Fig. 1

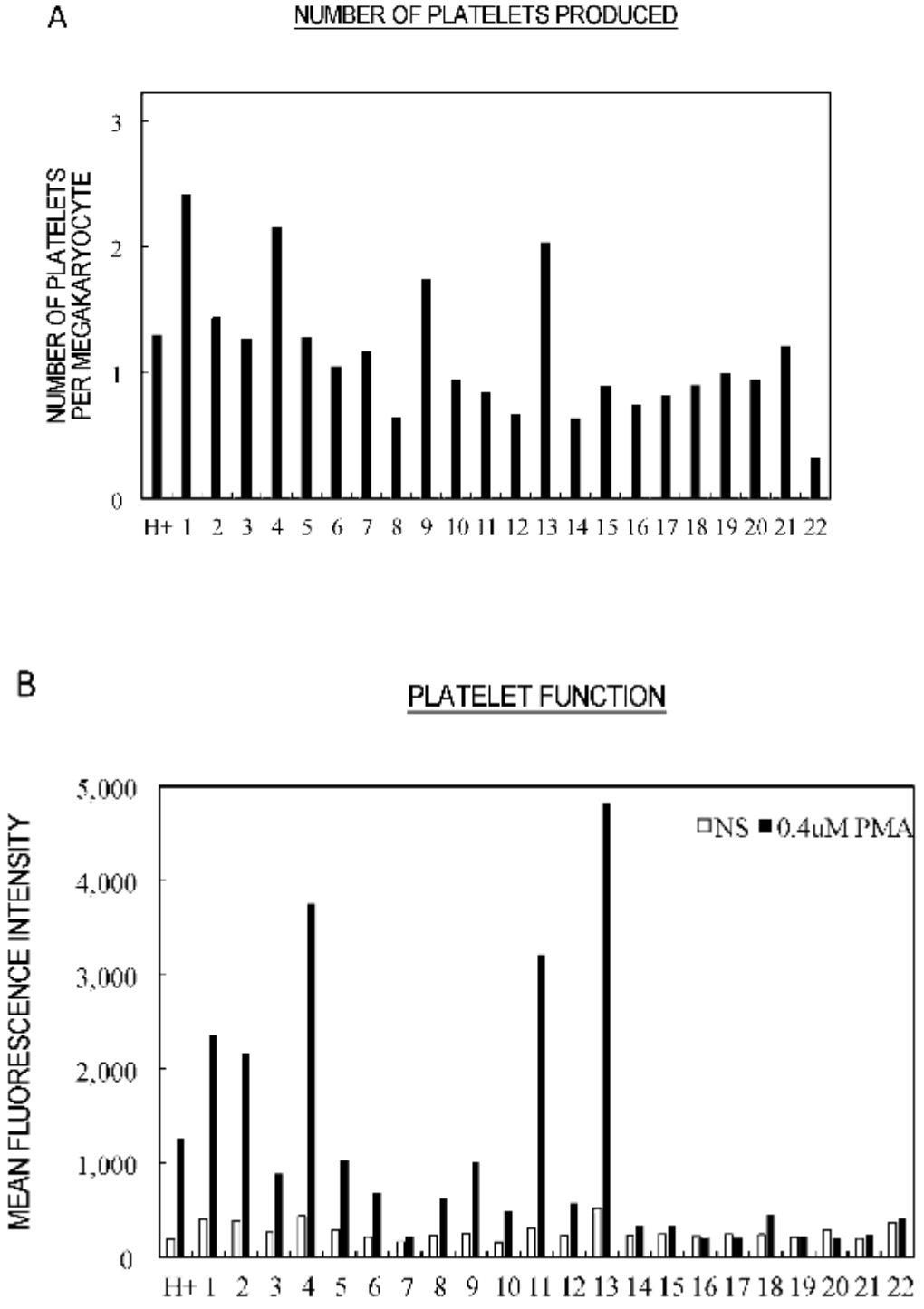
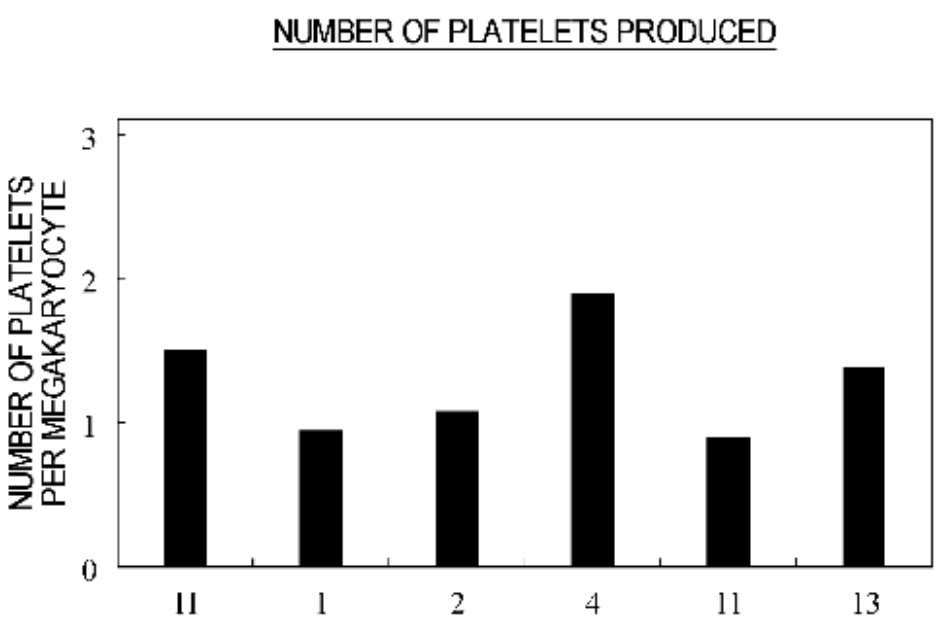

A
NUMBER OF PLATELETS PRODUCED
NUMBER OF PLATELETS PER MEGAKARYOCYTE
0
1
2
3
H+ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
B
PLATELET FUNCTION
MEAN FLUORESCENCE INTENSITY
0
1,000
2,000
3,000
4,000
5,000
NS
0.4uM PMA
H+ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

Fig. 2

A


NUMBER OF PLATELETS PRODUCED
NUMBER OF PLATELETS PER MEGAKARYOCYTE
3
2
1
0
11
1
2
4
11
13

B

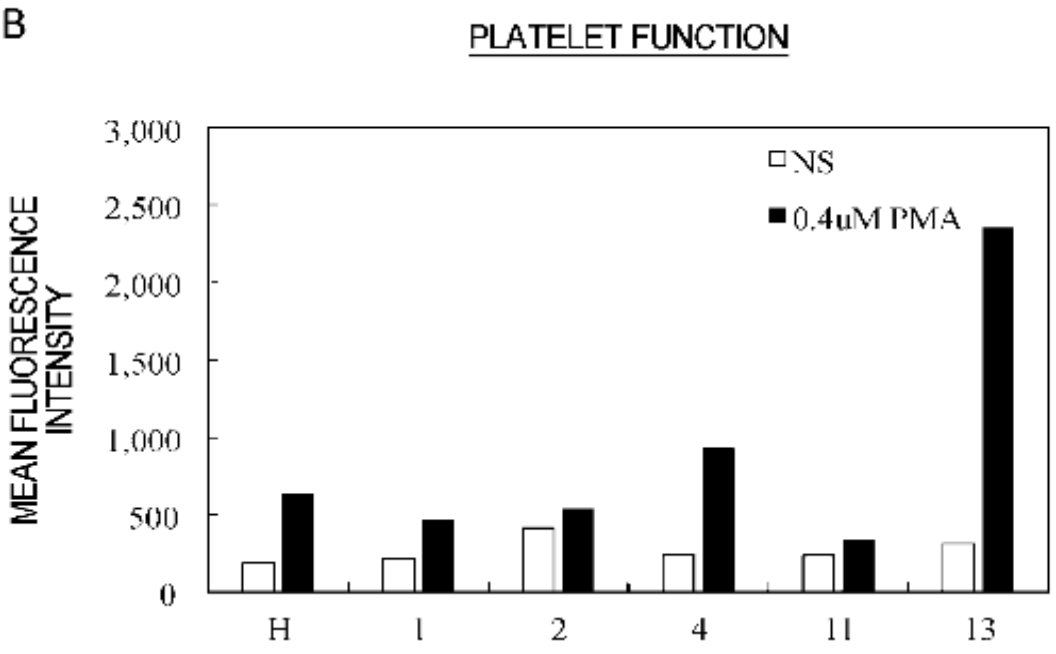

PLATELET FUNCTION
MEAN FLUORESCENCE INTENSITY
3,000
2,500
2,000
1,500
1,000
500
0
NS
0.4uM PMA
H
1
2
4
11
13

Fig. 3

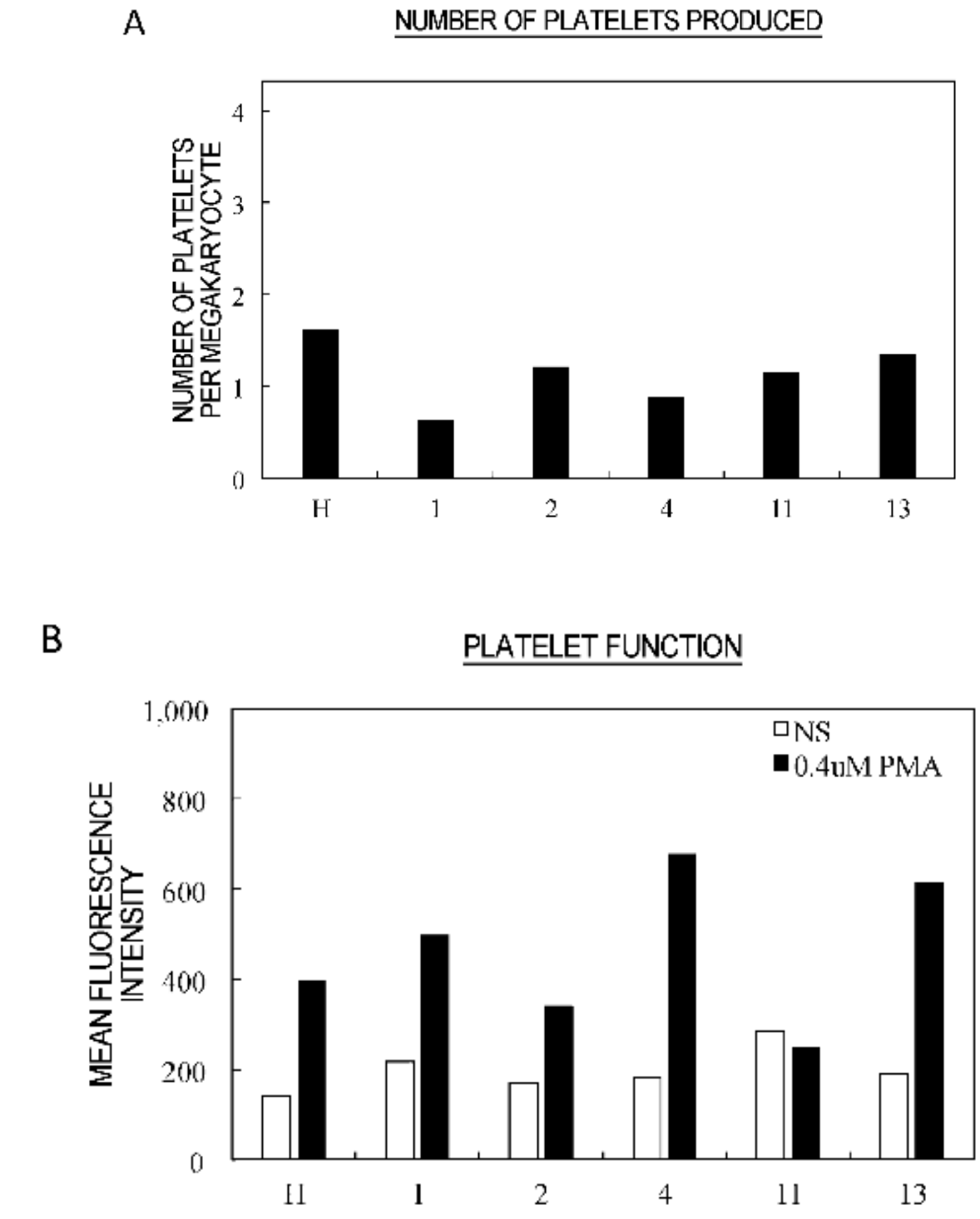
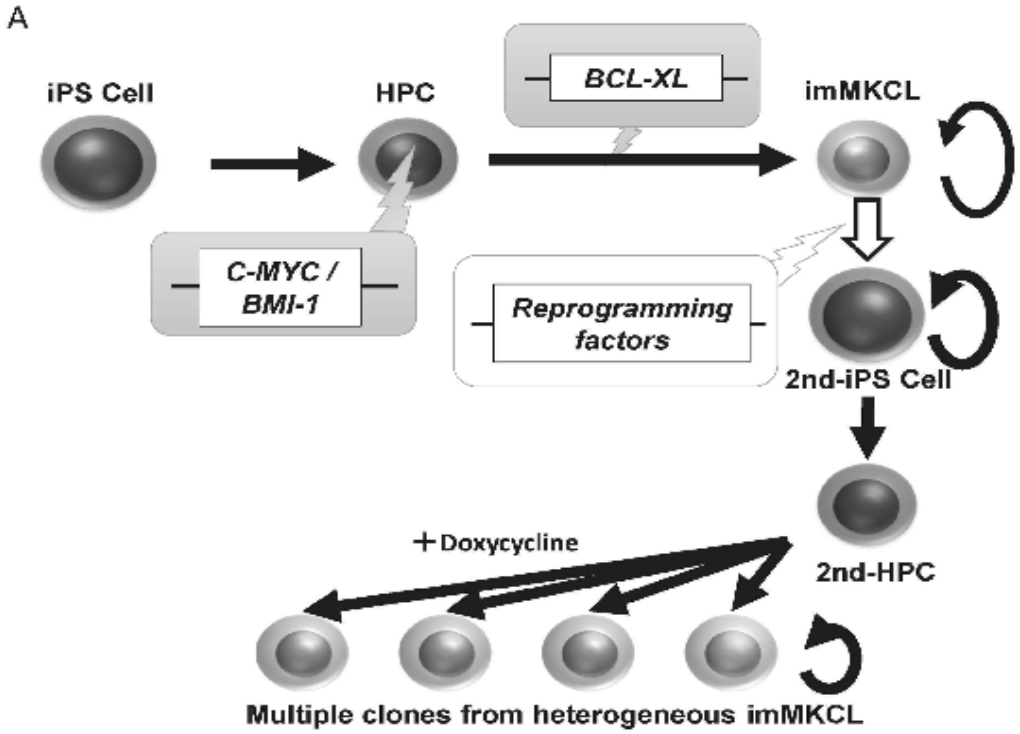

A
NUMBER OF PLATELETS PRODUCED
NUMBER OF PLATELETS PER MEGAKARYOCYTE
0
1
2
3
4
H
1
2
4
11
13
B
PLATELET FUNCTION
MEAN FLUORESCENCE INTENSITY
0
200
400
600
800
1,000
NS
0.4uM PMA
11
1
2
4
11
13

Fig. 4


A
iPS Cell
HPC
BCL-XL
imMKCL
C-MYC / BMI-1
Reprogramming factors
2nd-iPS Cell
+Doxycycline
2nd-HPC
Multiple clones from heterogeneous imMKCL

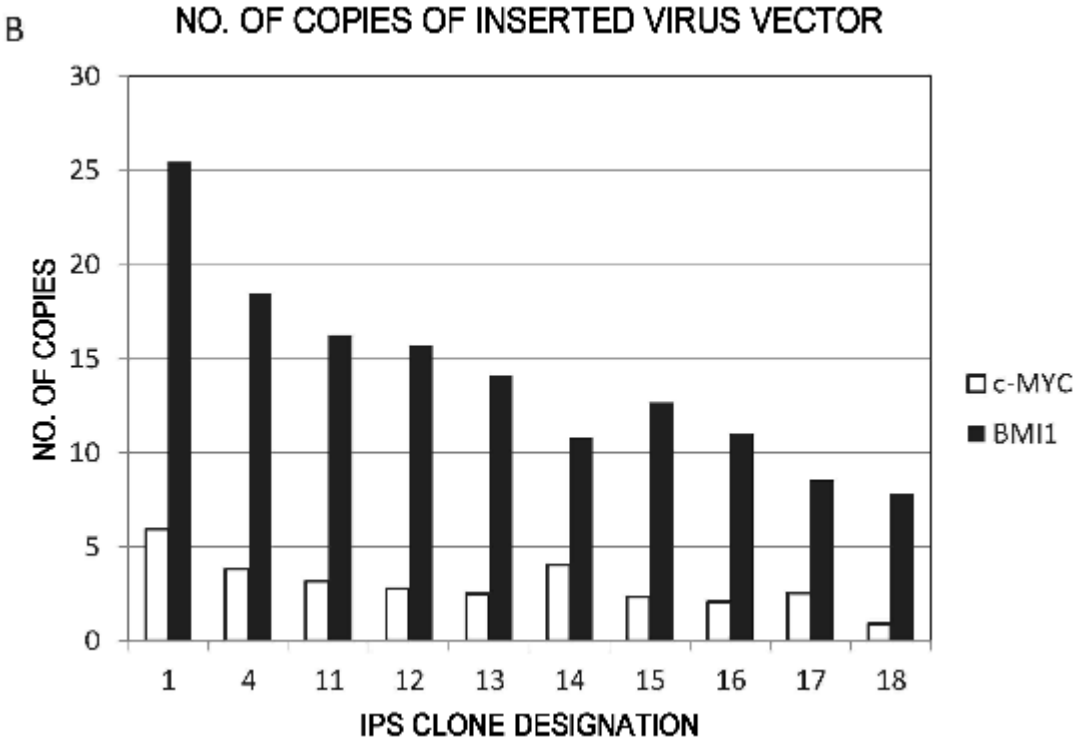

B
NO. OF COPIES OF INSERTED VIRUS VECTOR
NO. OF COPIES
30
25
20
15
10
5
0
1
4
11
12
13
14
15
16
17
18
IPS CLONE DESIGNATION
c-MYC
BMI1

Fig. 5

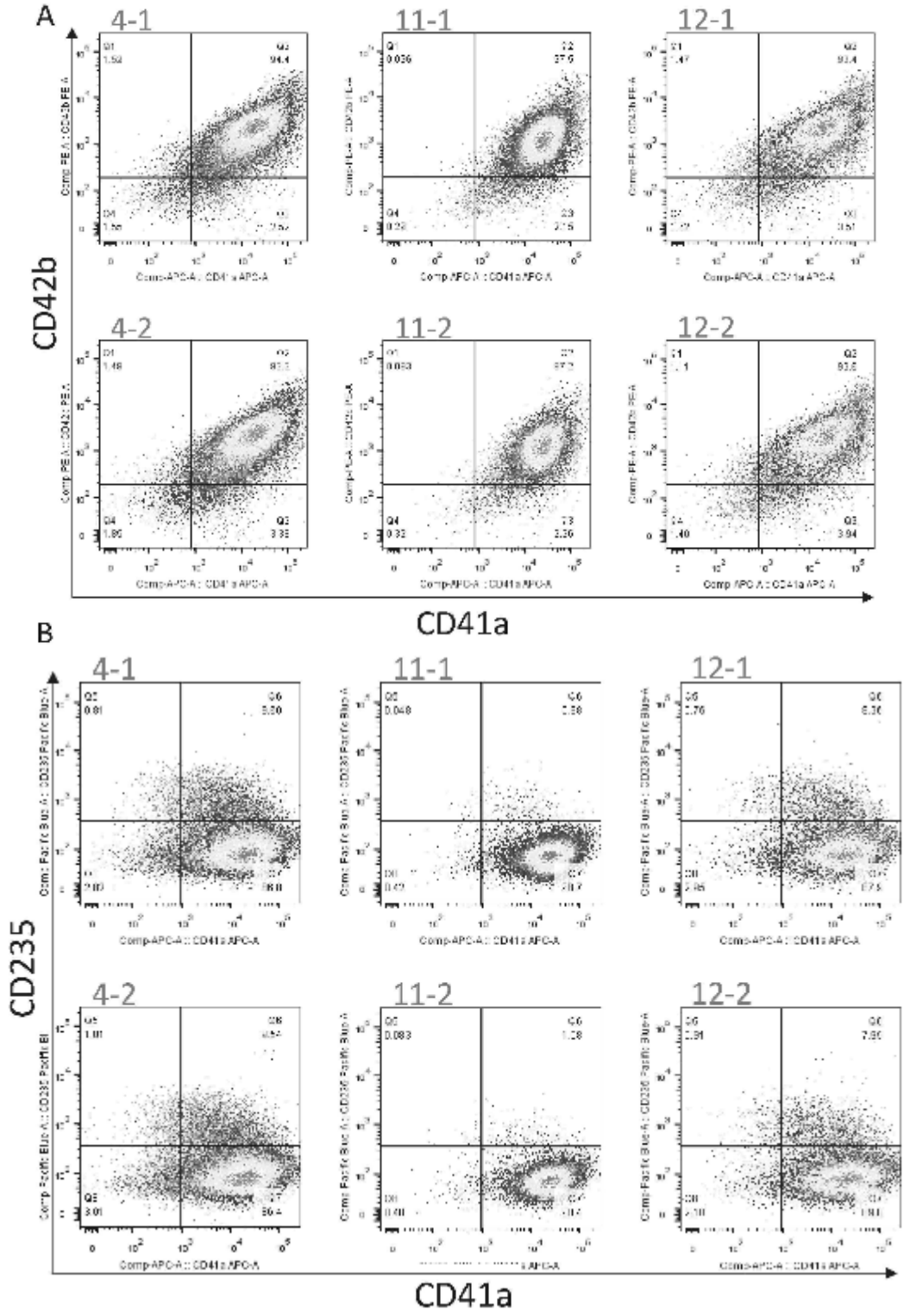
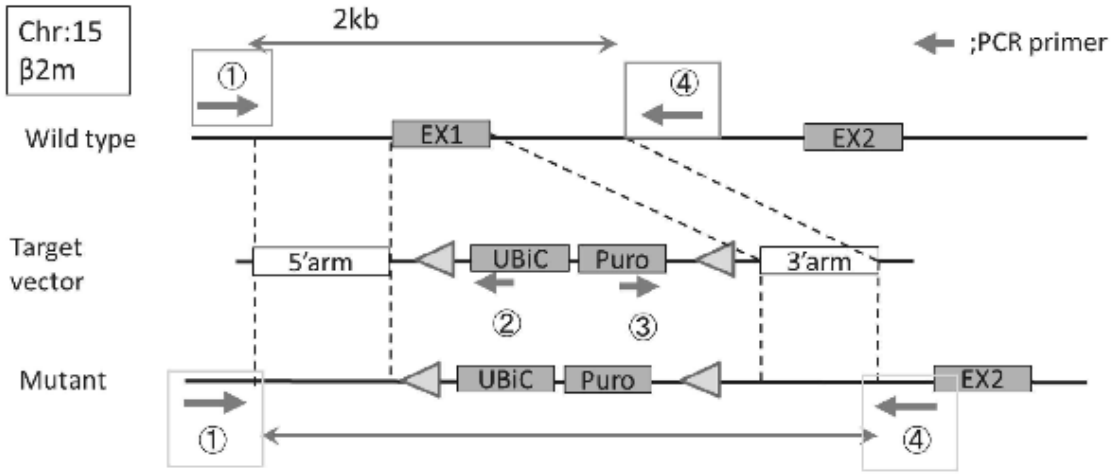

A
4-1
11-1
12-1
4-2
11-2
12-2
CD42b
CD41a
B
4-1
11-1
12-1
4-2
11-2
12-2
CD235
CD41a

Fig. 6

A


Chr:15
β2m
2kb
;PCR primer
①
④
Wild type
EX1
EX2
Target
vector
5'arm
UBiC
Puro
3'arm
②
③
Mutant
UBiC
Puro
EX2
①
④

B

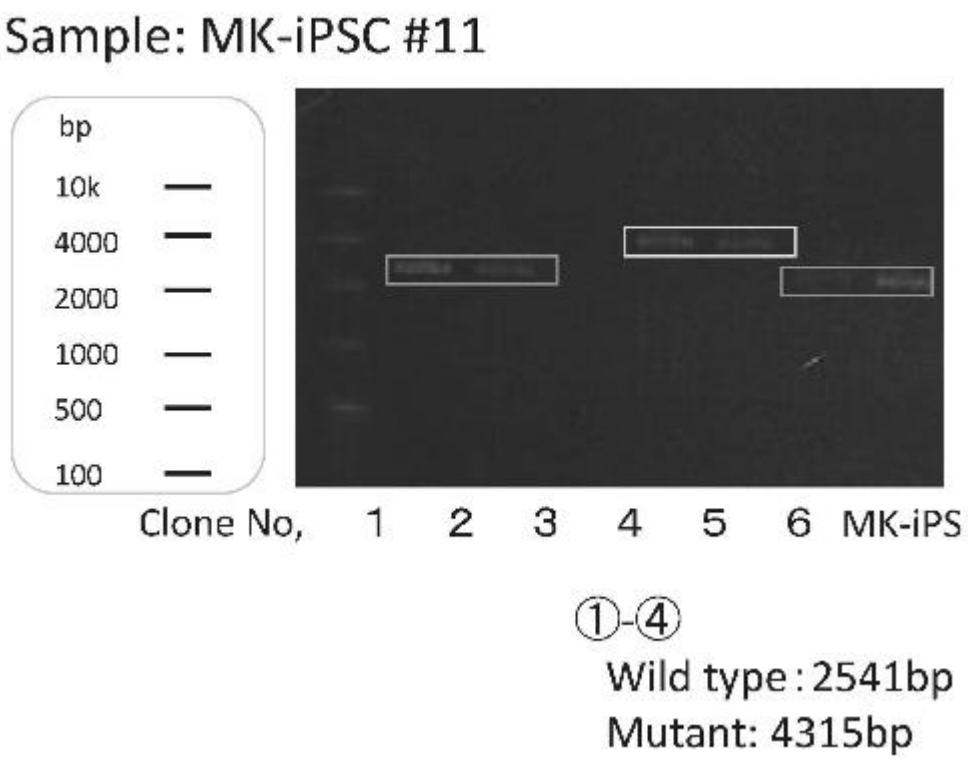
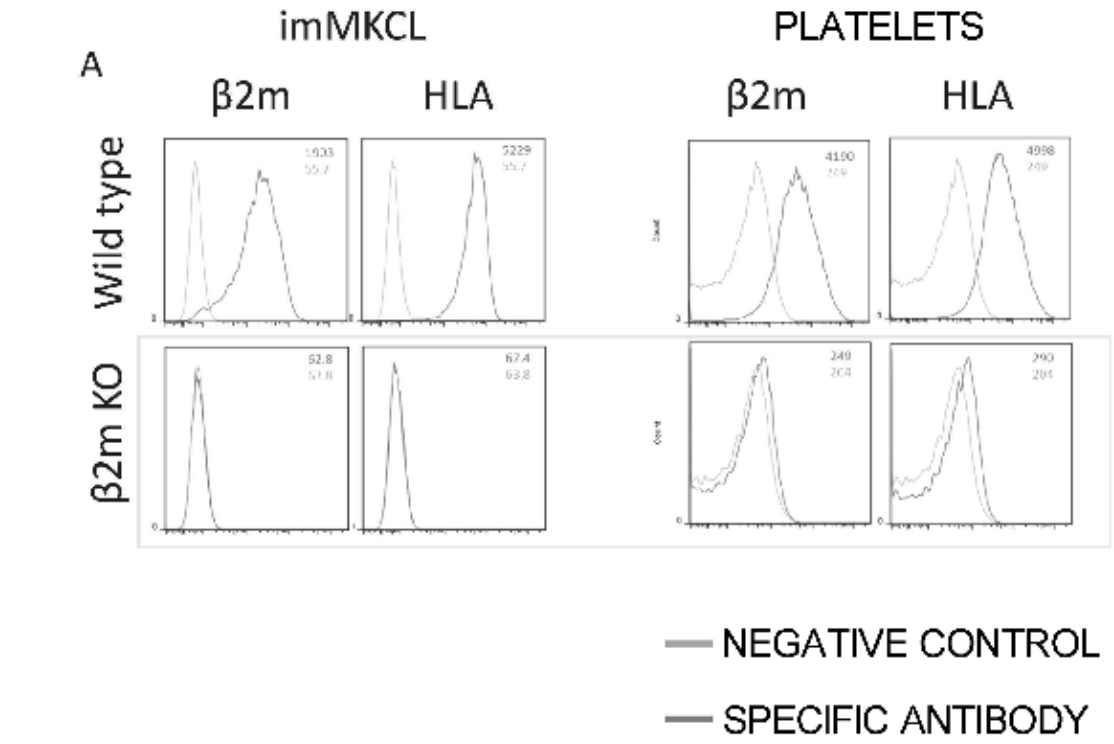

Sample: MK-iPSC #11
bp
10k
4000
2000
1000
500
100
Clone No, 1 2 3 4 5 6 MK-iPS
①-④
Wild type : 2541bp
Mutant: 4315bp

Fig. 7


A
imMKCL
PLATELETS
β2m
HLA
β2m
HLA
Wild type
β2m KO
NEGATIVE CONTROL
SPECIFIC ANTIBODY

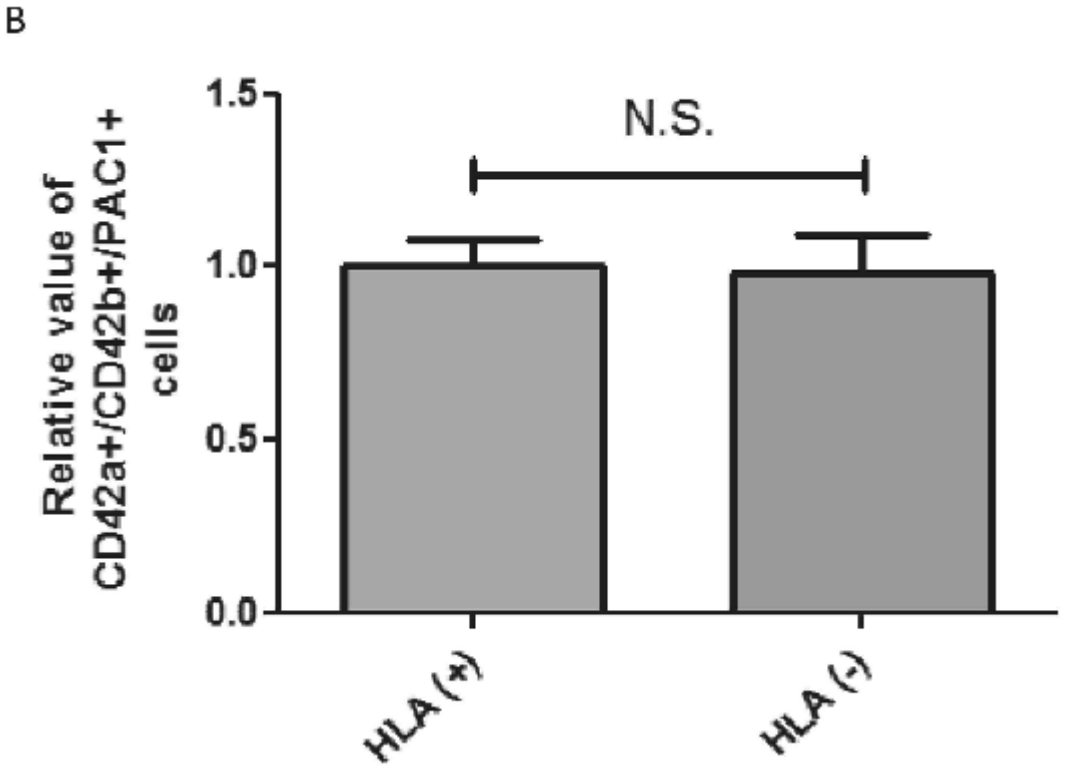

B
Relative value of CD42a+/CD42b+/PAC1+ cells
1.5
1.0
0.5
0.0
N.S.
HLA (+)
HLA (-)

Fig. 8

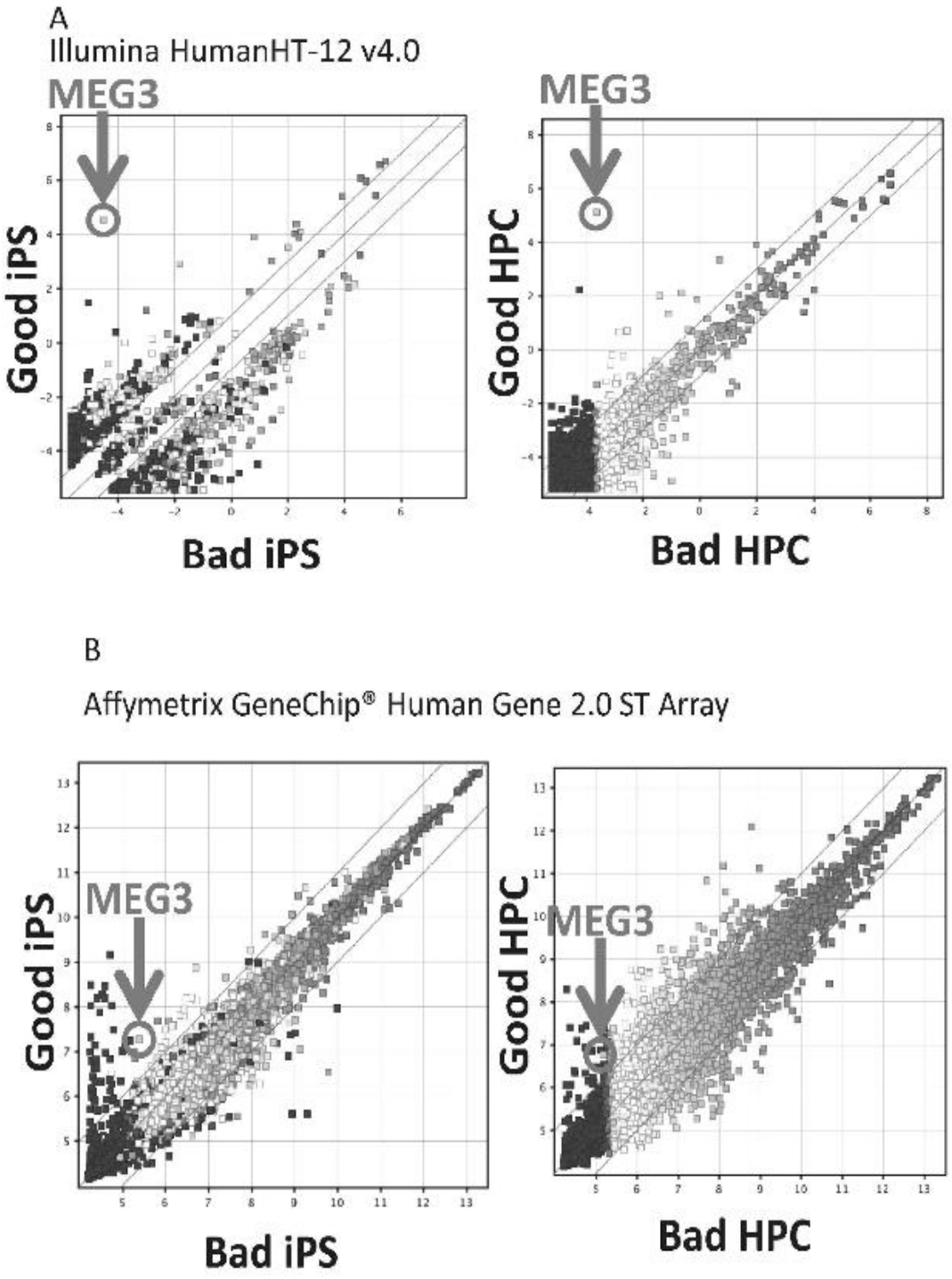

A
Illumina HumanHT-12 v4.0
MEG3
Good iPS
Bad iPS
MEG3
Good HPC
Bad HPC
B
Affymetrix GeneChip® Human Gene 2.0 ST Array
MEG3
Good iPS
Bad iPS
MEG3
Good HPC
Bad HPC

Fig. 9

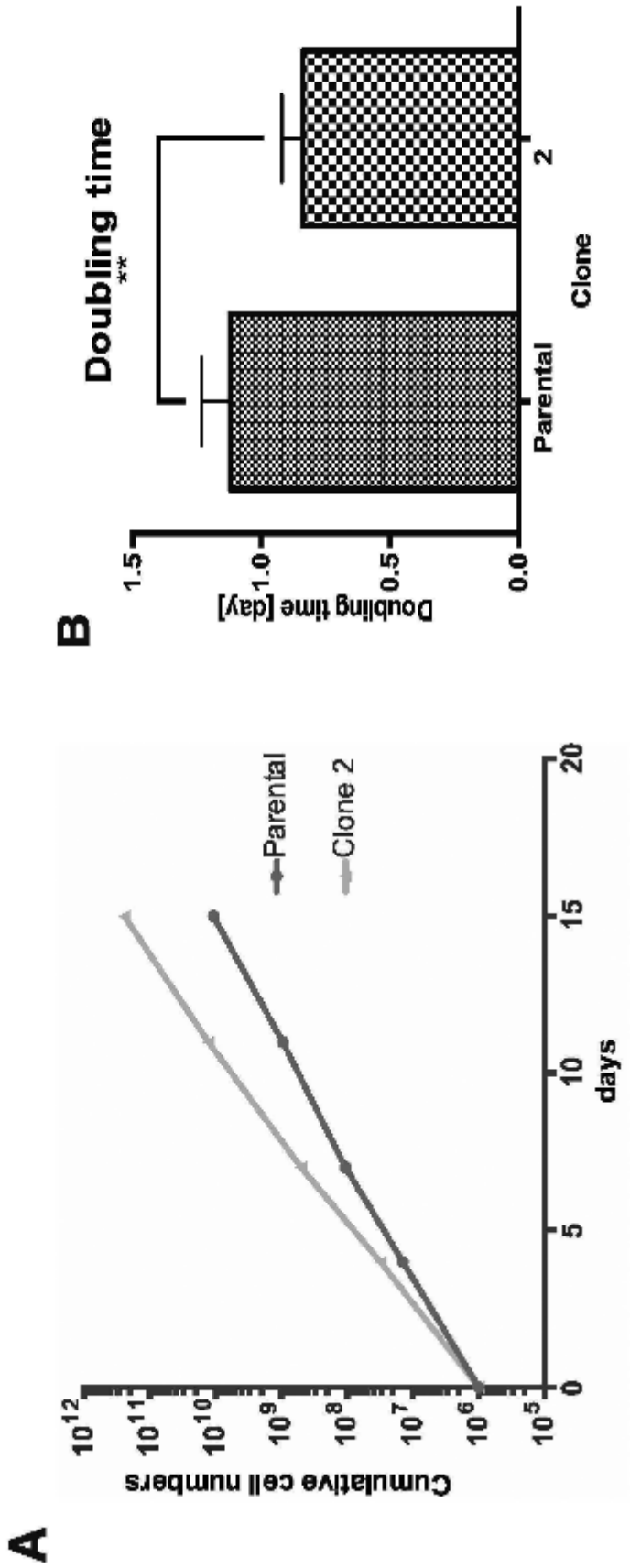
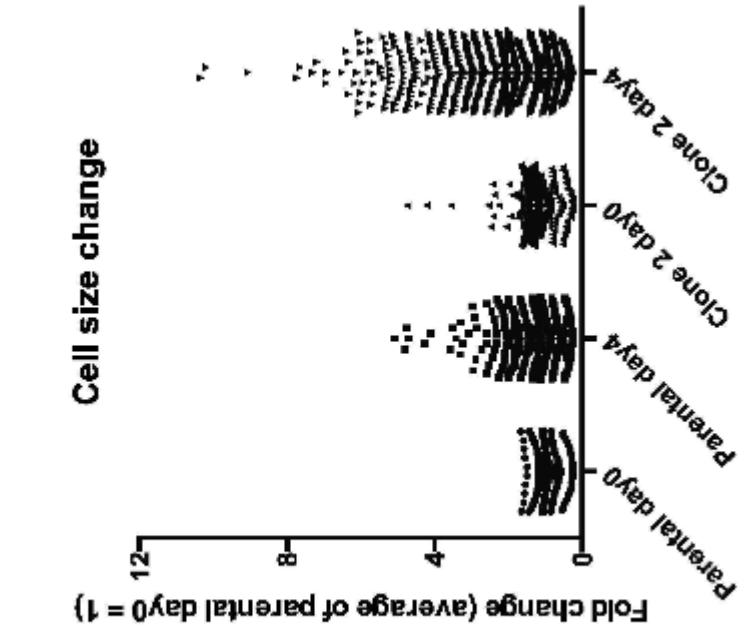

A
Cumulative cell numbers
10^{12}
10^{11}
10^{10}
10^{9}
10^{8}
10^{7}
10^{6}
10^{5}
0
5
10
15
20
days
Parental
Clone 2
B
Doubling time
**
Doubling time [day]
1.5
1.0
0.5
0.0
Parental
2
Clone

Fig. 10


Cell size change
Fold change (average of parental day0 = 1)
0
4
8
12
Parental day0
Parental day4
Clone 2 day0
Clone 2 day4

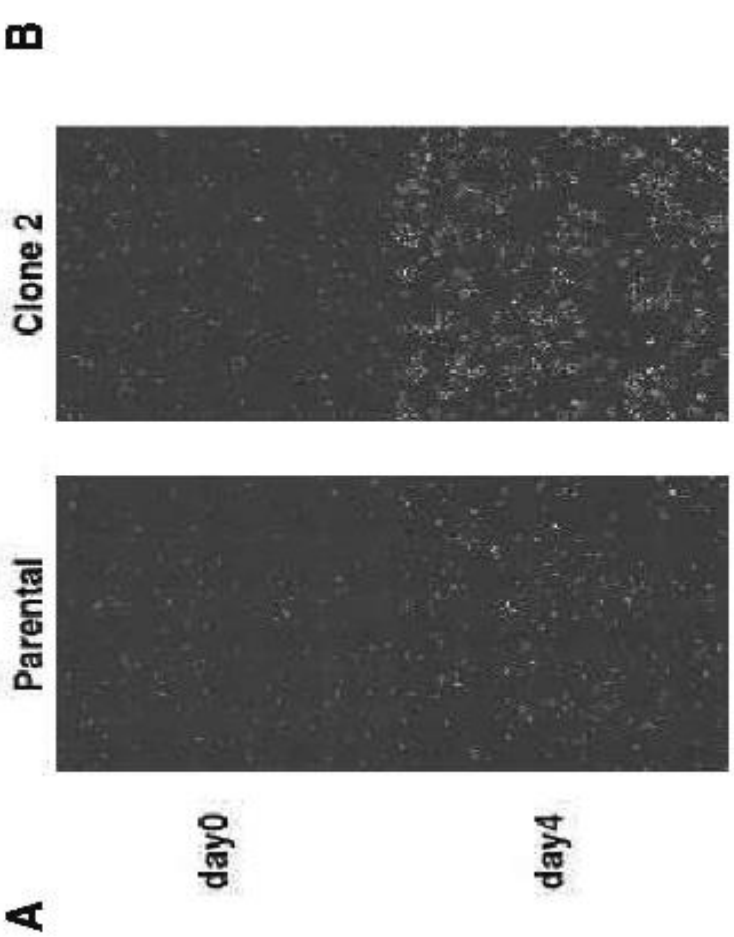
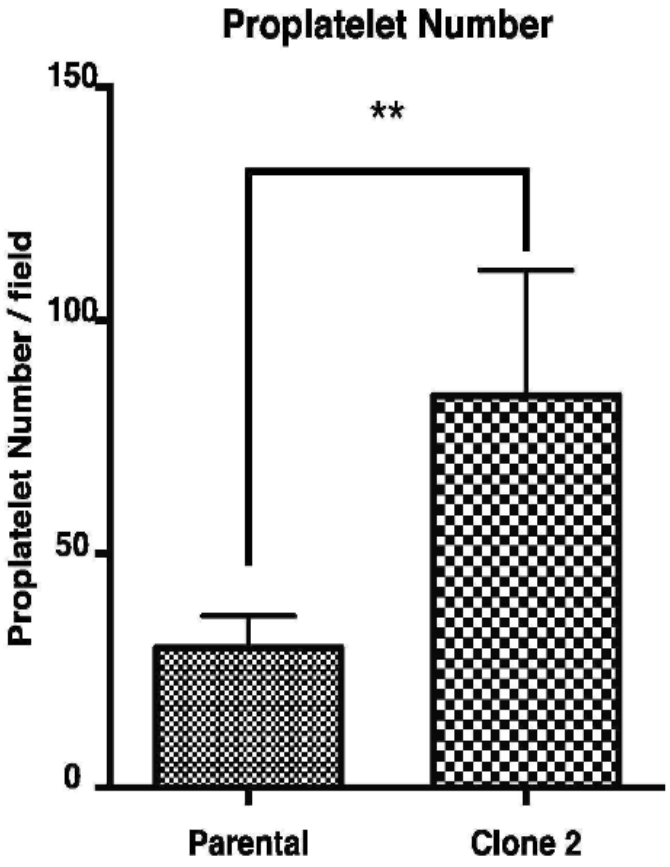

A
B
Parental
Clone 2
day0
day4

Fig. 11


Proplatelet Number
**
150
100
50
0
Proplatelet Number / field
Parental
Clone 2