Figure 1

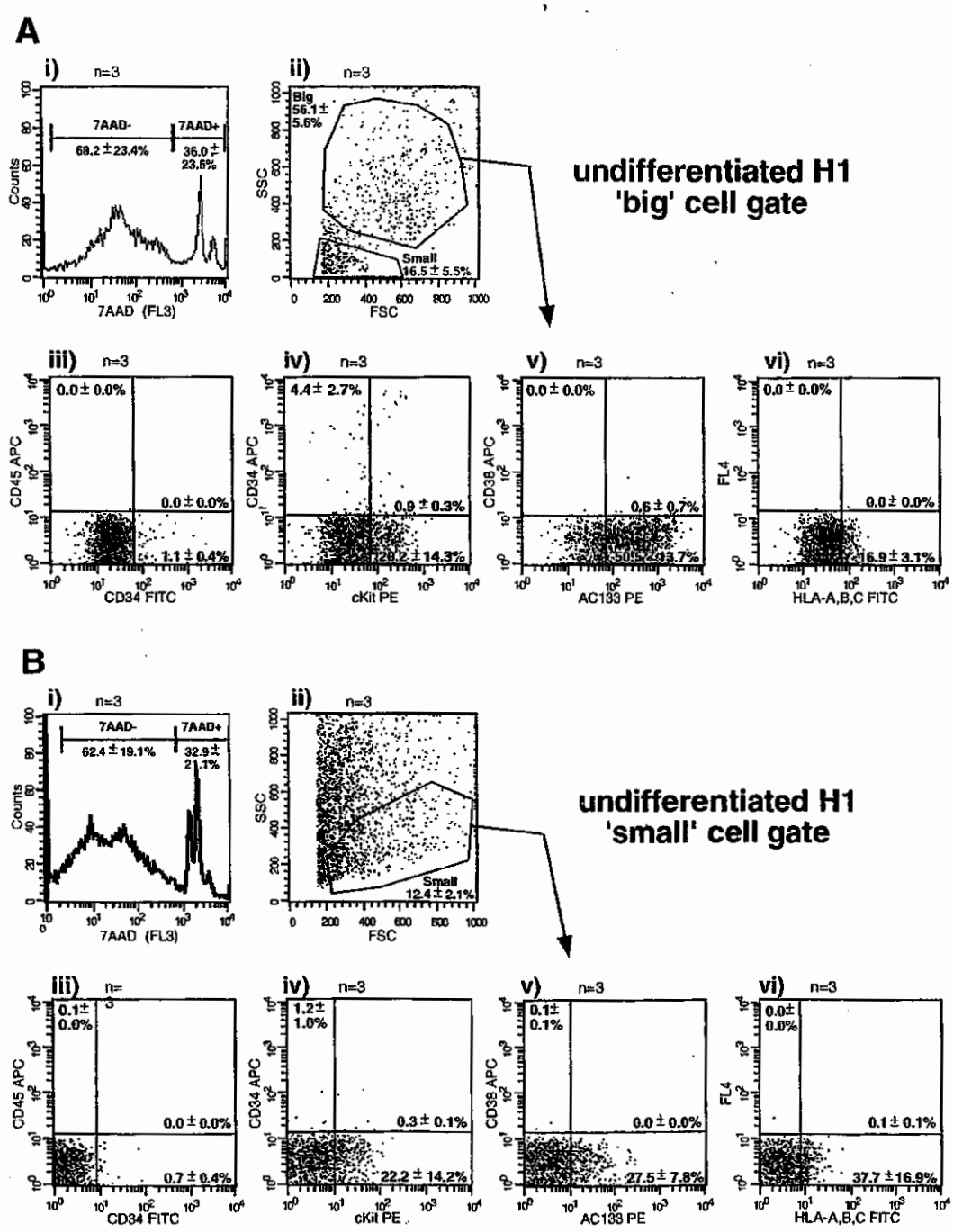
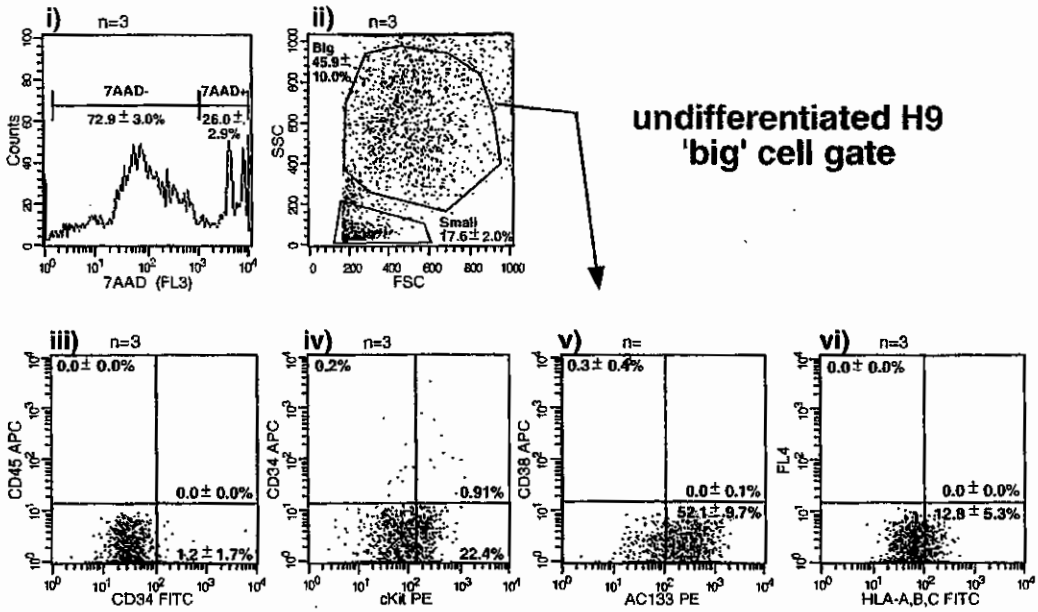

A
i) n=3
7AAD-
7AAD+
68.2 ± 23.4%
36.0 ± 23.5%
Counts
7AAD (FL3)
ii) n=3
Big
56.1 ± 5.6%
Small
16.5 ± 5.5%
SSC
FSC
undifferentiated H1 'big' cell gate
iii) n=3
0.0 ± 0.0%
0.0 ± 0.0%
1.1 ± 0.4%
CD45 APC
CD34 FITC
iv) n=3
4.4 ± 2.7%
0.9 ± 0.3%
20.2 ± 14.3%
CD34 APC
cKit PE
v) n=3
0.0 ± 0.0%
0.6 ± 0.7%
50.5 ± 13.7%
CD38 APC
AC133 PE
vi) n=3
0.0 ± 0.0%
0.0 ± 0.0%
16.9 ± 3.1%
FL4
HLA-A,B,C FITC
B
i) n=3
7AAD-
7AAD+
62.4 ± 19.1%
32.9 ± 21.1%
Counts
7AAD (FL3)
ii) n=3
Small
12.4 ± 2.1%
SSC
FSC
undifferentiated H1 'small' cell gate
iii) n=3
0.1 ± 0.0%
0.0 ± 0.0%
0.7 ± 0.4%
CD45 APC
CD34 FITC
iv) n=3
1.2 ± 1.0%
0.3 ± 0.1%
22.2 ± 14.2%
CD34 APC
cKit PE
v) n=3
0.1 ± 0.1%
0.0 ± 0.0%
27.5 ± 7.8%
CD38 APC
AC133 PE
vi) n=3
0.0 ± 0.0%
0.1 ± 0.1%
37.7 ± 16.9%
FL4
HLA-A,B,C FITC

Figure 1, continued

C



D

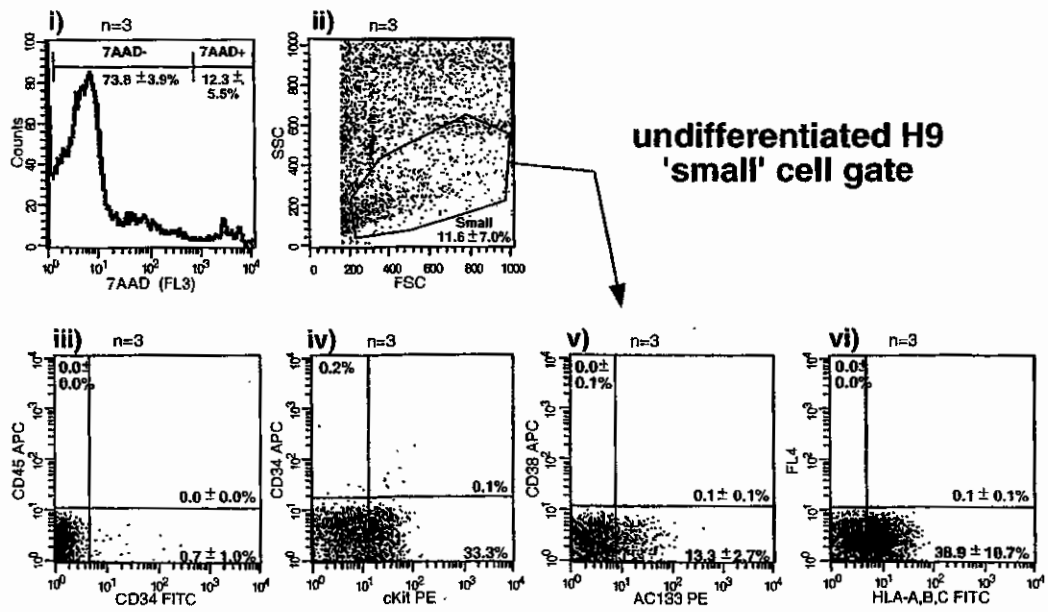


Figure 2

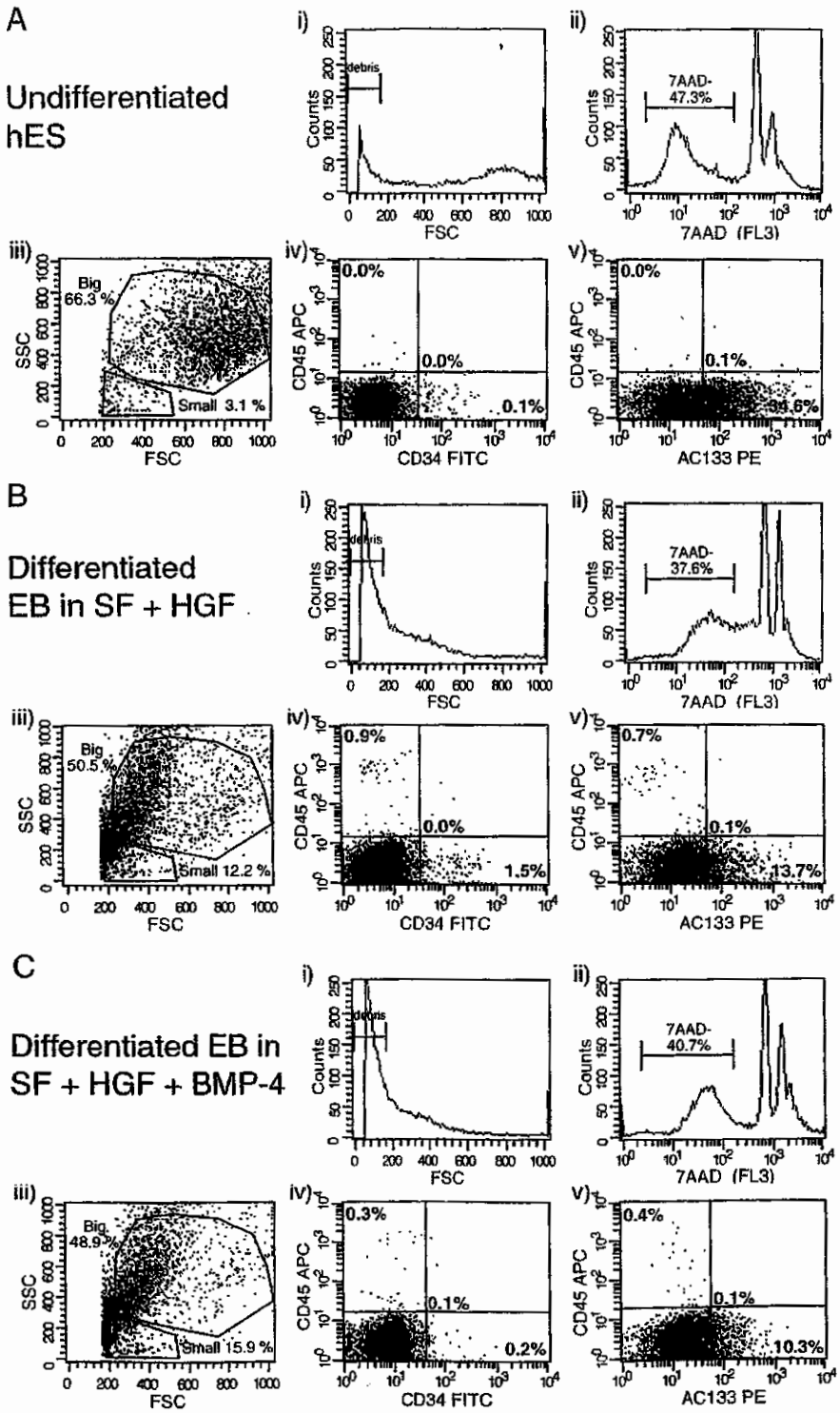

A
Undifferentiated hES
i)
debris
Counts
FSC
ii)
7AAD-
47.3%
7AAD (FL3)
iii)
Big
66.3 %
Small 3.1 %
SSC
FSC
iv)
0.0%
0.0%
0.1%
CD45 APC
CD34 FITC
v)
0.0%
0.1%
34.6%
CD45 APC
AC133 PE
B
Differentiated EB in SF + HGF
i)
debris
Counts
FSC
ii)
7AAD-
37.6%
7AAD (FL3)
iii)
Big
50.5 %
Small 12.2 %
SSC
FSC
iv)
0.9%
0.0%
1.5%
CD45 APC
CD34 FITC
v)
0.7%
0.1%
13.7%
CD45 APC
AC133 PE
C
Differentiated EB in SF + HGF + BMP-4
i)
debris
Counts
FSC
ii)
7AAD-
40.7%
7AAD (FL3)
iii)
Big
48.9 %
Small 15.9 %
SSC
FSC
iv)
0.3%
0.1%
0.2%
CD45 APC
CD34 FITC
v)
0.4%
0.1%
10.3%
CD45 APC
AC133 PE

Figure 3 hES Schematic Diagram

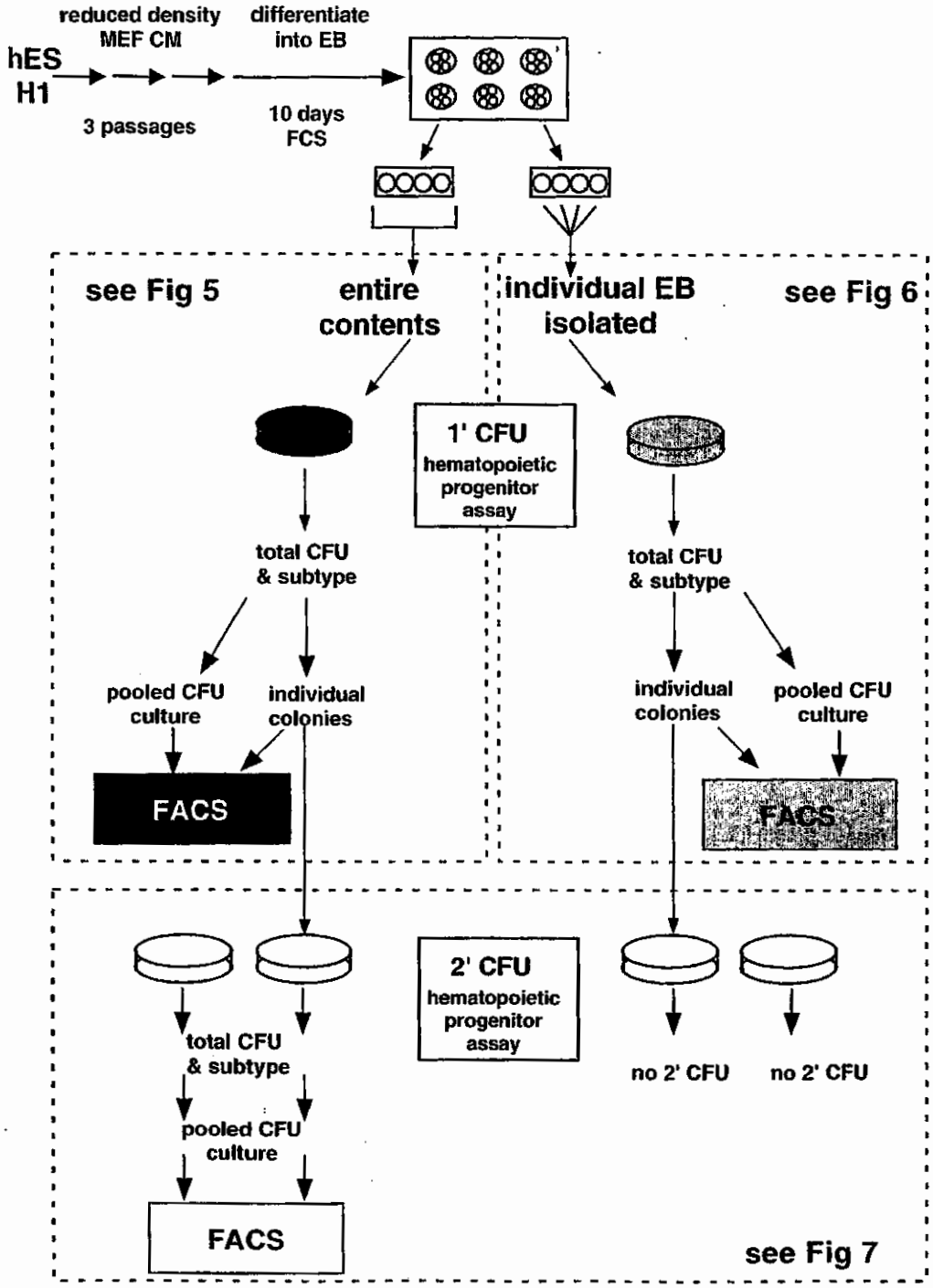
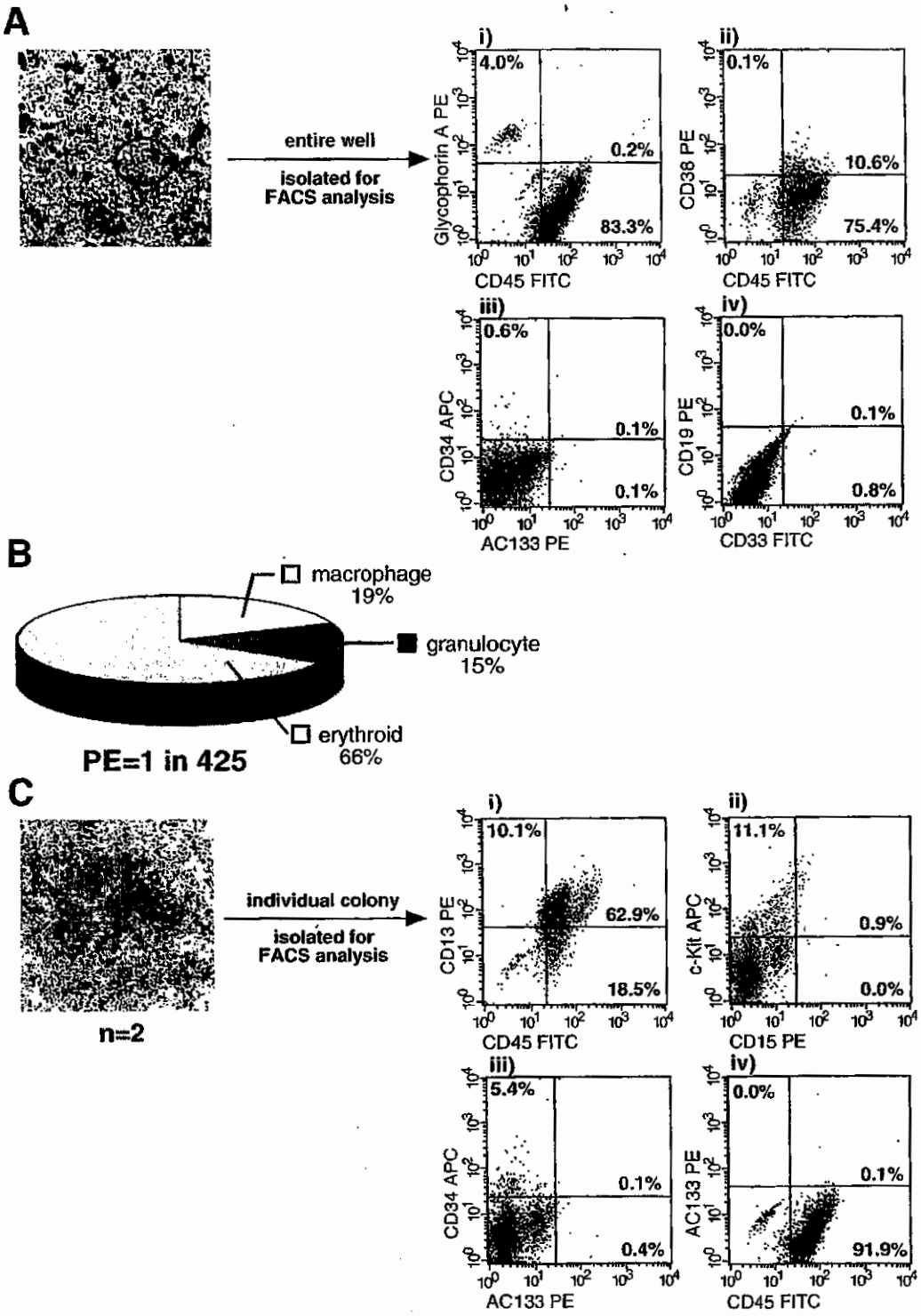


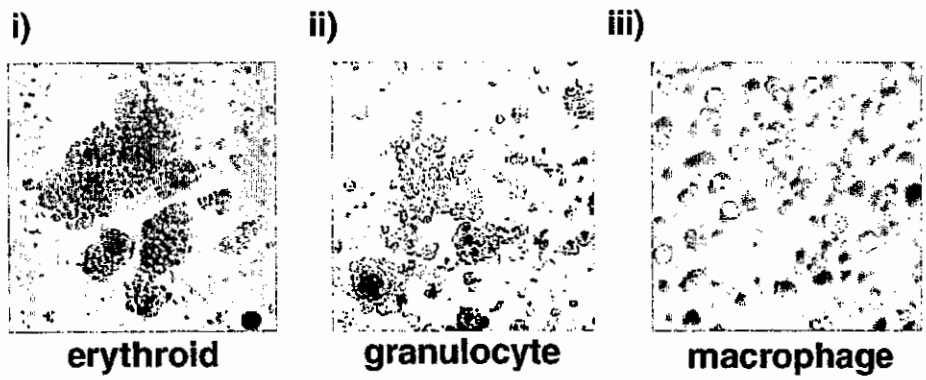
Figure 4


A
entire well
isolated for FACS analysis
i)
4.0%
0.2%
83.3%
Glycophorin A PE
CD45 FITC
ii)
0.1%
10.6%
75.4%
CD38 PE
CD45 FITC
iii)
0.6%
0.1%
0.1%
CD34 APC
AC133 PE
iv)
0.0%
0.1%
0.8%
CD19 PE
CD33 FITC
B
macrophage 19%
granulocyte 15%
erythroid 66%
PE=1 in 425
C
individual colony
isolated for FACS analysis
n=2
i)
10.1%
62.9%
18.5%
CD13 PE
CD45 FITC
ii)
11.1%
0.9%
0.0%
c-Kit APC
CD15 PE
iii)
5.4%
0.1%
0.4%
CD34 APC
AC133 PE
iv)
0.0%
0.1%
91.9%
AC133 PE
CD45 FITC

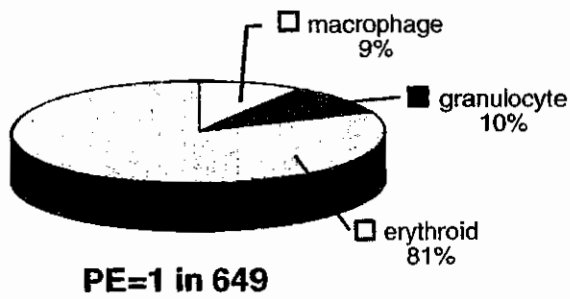
- 6 JUN 2006
PCT/US02/39091

Figure 5

A

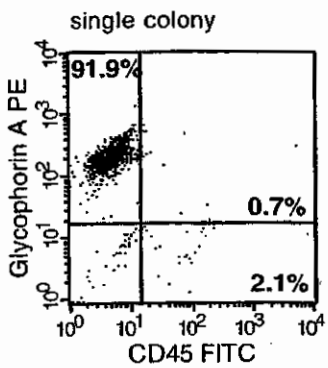


B



PE=1 in 649

C



- 6 JUN 2006

Figure 6

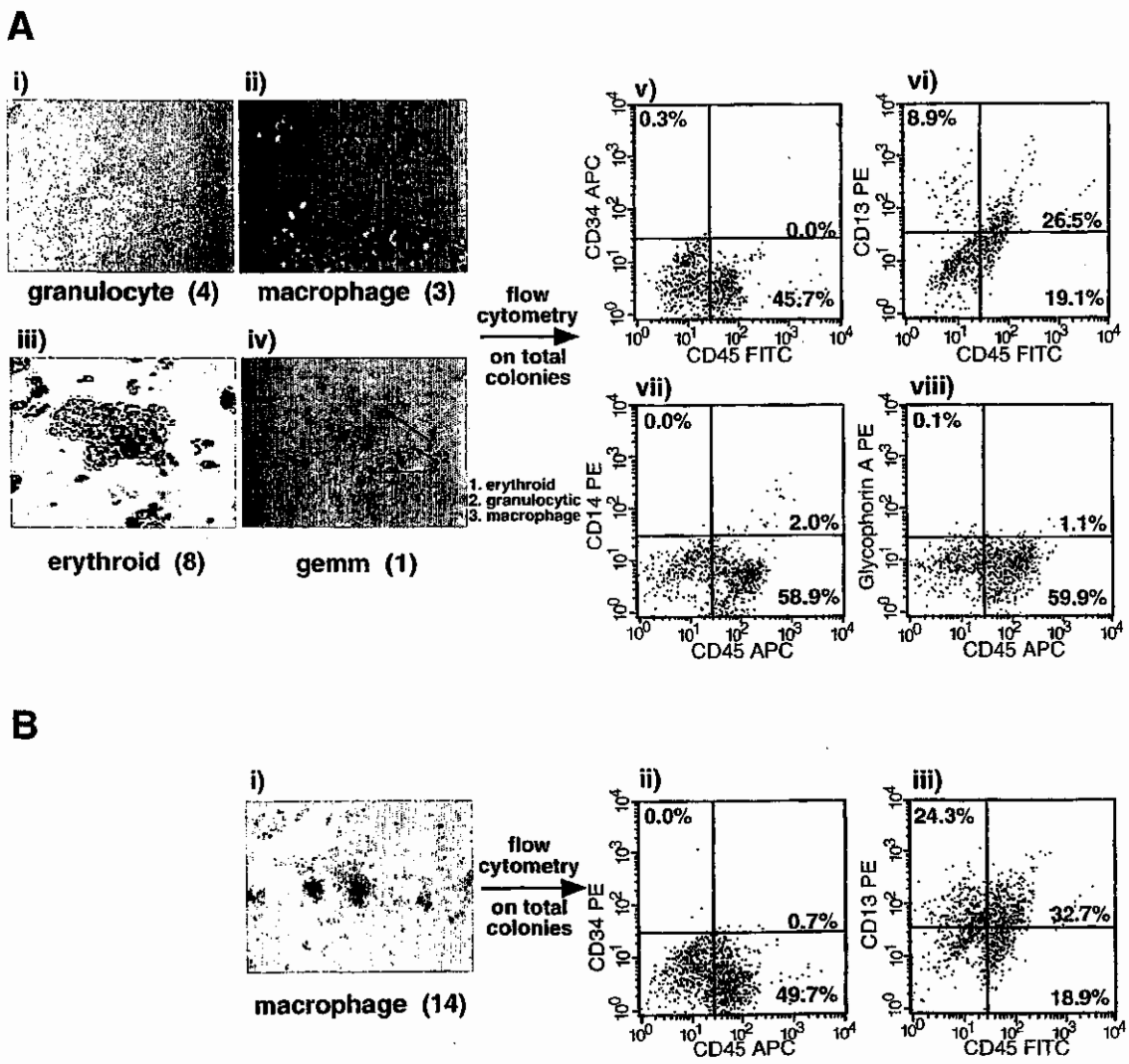


Figure 7

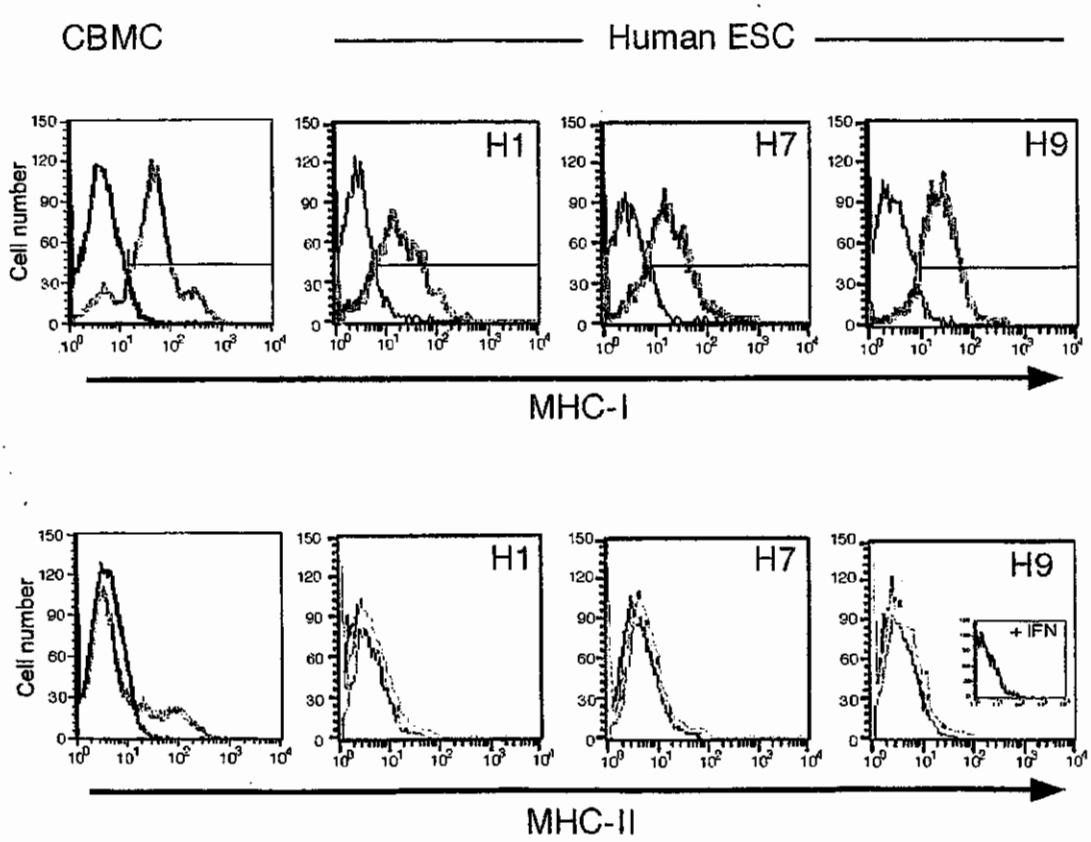


Figure 8

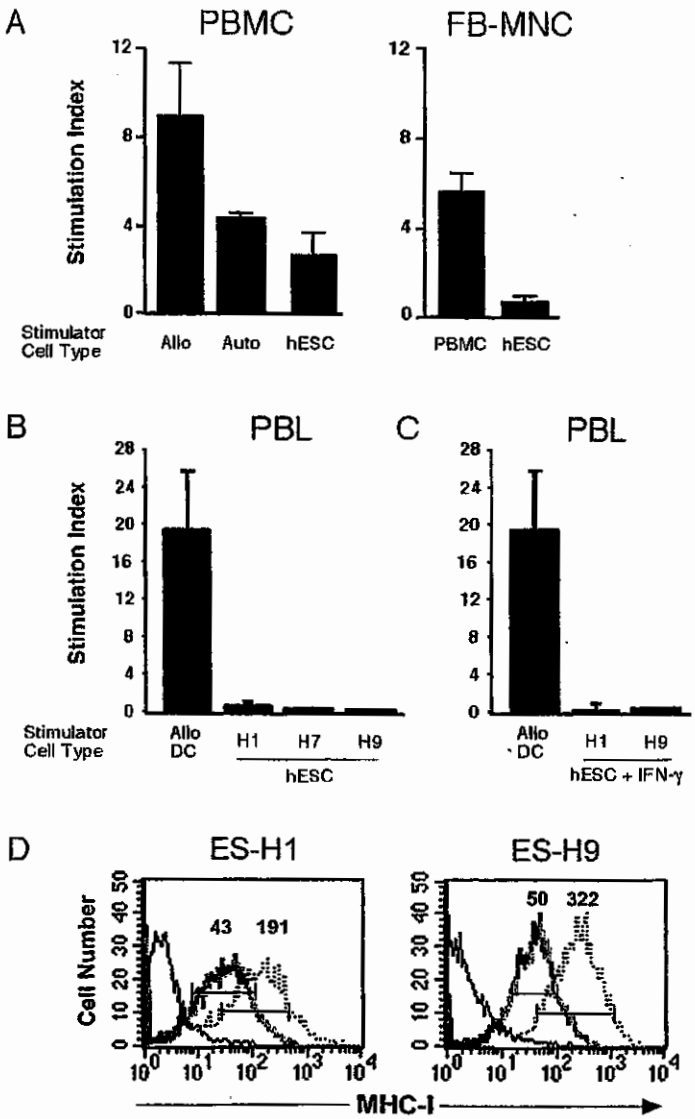

A
PBMC
FB-MNC
Stimulation Index
12
8
4
0
Stimulator Cell Type
Allo
Auto
hESC
PBMC
hESC
B
PBL
C
PBL
28
24
20
16
12
8
4
0
Allo DC
H1
H7
H9
hESC
Allo DC
H1
H9
hESC + IFN-γ
D
ES-H1
ES-H9
Cell Number
43
191
50
322
0 10 20 30 40 50
10^0 10^1 10^2 10^3 10^4
MHC-I

Figure 9

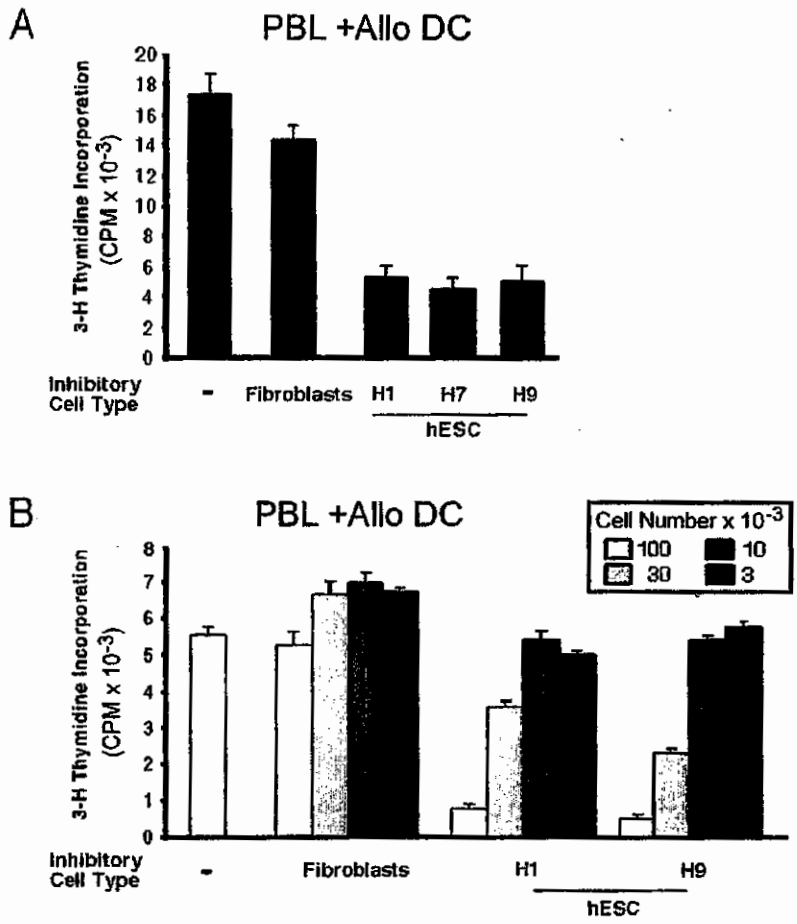

A
PBL +Allo DC
3-H Thymidine Incorporation (CPM x 10-3)
20
18
16
14
12
10
8
6
4
2
0
Inhibitory Cell Type
-
Fibroblasts
H1
H7
H9
hESC
B
PBL +Allo DC
Cell Number x 10-3
100
10
30
3
3-H Thymidine Incorporation (CPM x 10-3)
8
7
6
5
4
3
2
1
0
Inhibitory Cell Type
-
Fibroblasts
H1
H9
hESC

Figure 10

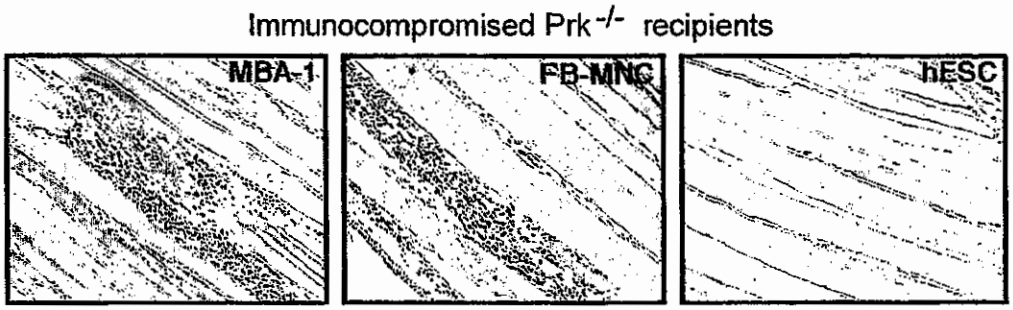


Figure 11

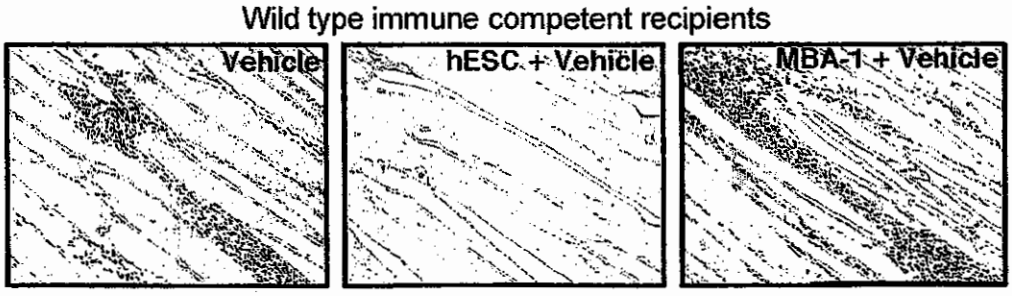


Figure 12

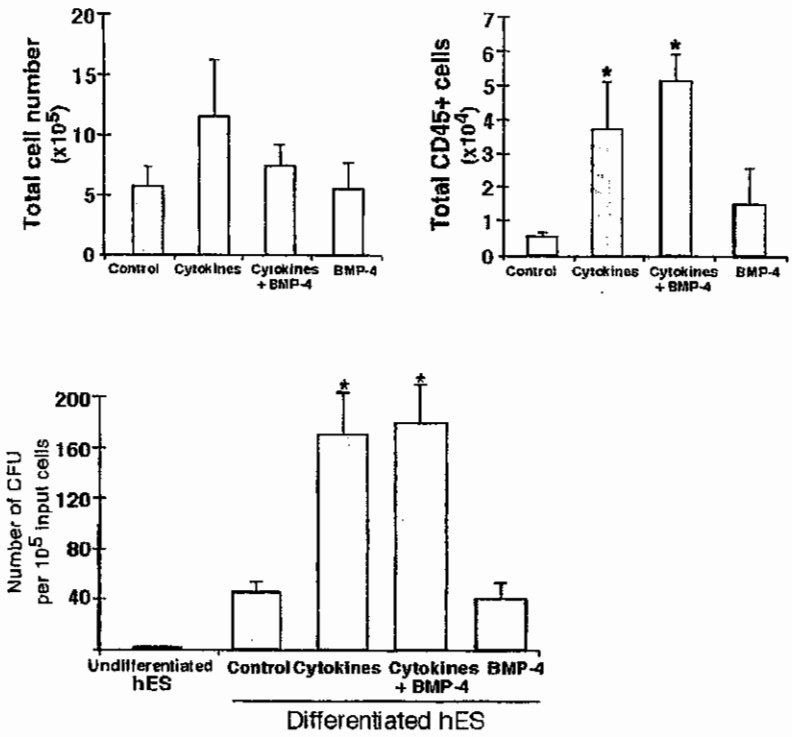


Figure 13

Treatment	Frequency of 2° CFU
Control	6.2 %
Cytokines	21.4 %
Cytokines+ BMP-4	36.4 %
BMP-4	57.1 %

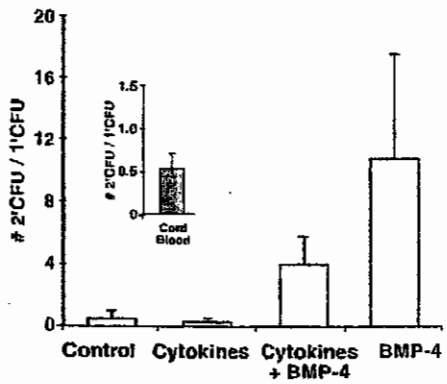
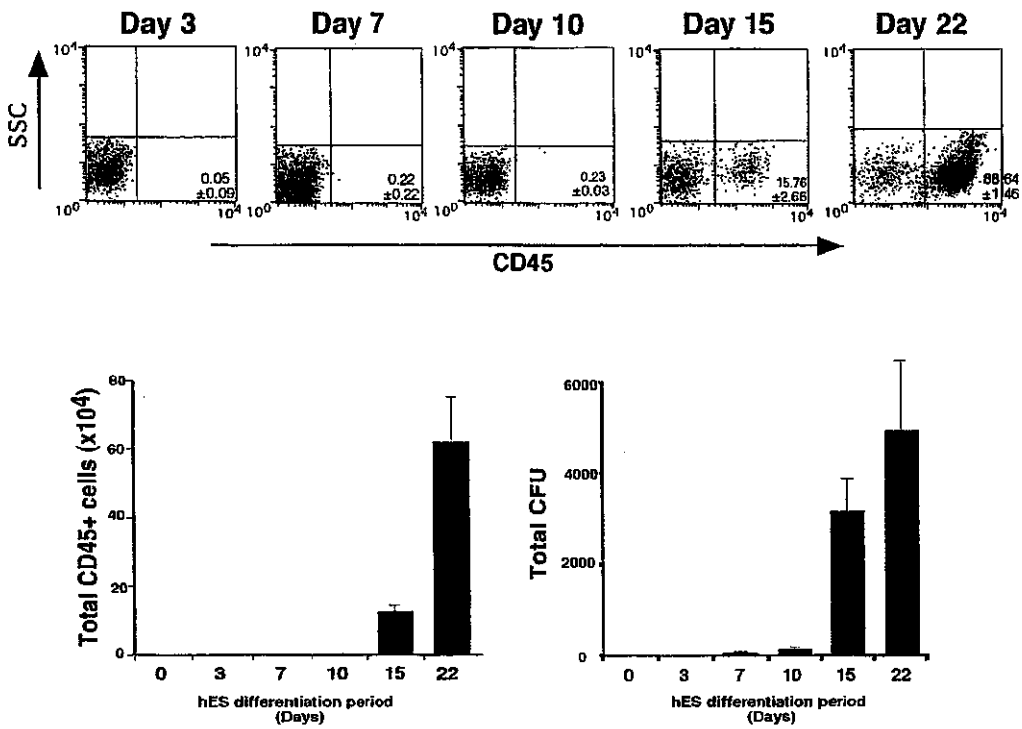


Figure 14


Day 3
Day 7
Day 10
Day 15
Day 22
SSC
CD45
0.05 ±0.09
0.22 ±0.22
0.23 ±0.03
15.76 ±2.66
88.64 ±1.46
Total CD45+ cells (x10⁴)
hES differentiation period (Days)
Total CFU
hES differentiation period (Days)