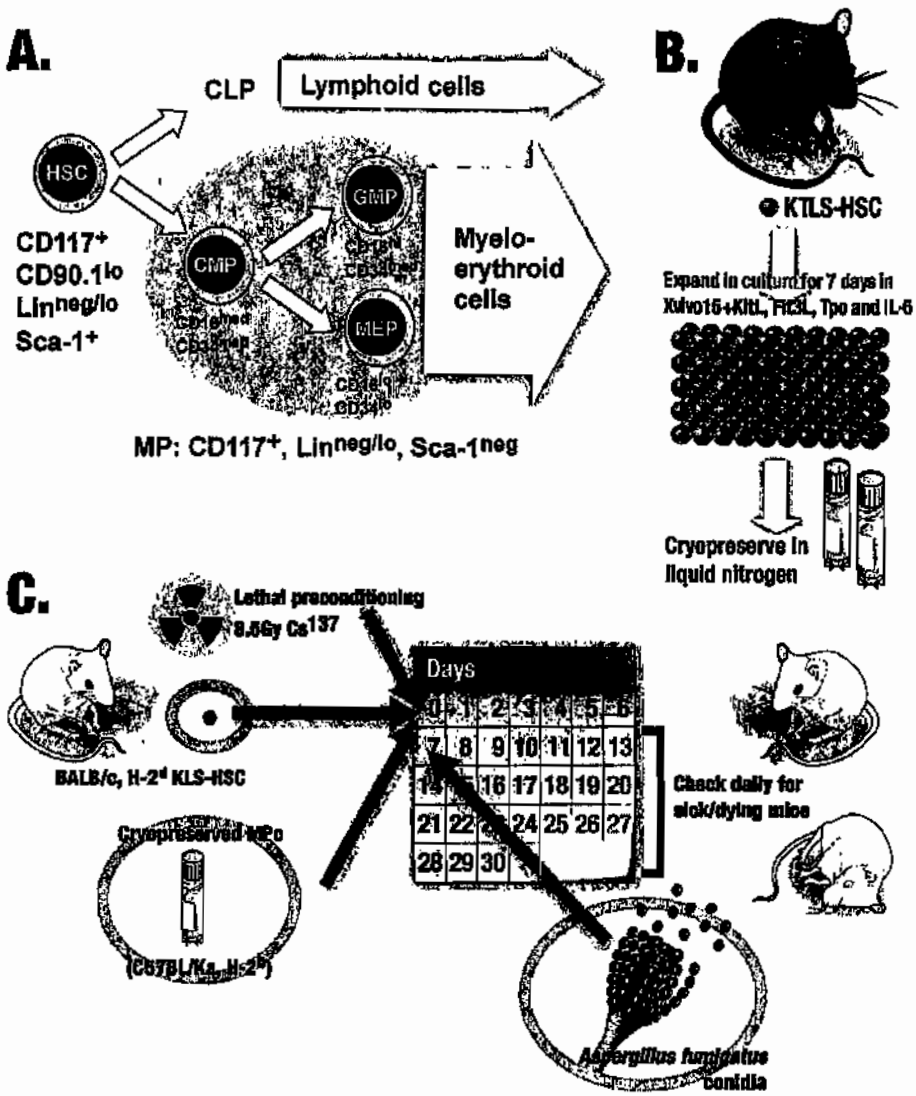

A.
CLP
Lymphoid cells
HSC
CD117+
CD90.1lo
Linneg/lo
Sca-1+
CMP
GMP
MEP
Myelo-
erythroid
cells
MP: CD117+, Linneg/lo, Sca-1neg
B.
KTLS-HSC
Expand in culture for 7 days in
Xuivo15+KitL, Flt3L, Tpo and IL-6
Cryopreserve in
liquid nitrogen
C.
Lethal preconditioning
9.5Gy Cs137
BALB/c, H-2d KLS-HSC
Cryopreserved MEC
(C57BL/Ka, H-2b)
Days
0 1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30
Check daily for
sick/dying mice
Aspergillus fumigatus
conidia

FIG._1

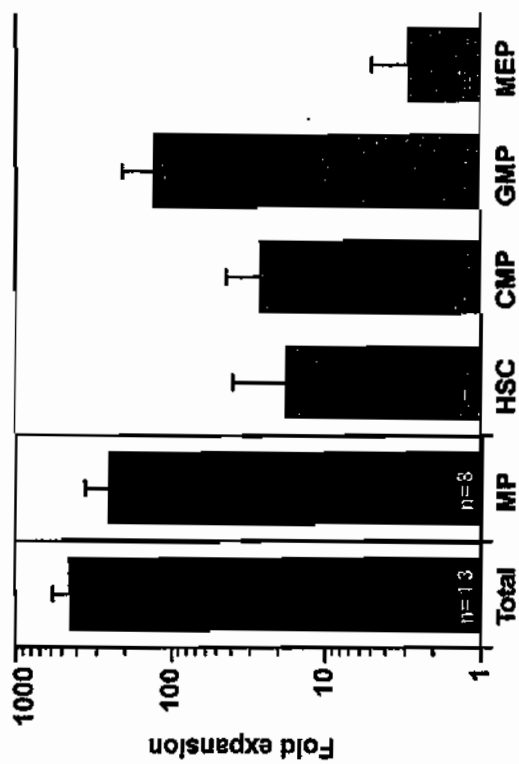


FIG._2B

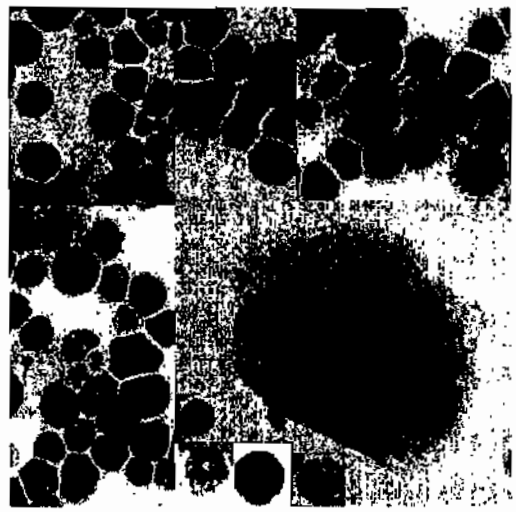


FIG._2A

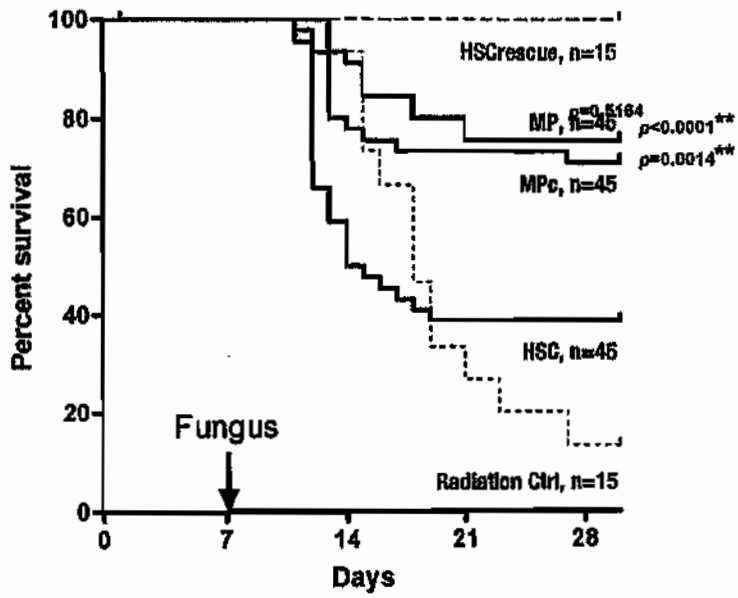

100
80
60
40
20
0
Percent survival
0
7
14
21
28
Days
HSCrescue, n=15
MP, n=45
p=0.5164
p<0.0001**
p=0.0014**
MPc, n=45
HSC, n=45
Fungus
Radiation Ctrl, n=15

FIG._3

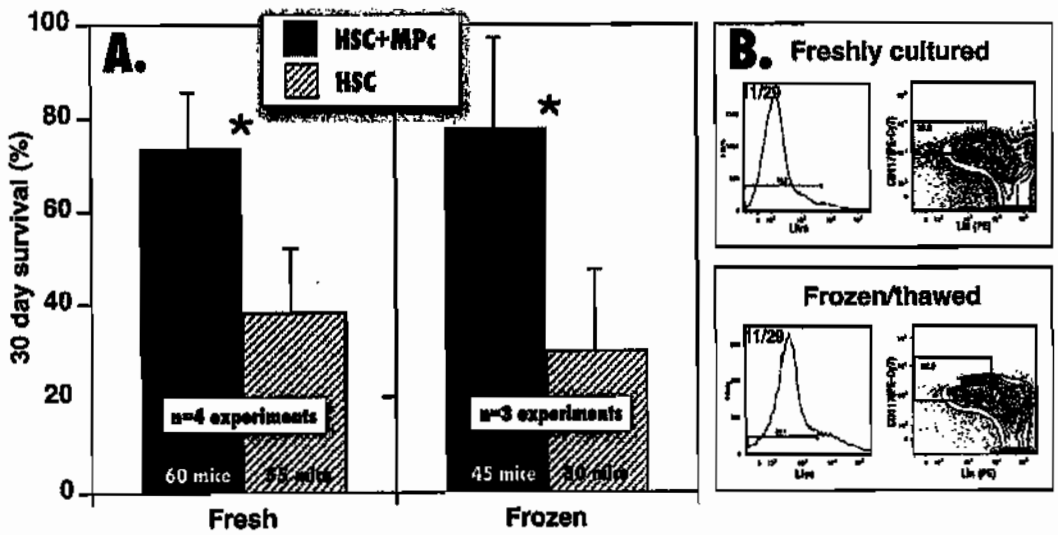

A.
HSC+MPc
HSC
30 day survival (%)
100
80
60
40
20
0
*
*
n=4 experiments
60 mice
n=3 experiments
45 mice
Fresh
Frozen
B. Freshly cultured
Frozen/thawed

FIG._4

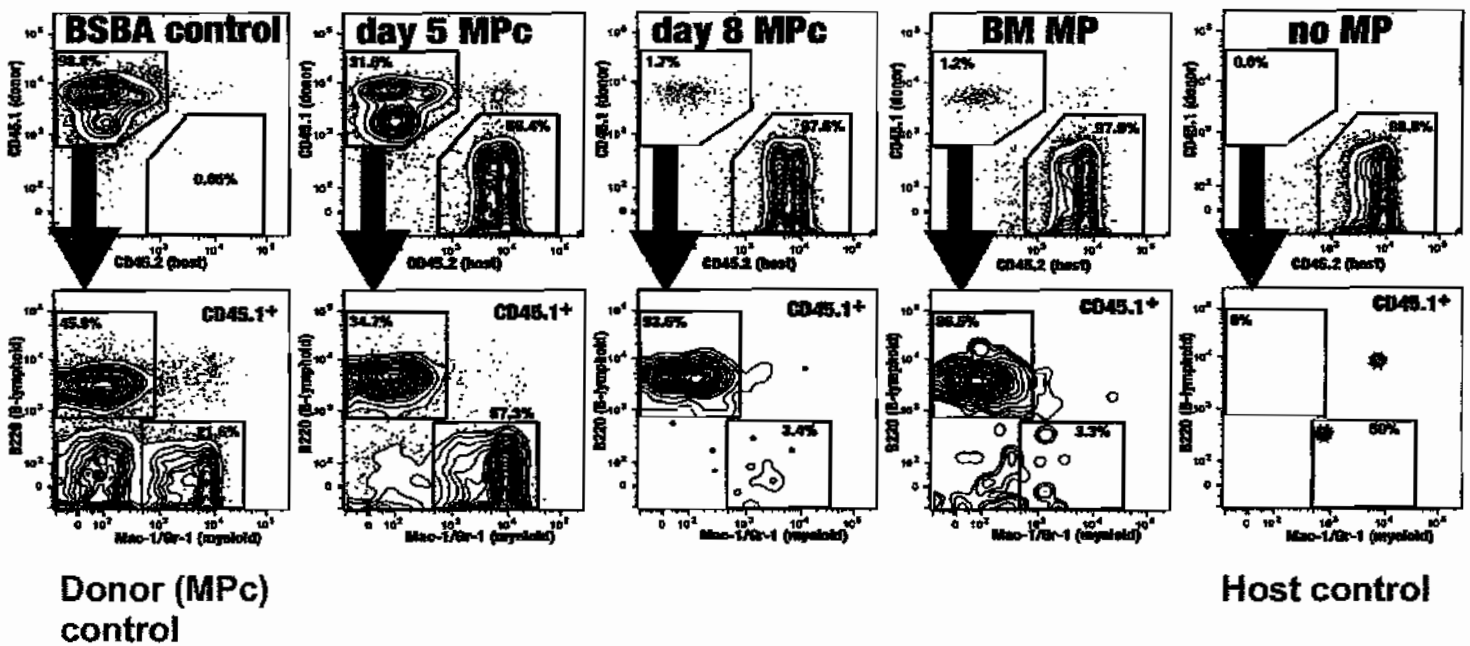
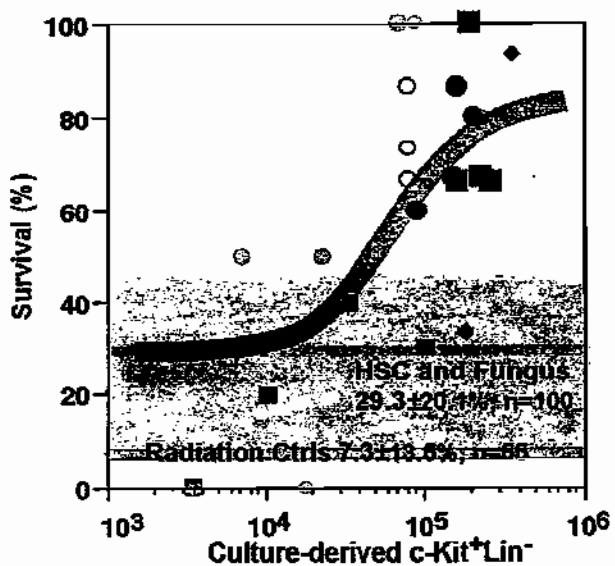
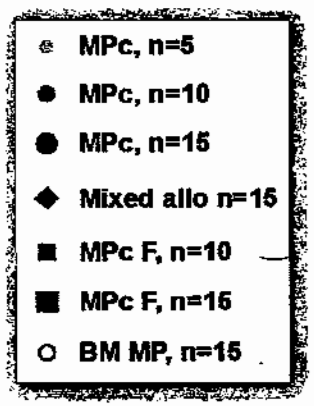

BSBA control
day 5 MPc
day 8 MPc
BM MP
no MP
CD45.1+
Donor (MPc) control
Host control

FIG._5


100
80
60
40
20
0
Survival (%)
HSC and Fungus
29.3±20.1%, n=100
Radiation Ctrls 7.3±13.6%, n=55
10³
10⁴
10⁵
10⁶
Culture-derived c-Kit⁺Lin⁻


MPc, n=5
MPc, n=10
MPc, n=15
Mixed allo n=15
MPc F, n=10
MPc F, n=15
BM MP, n=15

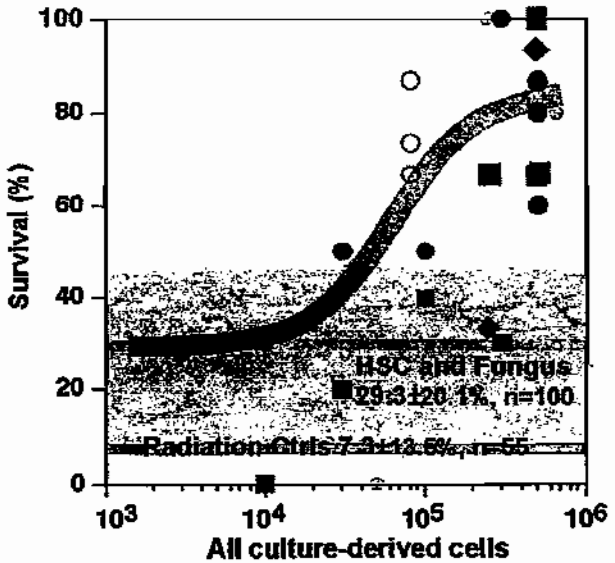

100
80
60
40
20
0
Survival (%)
HSC and Fungus
29.3±20.1%, n=100
Radiation Ctrls 7.3±13.6%, n=55
10³
10⁴
10⁵
10⁶
All culture-derived cells

FIG._6A

FIG._6B

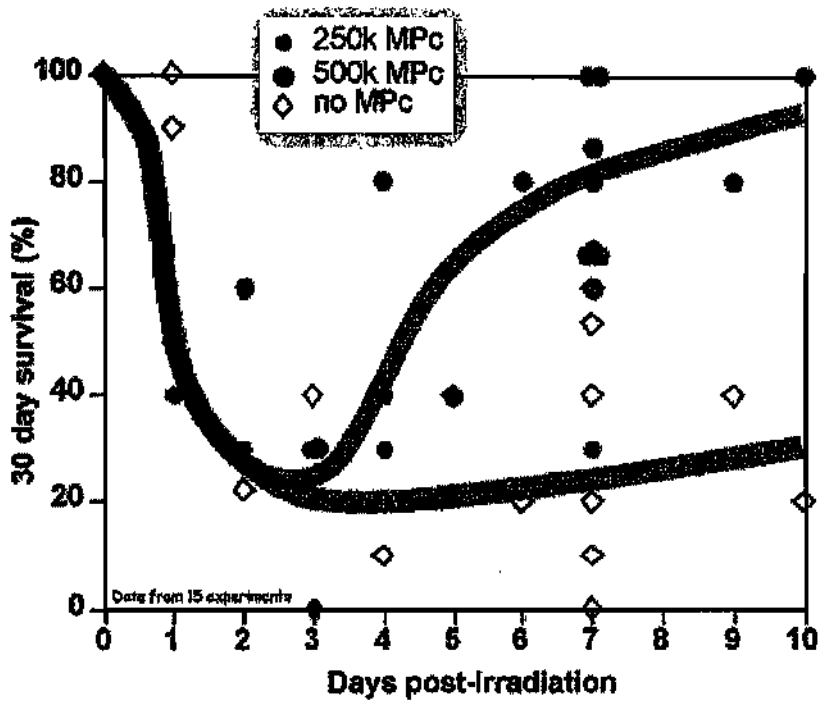

250k MPc
500k MPc
no MPc
100
80
60
40
20
0
30 day survival (%)
Data from 15 experiments
0
1
2
3
4
5
6
7
8
9
10
Days post-irradiation

FIG._7

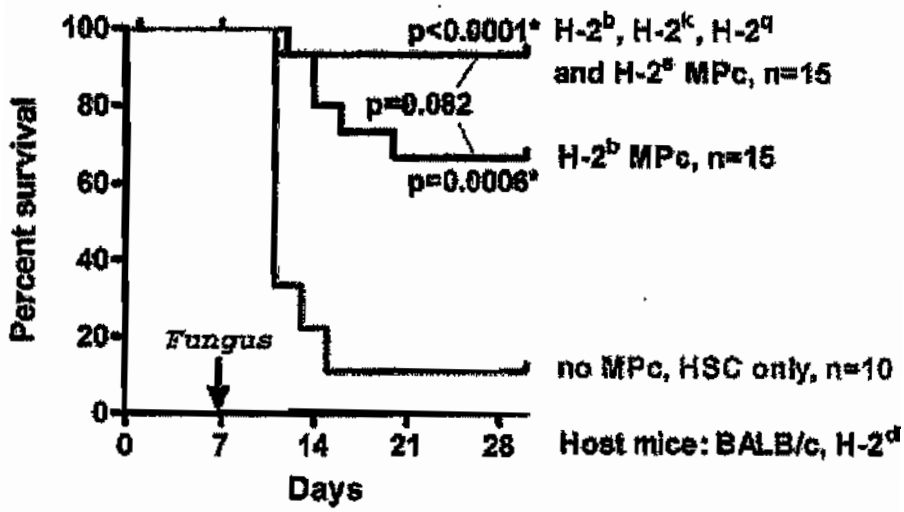
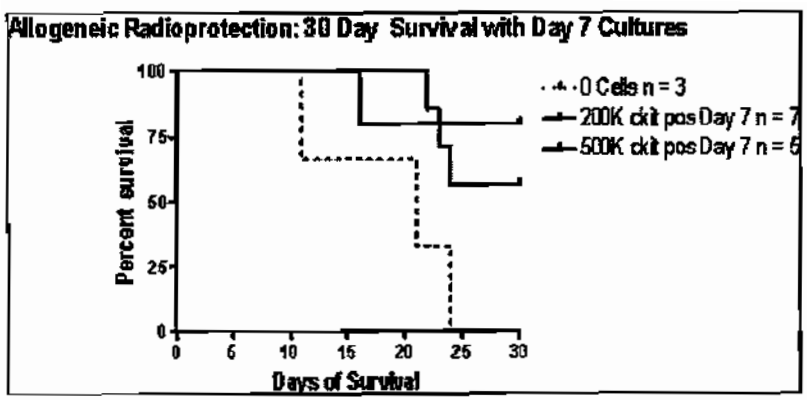
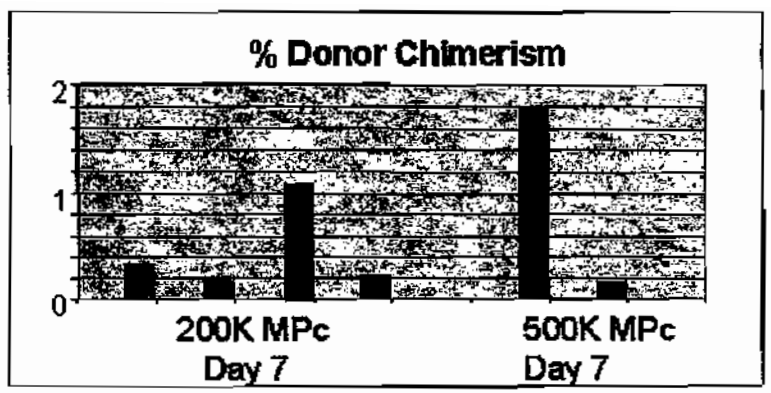

100
80
60
40
20
0
Percent survival
Fungus
0
7
14
21
28
Days
p<0.0001*
p=0.082
p=0.0006*
H-2b, H-2k, H-2q
and H-2s MPc, n=15
H-2b MPc, n=15
no MPc, HSC only, n=10
Host mice: BALB/c, H-2d

FIG._8





	% Average Donor	(Range)
200K	0.46	(0.23-1.11%)
500K	0.97	(0.16-1.78%)

FIG._9A

FIG._9B

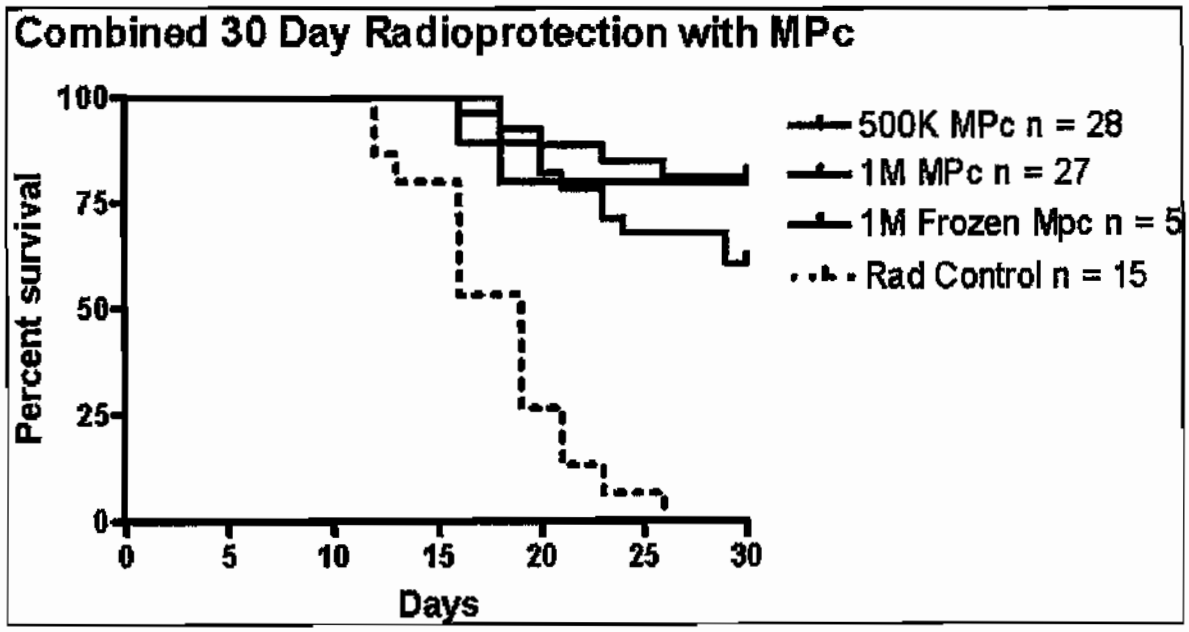

Combined 30 Day Radioprotection with MPc
Percent survival
100
75
50
25
0
0
5
10
15
20
25
30
Days
500K MPc n = 28
1M MPc n = 27
1M Frozen Mpc n = 5
Rad Control n = 15

FIG._10

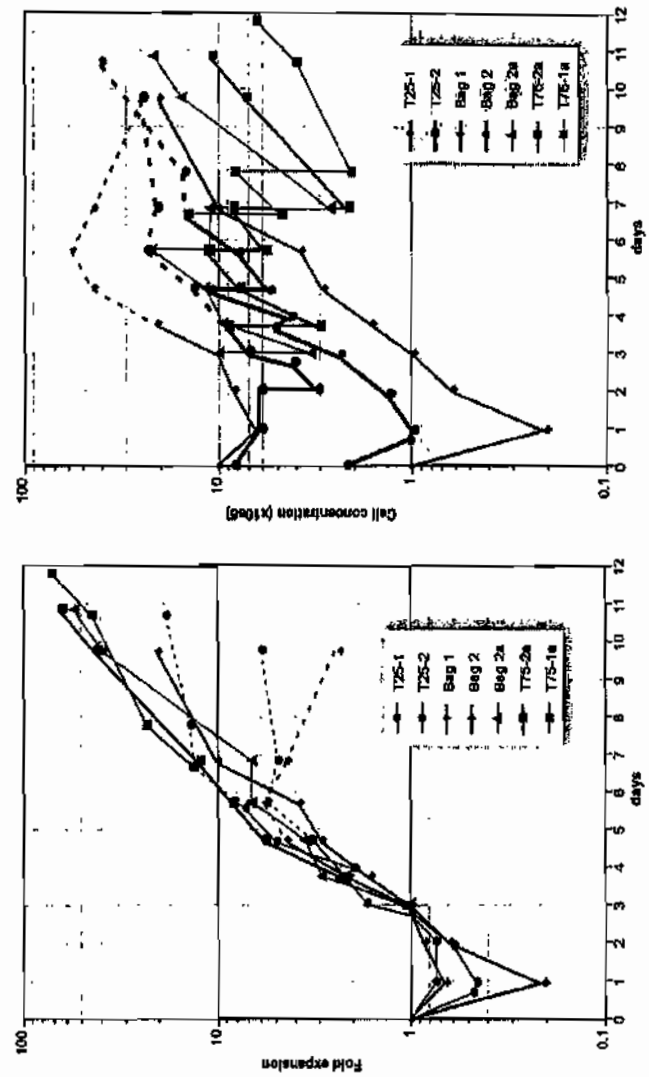


FIG._11A

FIG._11B

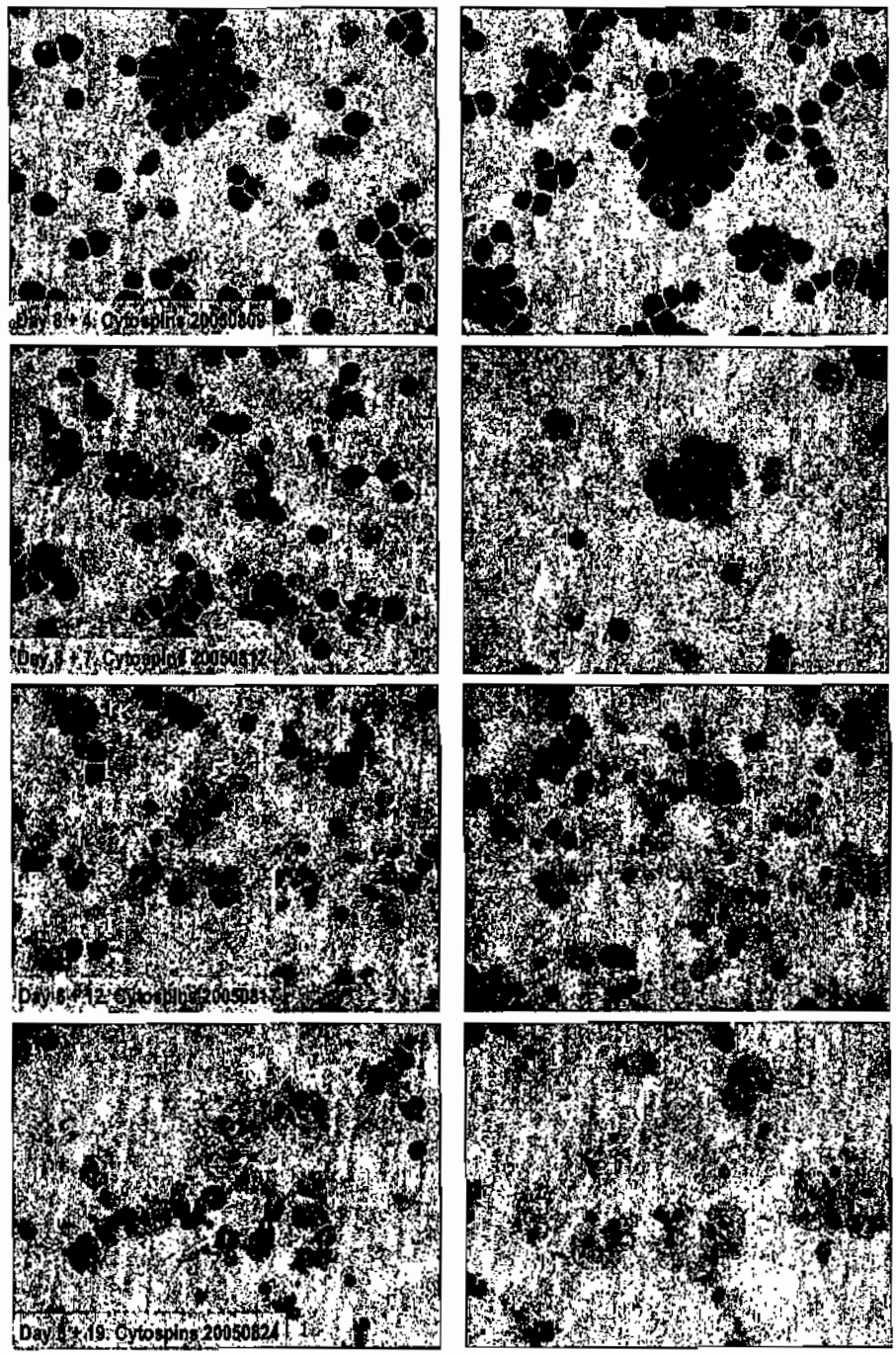


FIG._12

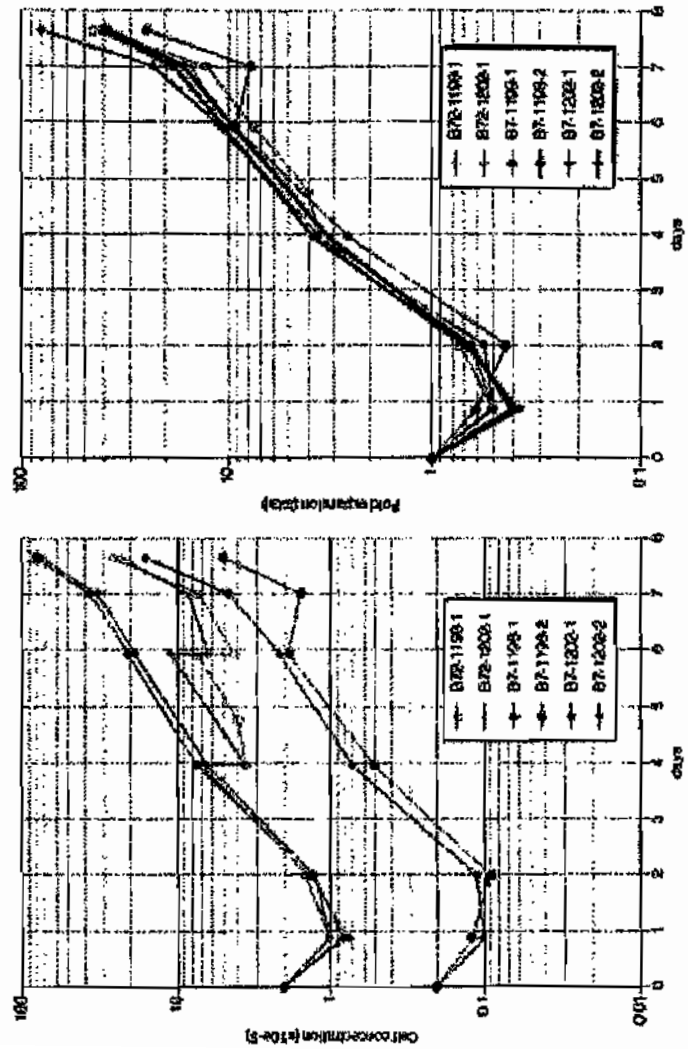


FIG._13B

FIG._13A

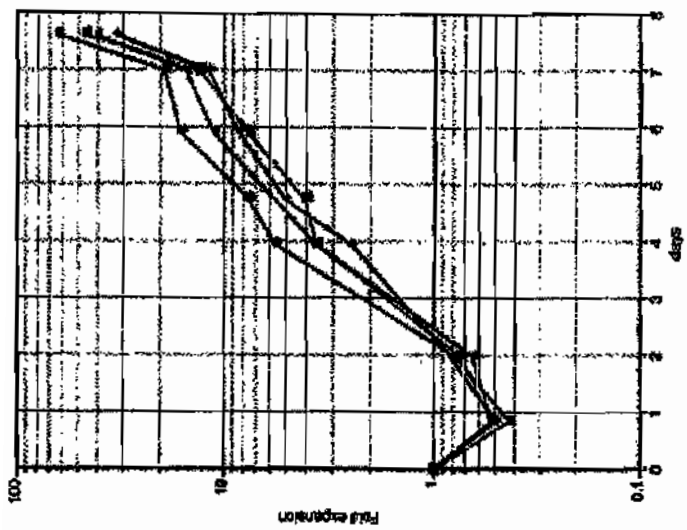


FIG._14B

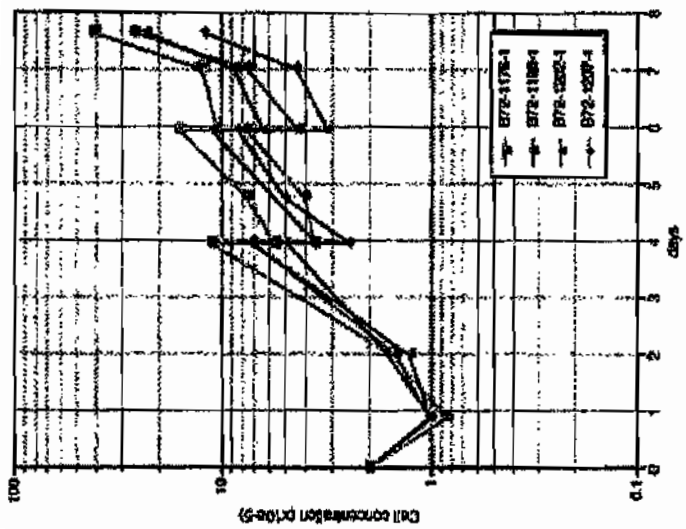


FIG._14A

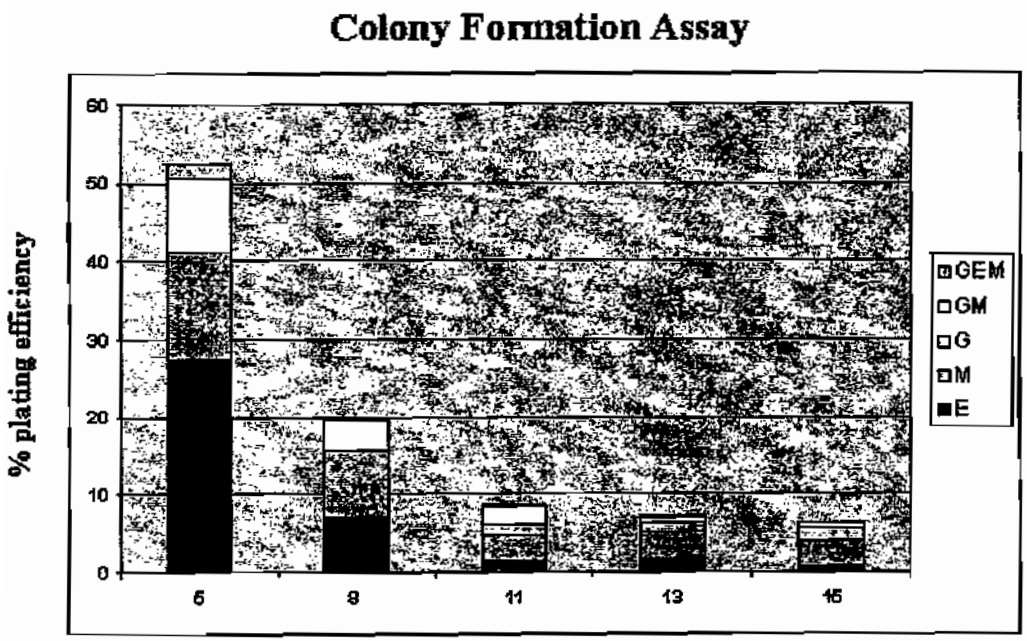


FIG._15A

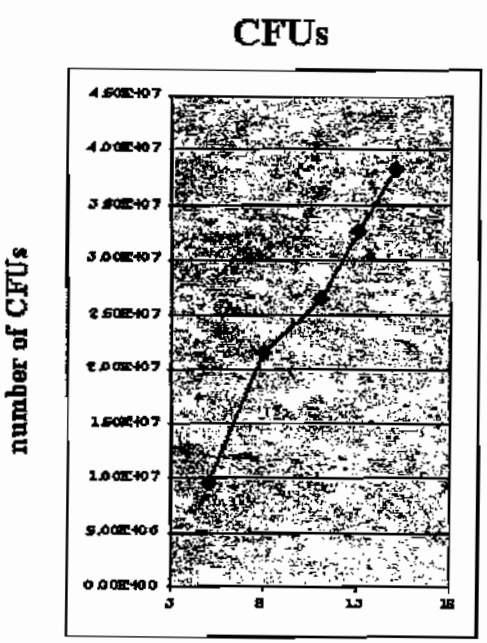


FIG._15B

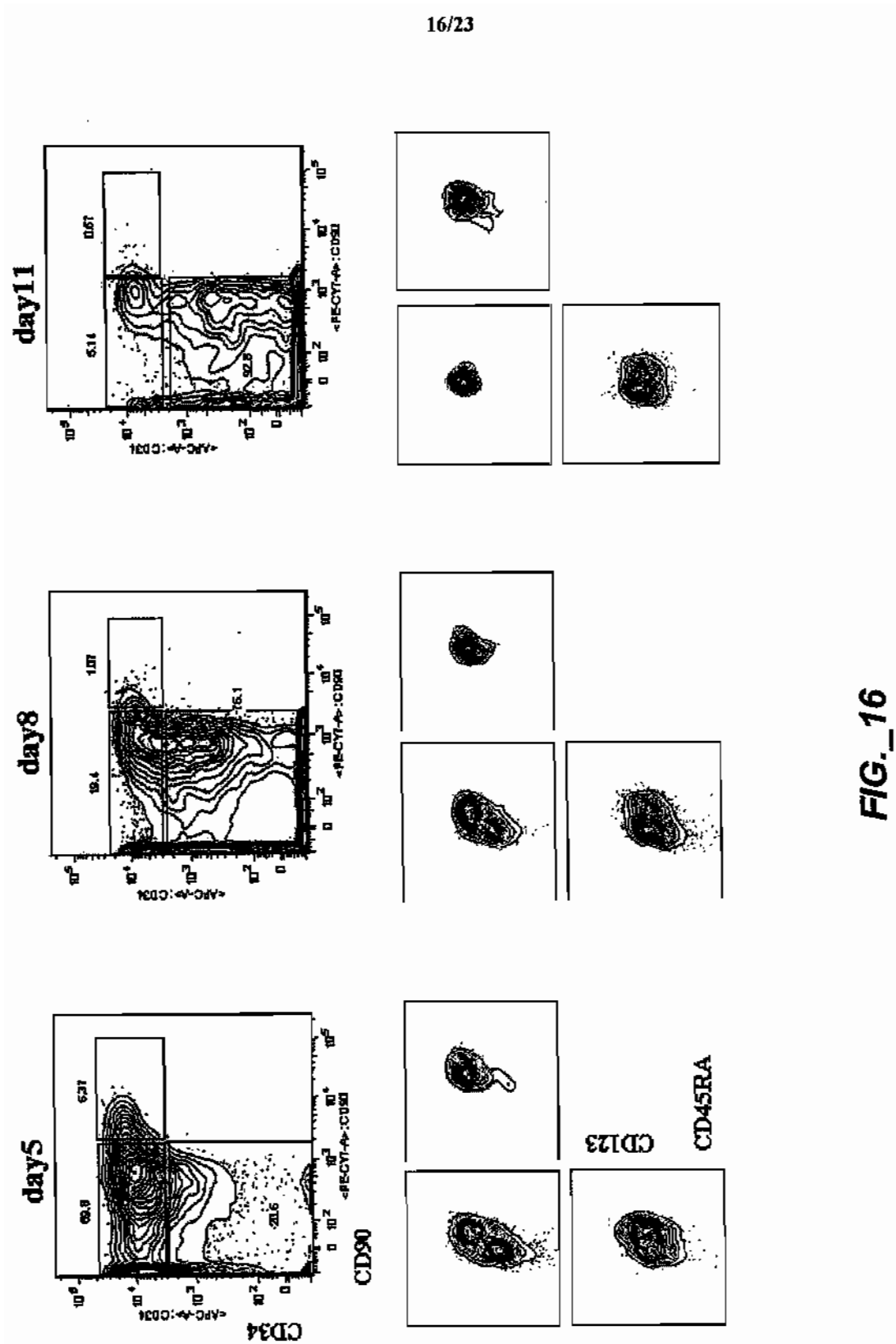


FIG._16

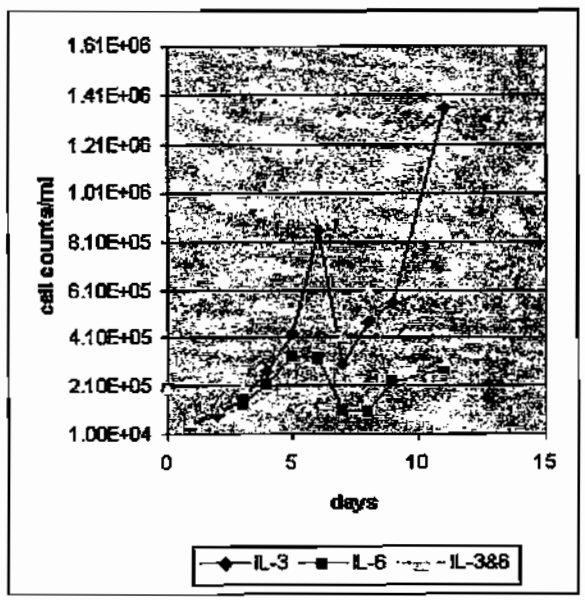


FIG._17 A

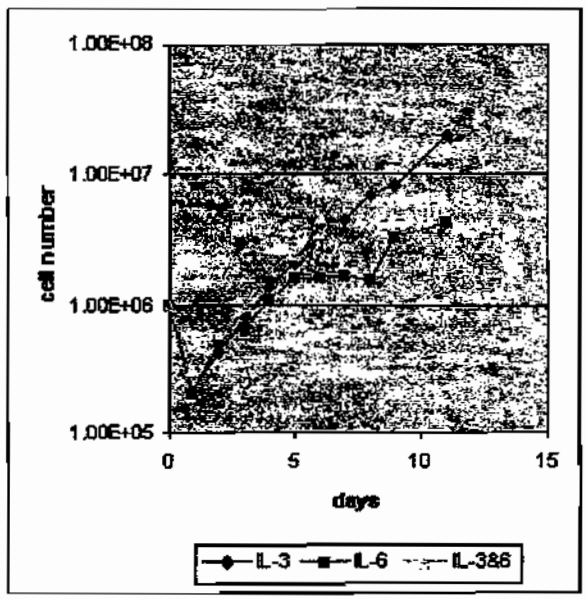


FIG._17 B

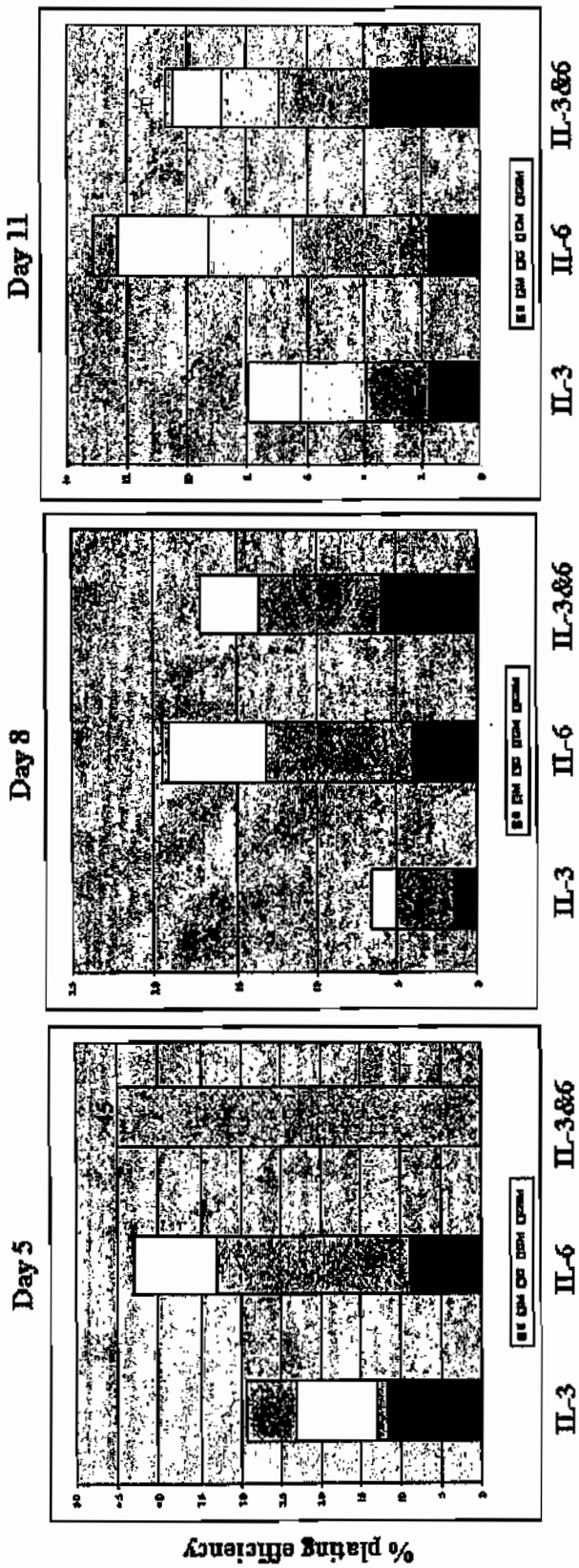


FIG._18A FIG._18B FIG._18C

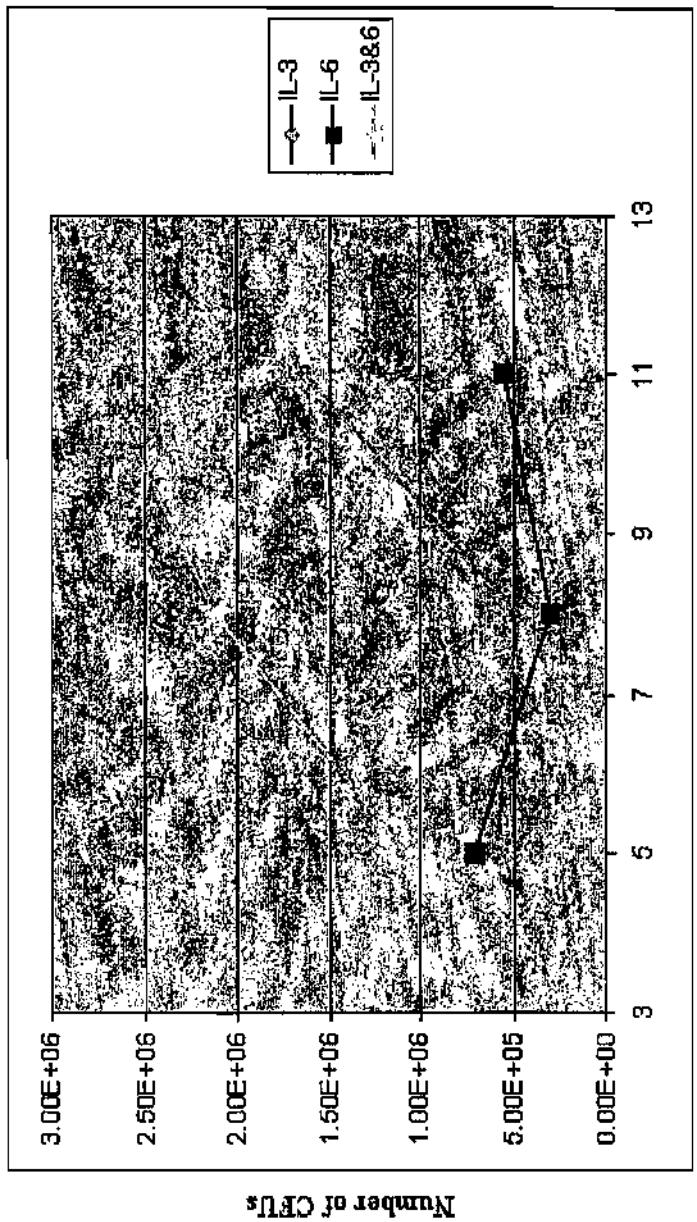

IL-3
IL-6
IL-3&6
3.00E+06
2.50E+06
2.00E+06
1.50E+06
1.00E+06
5.00E+05
0.00E+00
3
5
7
9
11
13
days
Number of CFUs

FIG._19

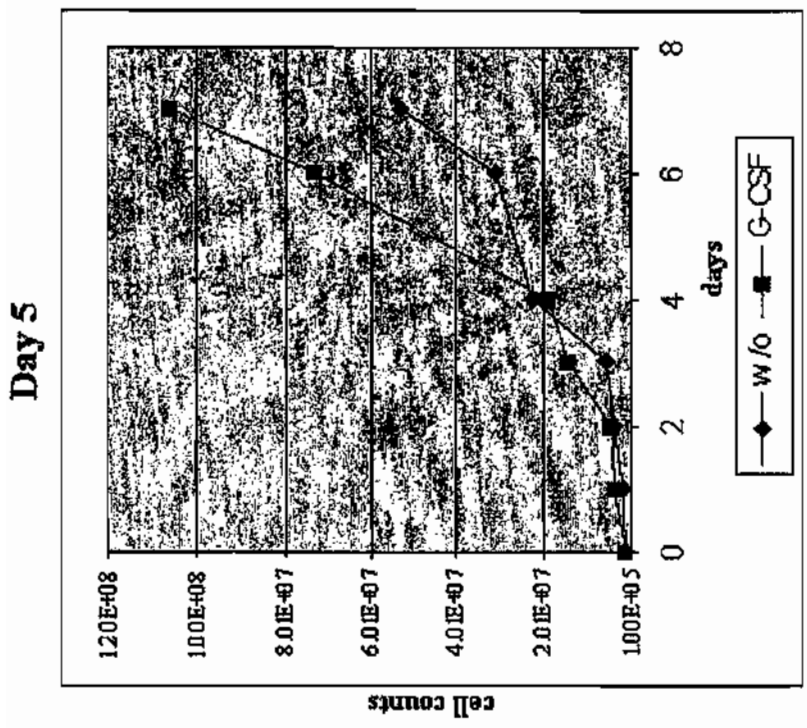


FIG._20A

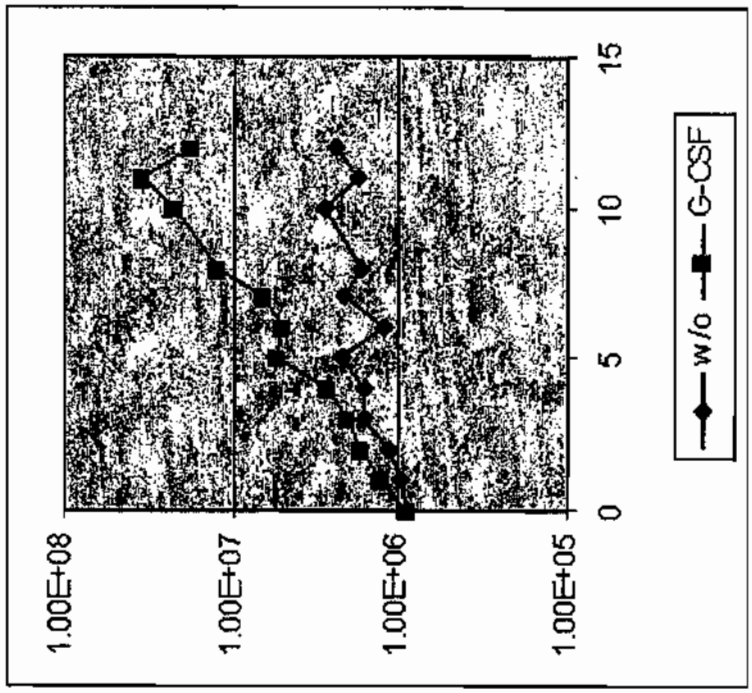


FIG._20B

Timeline

***In vivo* experiment:** **d8 MPc**
1.5E+07 cells / mouse i.v.
125 µg G-CSF / mouse s.c.
50 µl anti-Asialo i.p.

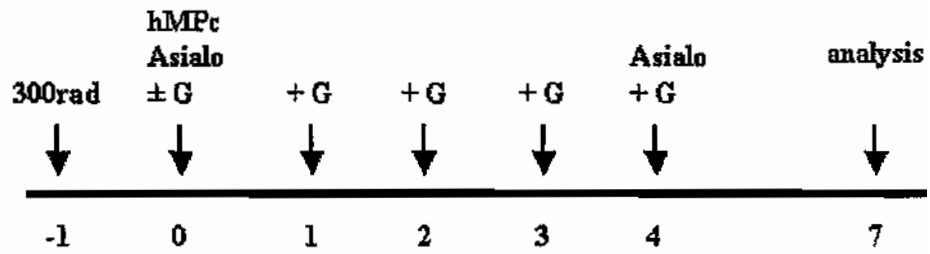


FIG._21

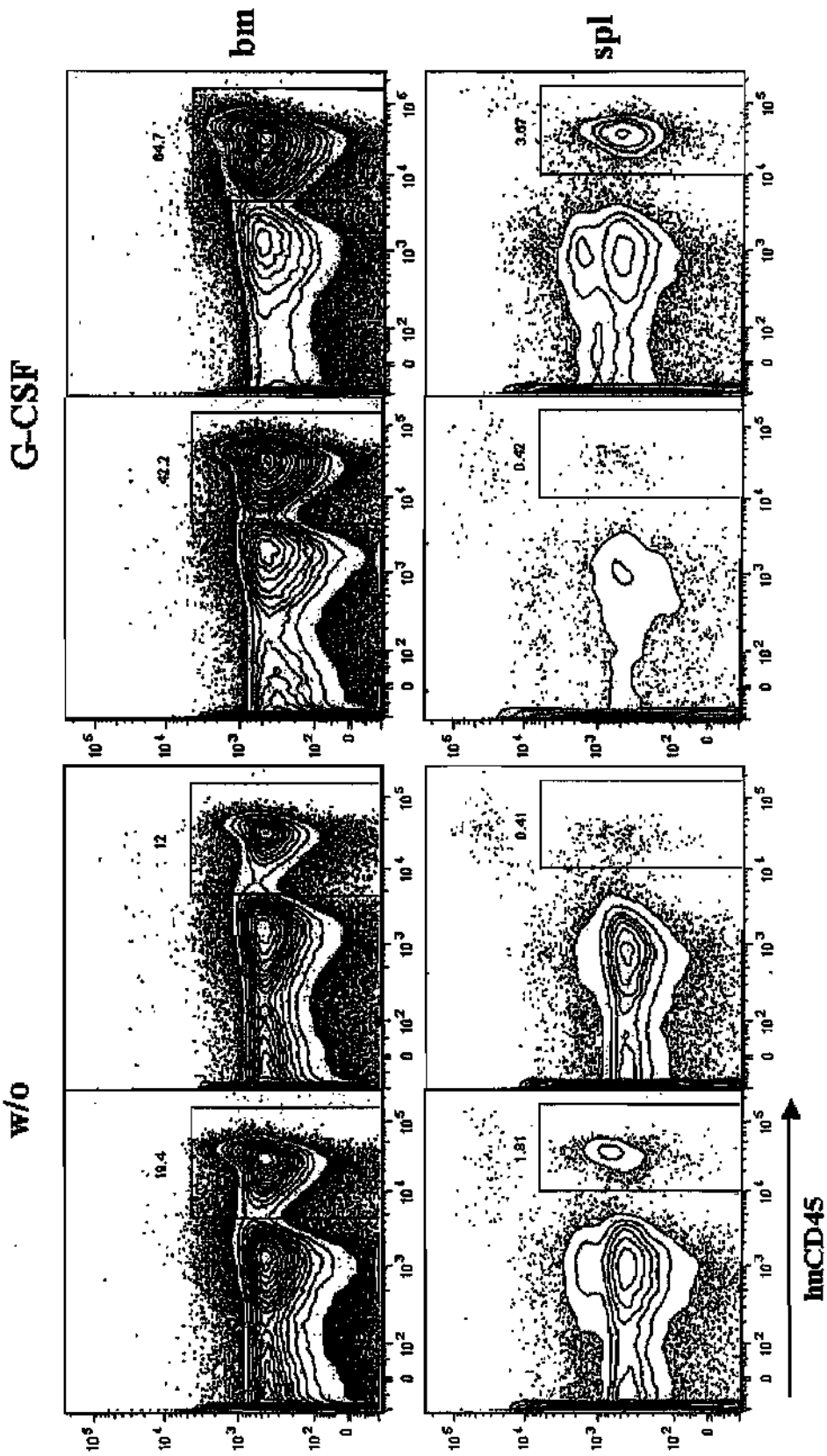


FIG._22

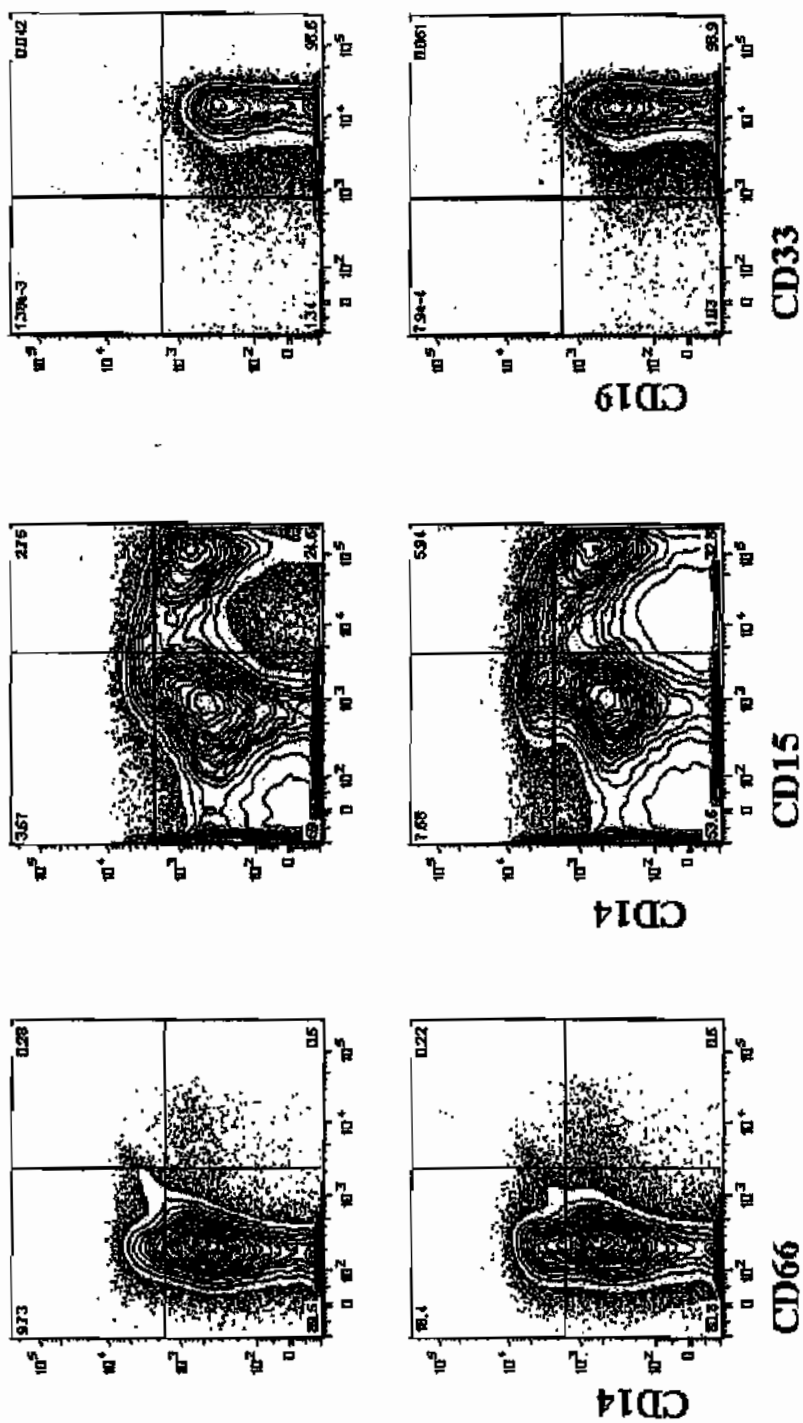


FIG._23