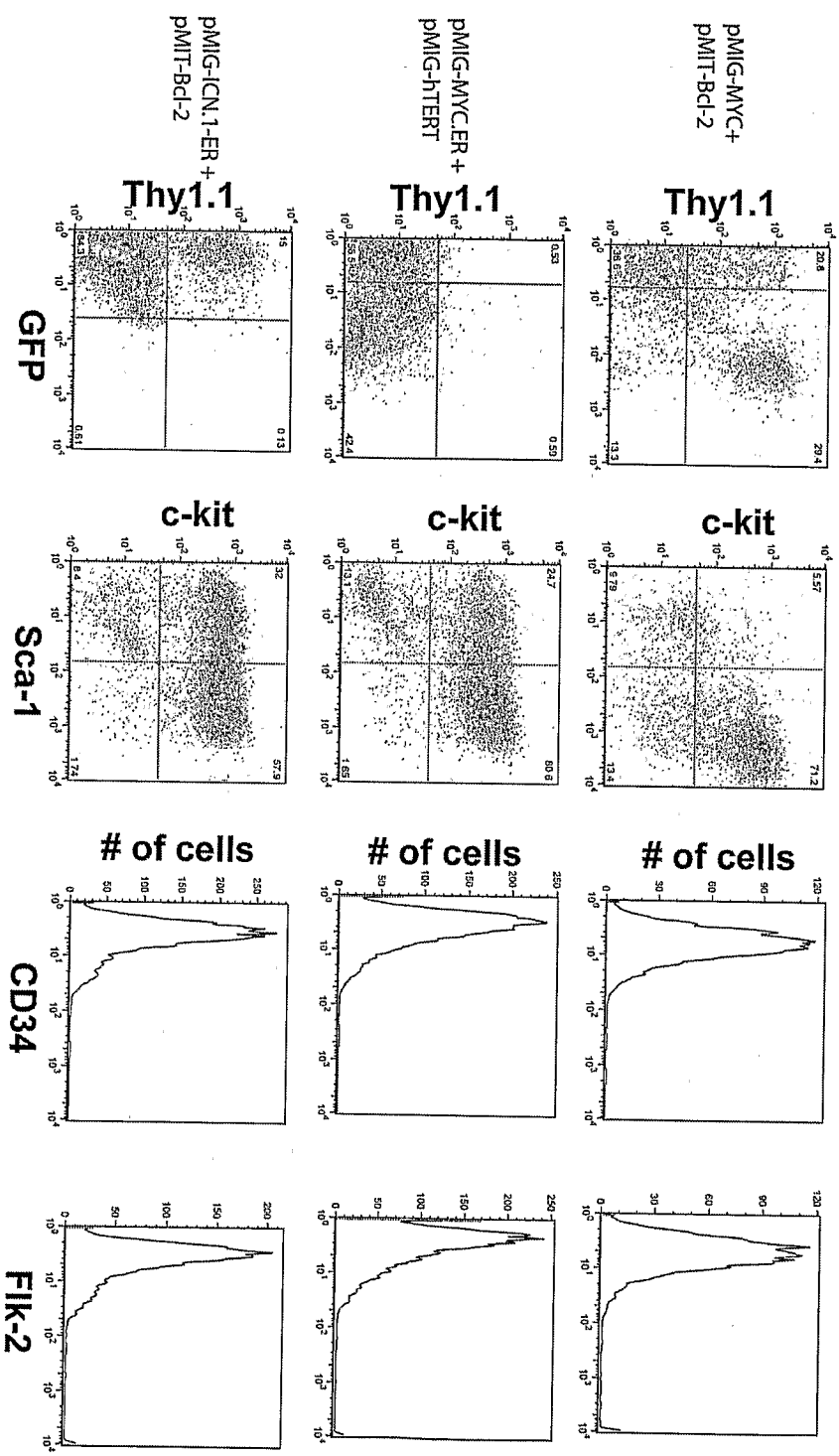

pMIG-MYC+
pMIT-Bcl-2
pMIG-MYC.ER +
pMIG-hTERT
pMIG-ICN.1-ER +
pMIT-Bcl-2
Thy1.1
GFP
c-kit
Sca-1
# of cells
CD34
Flk-2

FIG. 9

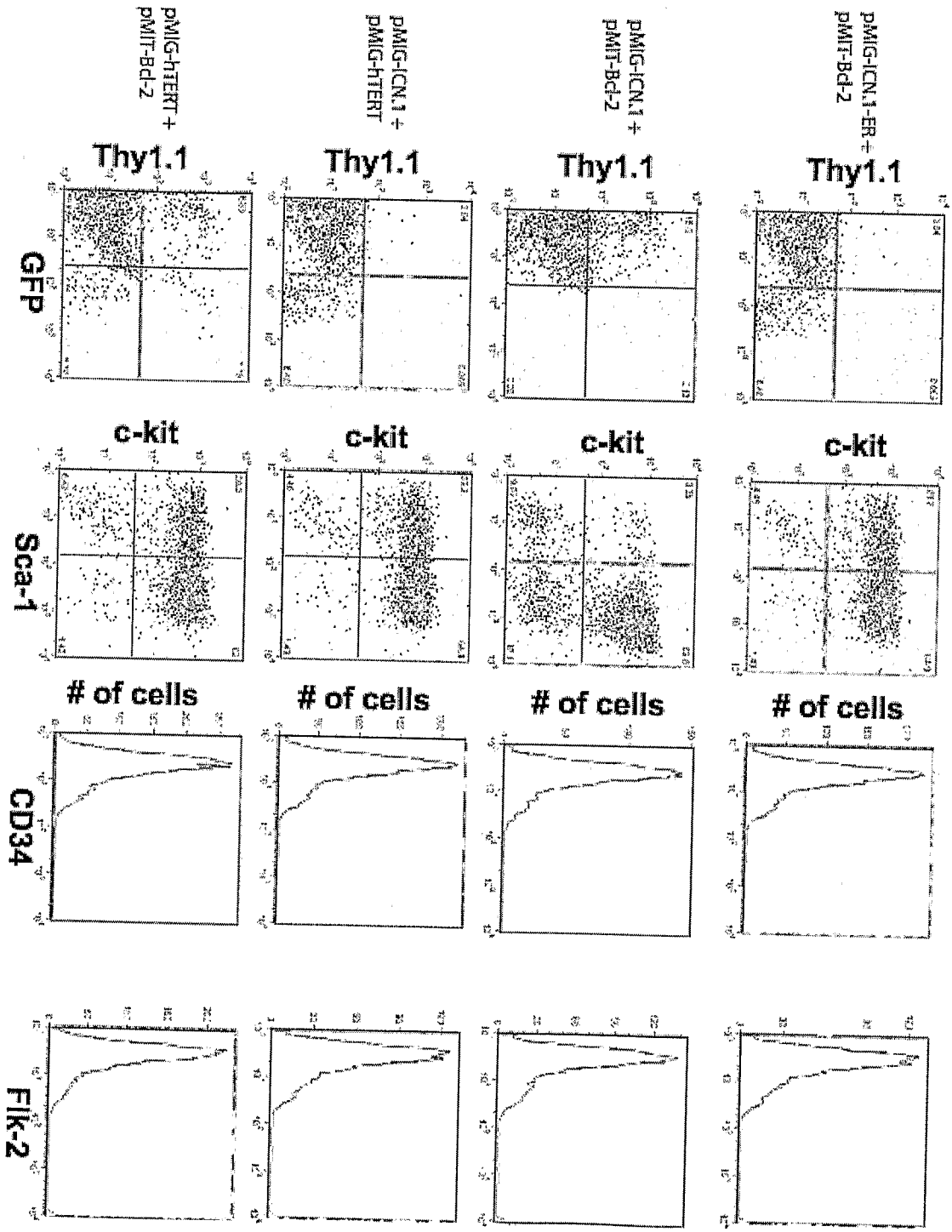

pMIG-hTERT + pMIT-Bcl-2
pMIG-ICN.1 + pMIG-hTERT
pMIG-ICN.1 + pMIT-Bcl-2
pMIG-ICN.1-ER + pMIT-Bcl-2
Thy1.1
GFP
c-kit
Sca-1
# of cells
CD34
Flk-2

FIG. 10

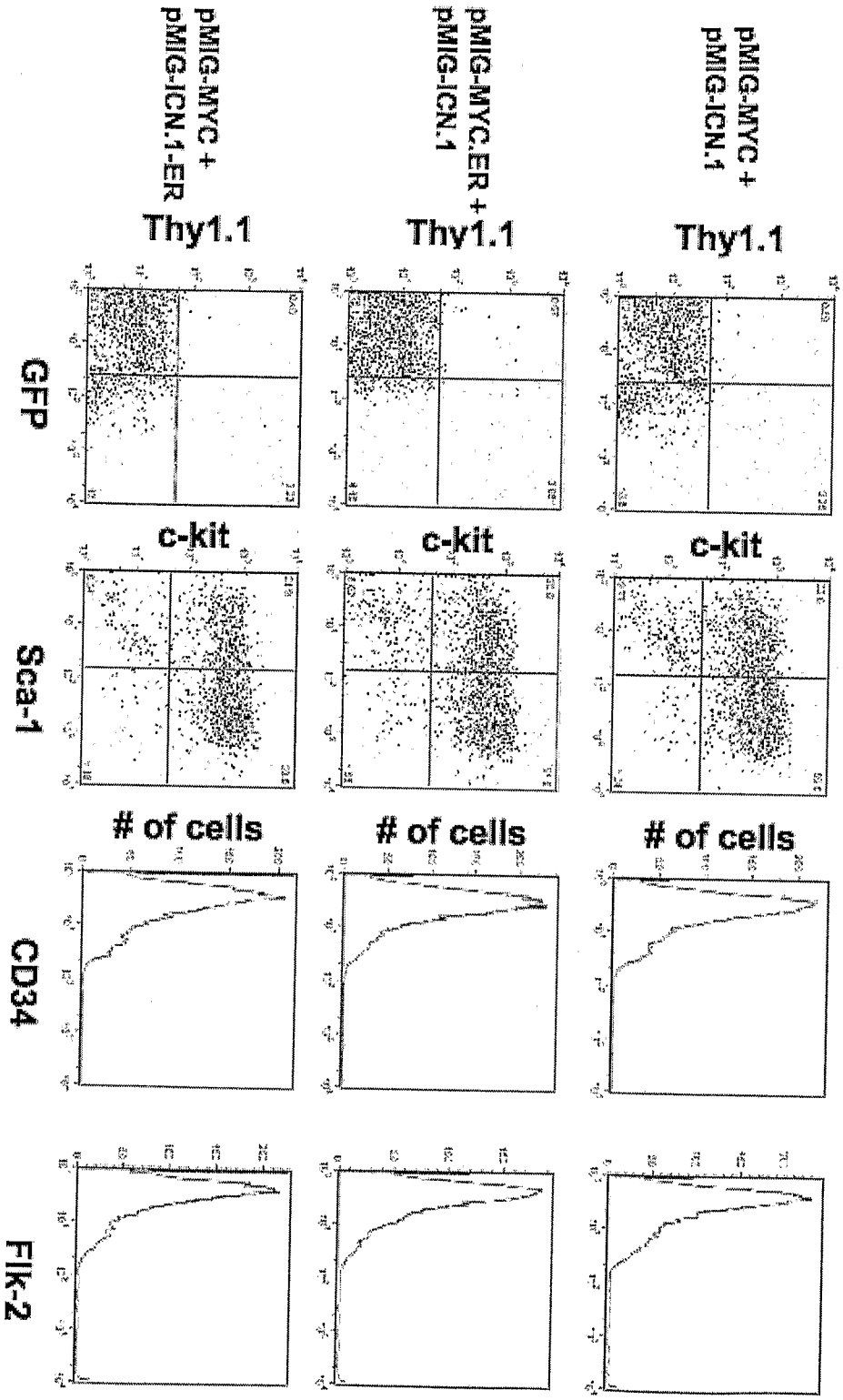
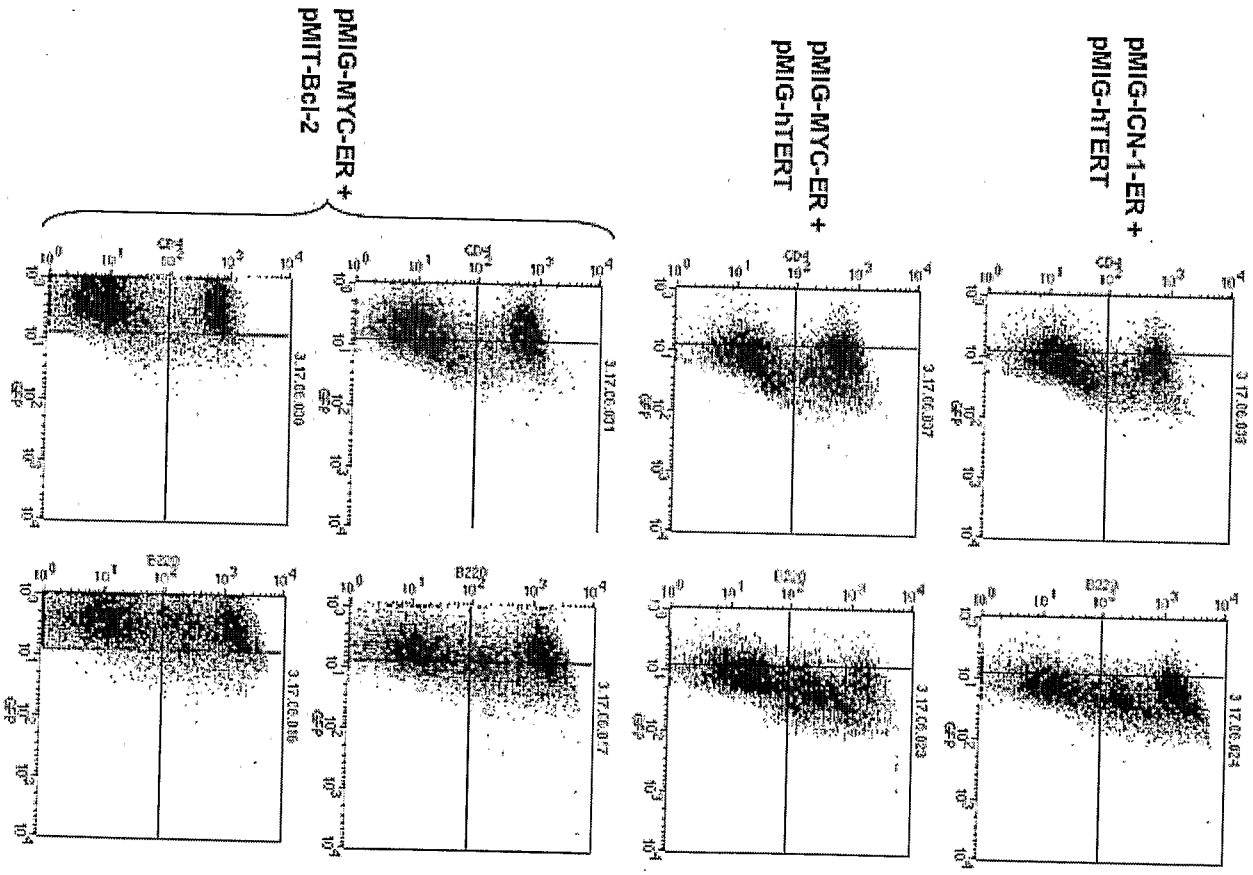

pMIG-MYC + pMIG-ICN.1
pMIG-MYC.ER + pMIG-ICN.1
pMIG-MYC + pMIG-ICN.1-ER
Thy1.1
Thy1.1
Thy1.1
GFP
c-kit
c-kit
c-kit
Sca-1
# of cells
# of cells
# of cells
CD34
Flk-2

FIG. 11

FIG. 12


pMIG-ICN-1-ER +
pMIG-hTERT
pMIG-MYC-ER +
pMIG-hTERT
pMIG-MYC-ER +
pMIT-Bcl-2
CD4
B220
GFP

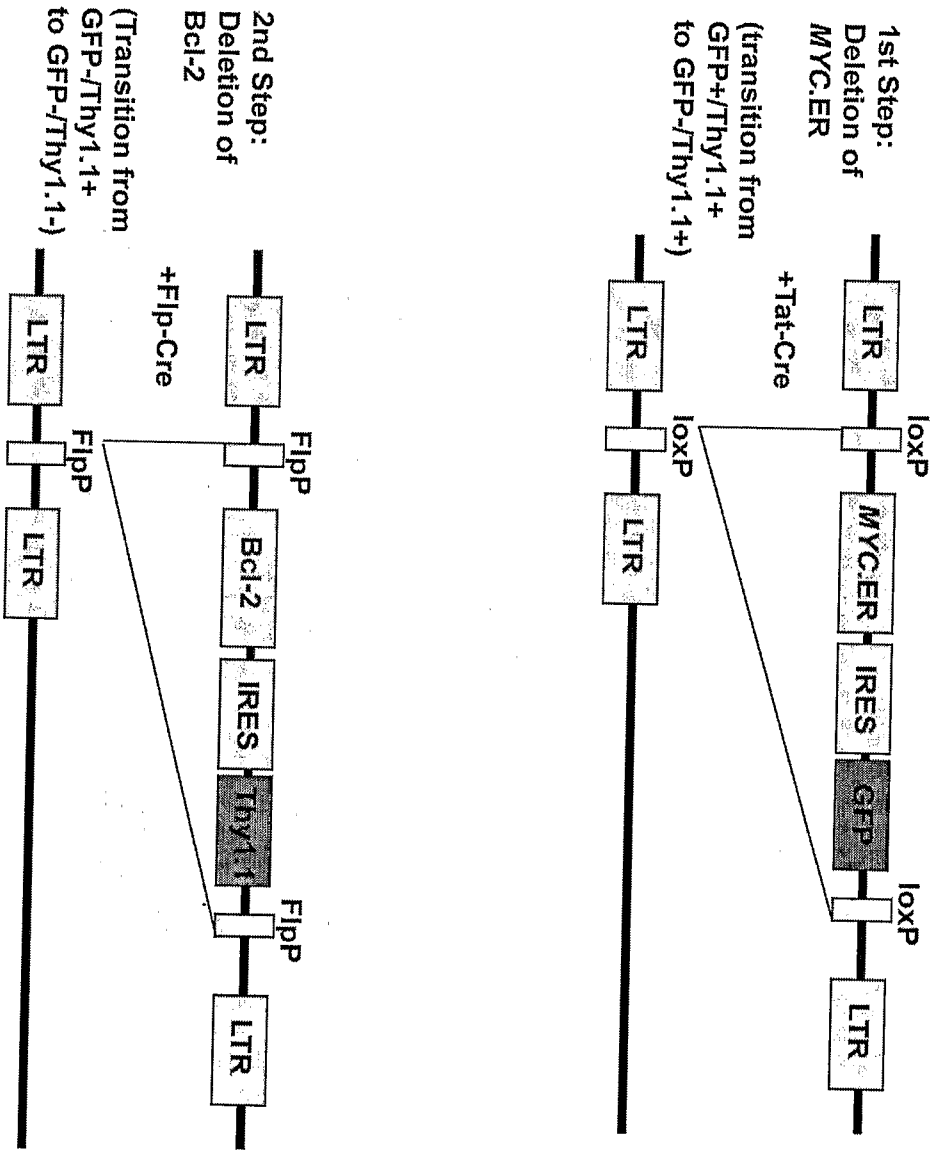

1st Step:
Deletion of
MYC.ER
(transition from
GFP+/Thy1.1+
to GFP-/Thy1.1+)
+Tat-Cre
LTR
loxP
MYC.ER
IRES
GFP
loxP
LTR
2nd Step:
Deletion of
Bcl-2
(Transition from
GFP-/Thy1.1+
to GFP-/Thy1.1-)
+Flp-Cre
LTR
FlpP
Bcl-2
IRES
Thy1.1
FlpP
LTR

FIG. 13

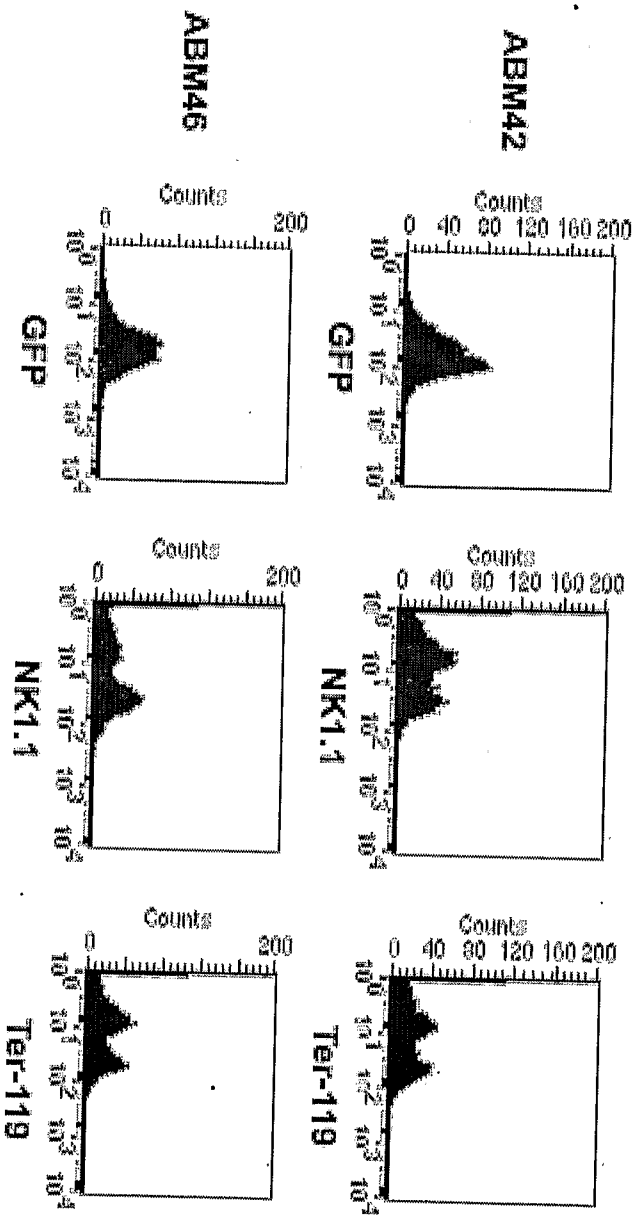


FIG. 14