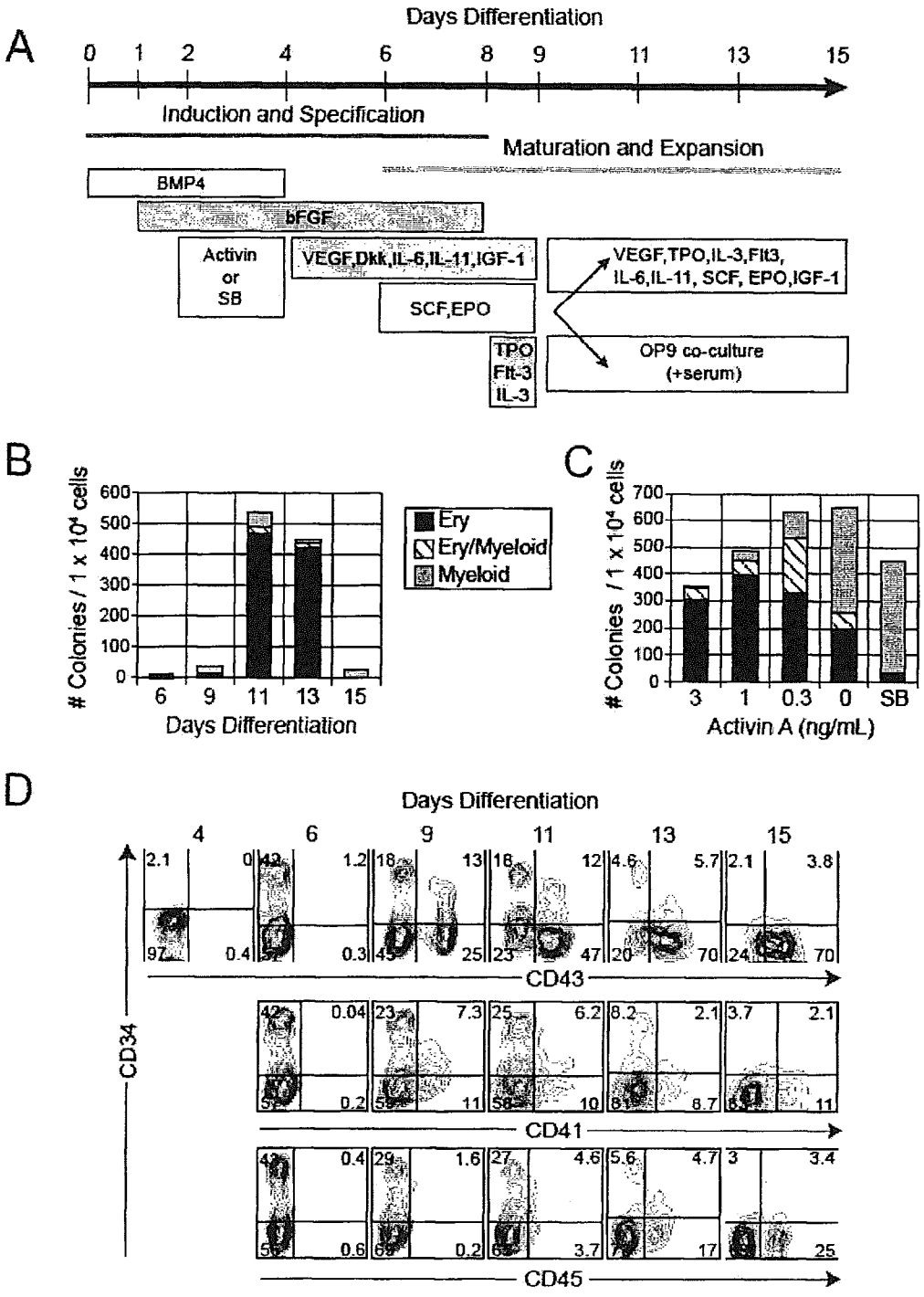

A
Days Differentiation
0 1 2 4 6 8 9 11 13 15
Induction and Specification
Maturation and Expansion
BMP4
bFGF
Activin or SB
VEGF,Dkk,IL-6,IL-11,IGF-1
SCF,EPO
TPO Flt-3 IL-3
VEGF,TPO,IL-3,Flt3, IL-6,IL-11, SCF, EPO,IGF-1
OP9 co-culture (+serum)
B
Colonies / 1 x 10⁴ cells
Days Differentiation
Ery
Ery/Myeloid
Myeloid
C
Colonies / 1 x 10⁴ cells
Activin A (ng/mL)
D
Days Differentiation
CD34
CD43
CD41
CD45

Figure 1

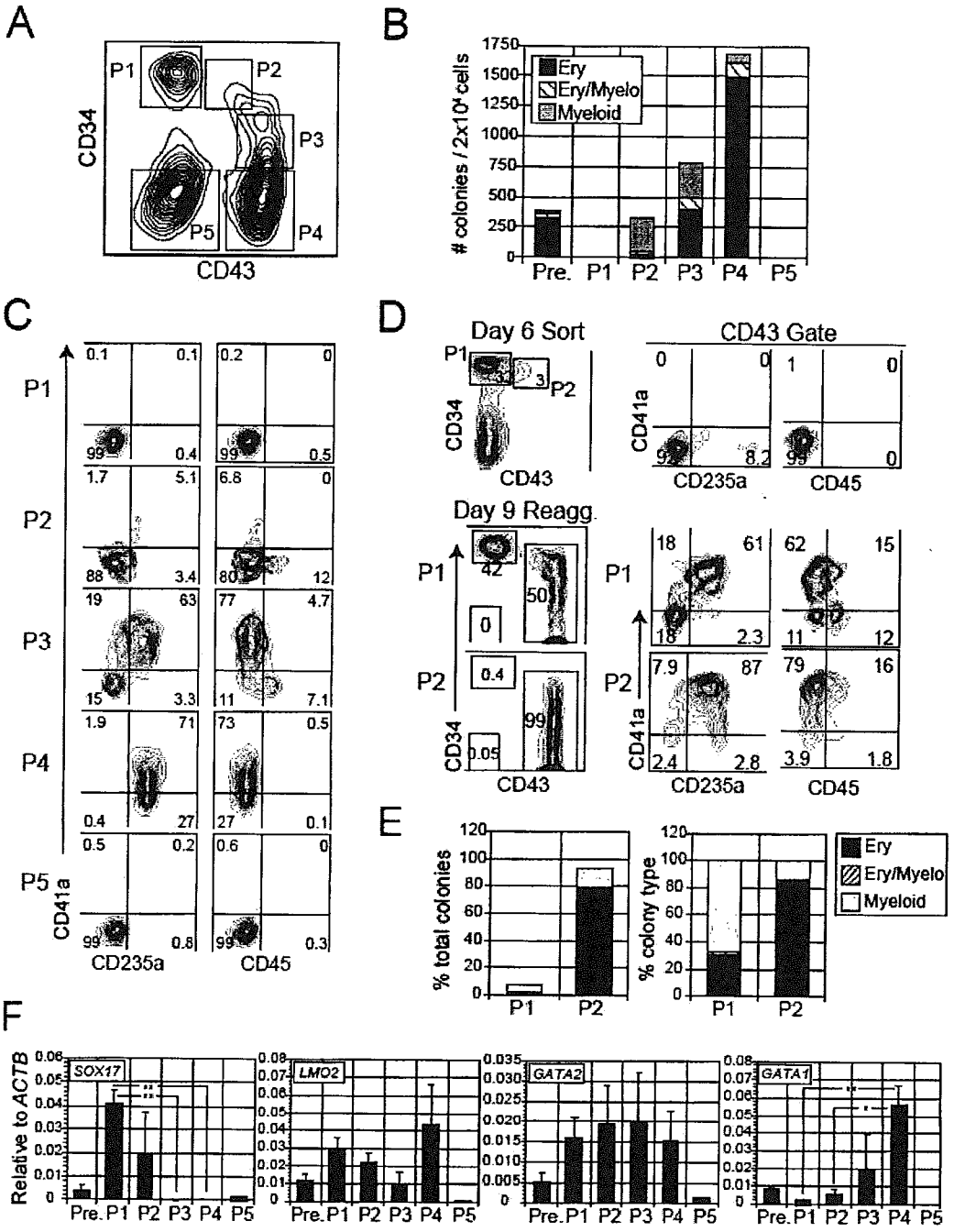

A
P1
P2
P3
P4
P5
CD34
CD43
B
colonies / 2x10⁴ cells
Ery
Ery/Myelo
Myeloid
Pre.
P1
P2
P3
P4
P5
C
P1
P2
P3
P4
P5
CD41a
CD235a
CD45
D
Day 6 Sort
CD43 Gate
CD34
CD43
CD41a
CD235a
CD45
Day 9 Reagg.
E
% total colonies
% colony type
Ery
Ery/Myelo
Myeloid
F
Relative to ACTB
SOX17
LMO2
GATA2
GATA1
Pre.
P1
P2
P3
P4
P5

Figure 2

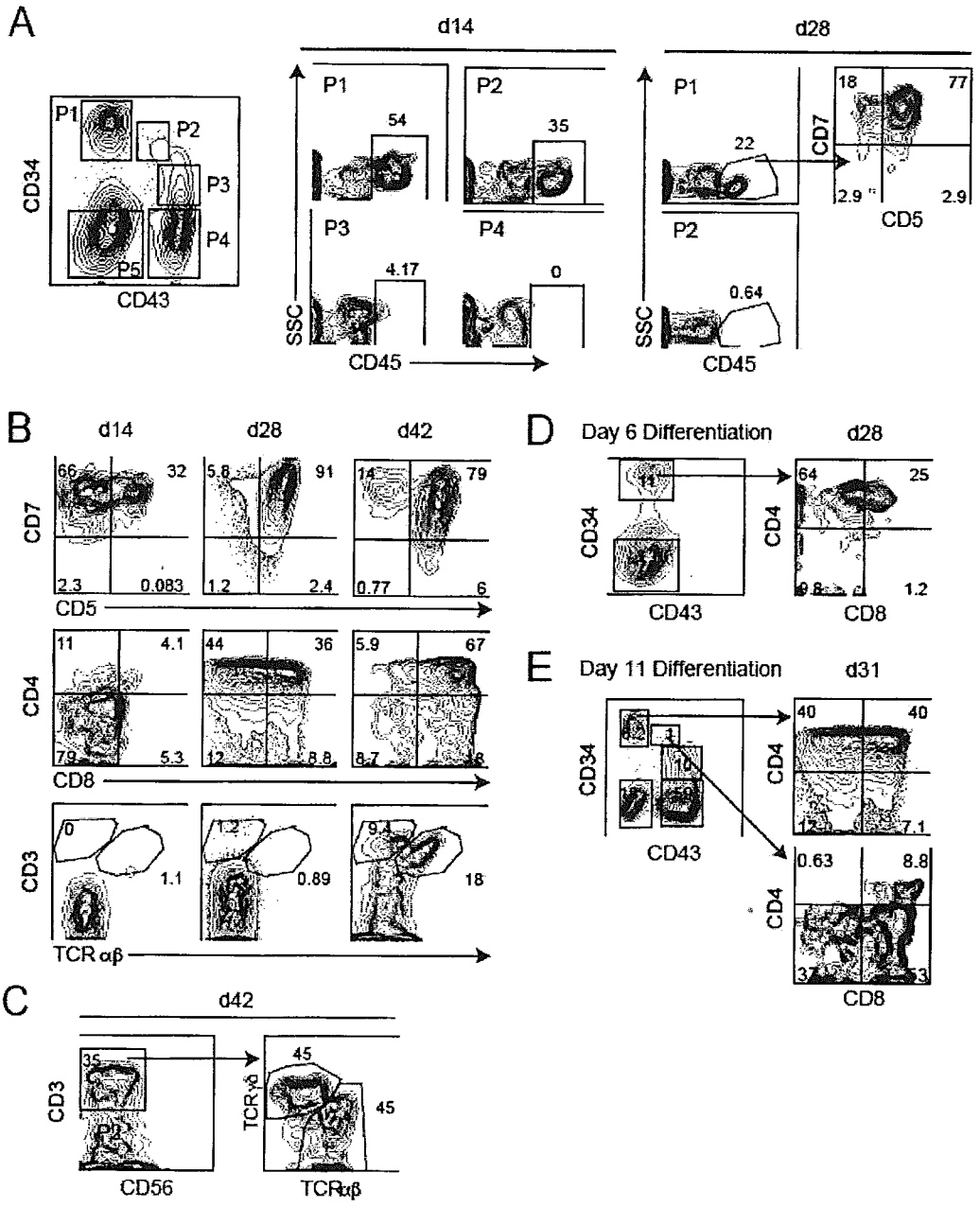

A
d14
d28
P1
P2
P3
P4
P5
CD34
CD43
54
35
4.17
0
22
0.64
18
77
2.9
2.9
CD7
CD5
SSC
CD45
B
d14
d28
d42
CD7
CD5
CD4
CD8
CD3
TCR αβ
66
32
2.3
0.083
5.8
91
1.2
2.4
14
79
0.77
6
11
4.1
7.9
5.3
44
36
12
8.8
5.9
67
8.7
0
1.1
1.2
0.89
9.4
18
C
d42
CD3
CD56
TCRγδ
TCRαβ
35
45
45
D
Day 6 Differentiation
d28
CD34
CD43
CD4
CD8
11
64
25
9.8
1.2
E
Day 11 Differentiation
d31
CD34
CD43
CD4
CD8
40
40
12
7.1
0.63
8.8
37
53

Figure 3

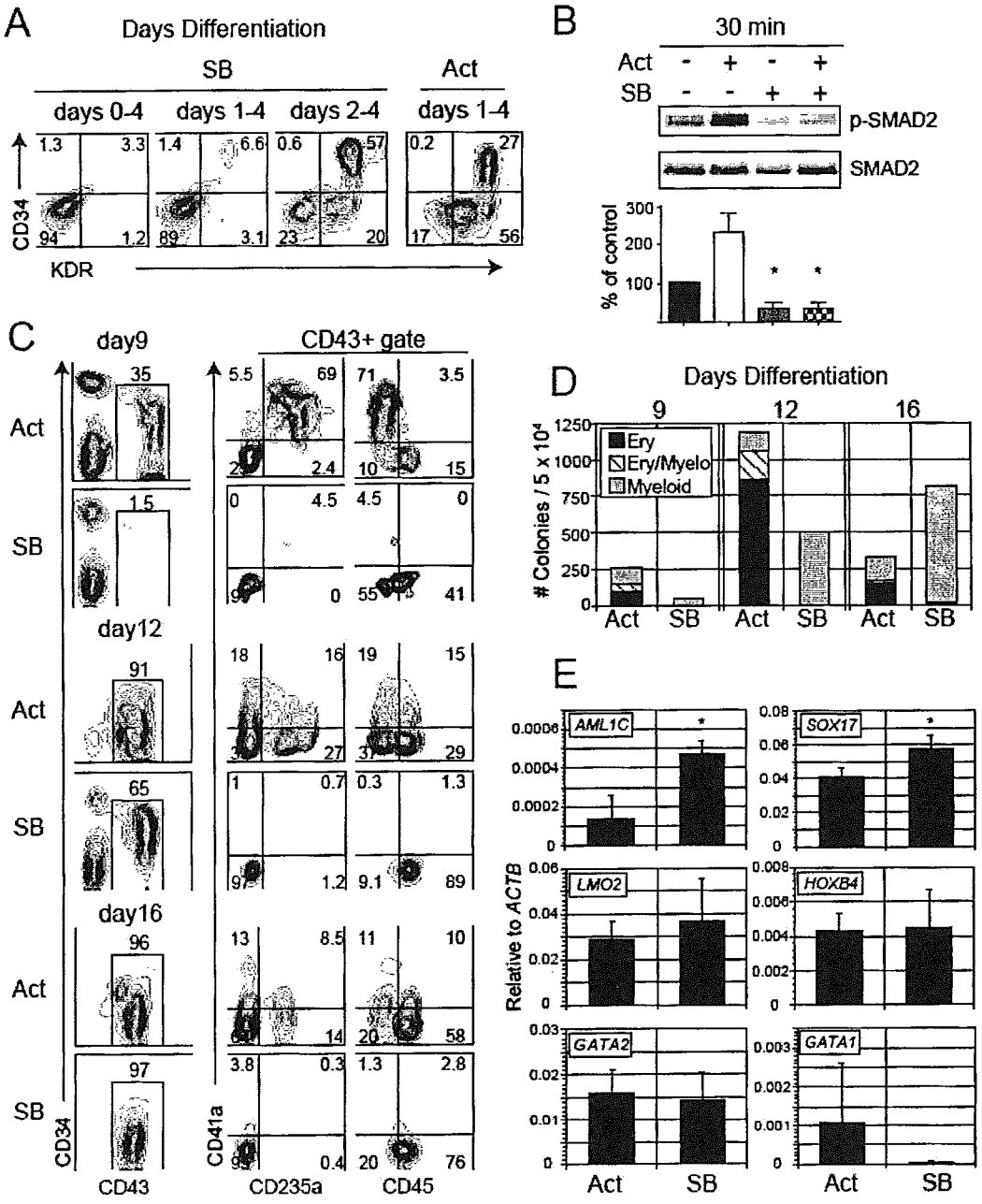

A
Days Differentiation
SB
Act
days 0-4
days 1-4
days 2-4
days 1-4
CD34
KDR
B
30 min
Act
SB
p-SMAD2
SMAD2
% of control
C
day9
CD43+ gate
Act
SB
day12
day16
CD34
CD43
CD41a
CD235a
CD45
D
Days Differentiation
Colonies / 5 x 10⁴
Ery
Ery/Myelo
Myeloid
E
AML1C
SOX17
LMO2
HOXB4
GATA2
GATA1
Relative to ACTB

Figure 4

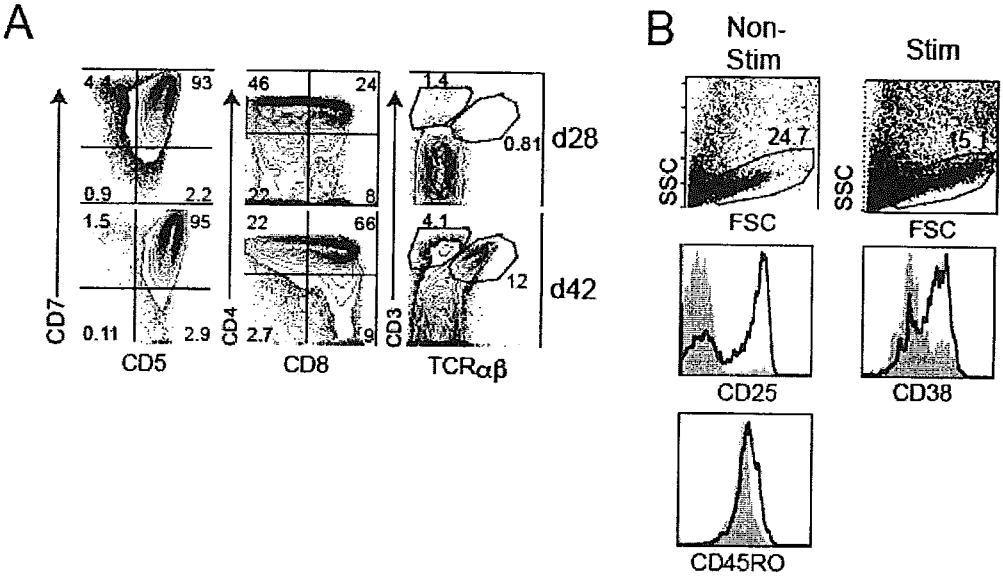

A
4.4
93
0.9
2.2
1.5
95
0.11
2.9
CD7
CD5
46
24
22
8
22
66
2.7
19
CD4
CD8
1.4
0.81
d28
4.1
12
d42
CD3
TCRαβ
B
Non-Stim
Stim
24.7
15.1
SSC
FSC
CD25
CD38
CD45RO

Figure 5

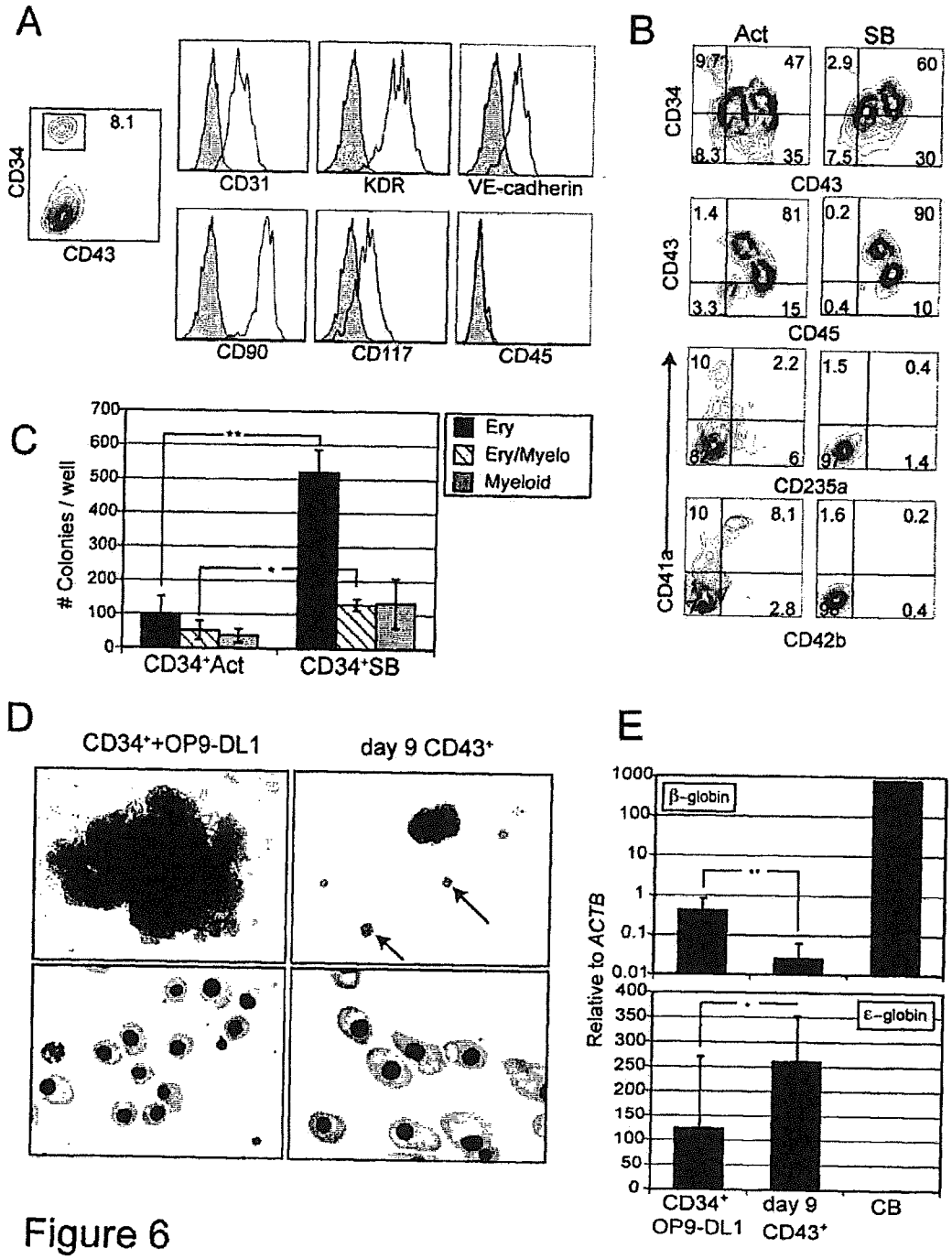

A
CD34
CD43
8.1
CD31
KDR
VE-cadherin
CD90
CD117
CD45
B
Act
SB
CD34
CD43
CD45
CD235a
CD41a
CD42b
C
Colonies / well
Ery
Ery/Myelo
Myeloid
CD34+Act
CD34+SB
D
CD34+OP9-DL1
day 9 CD43+
E
β-globin
ε-globin
Relative to ACTB
CD34+ OP9-DL1
day 9 CD43+
CB

Figure 6

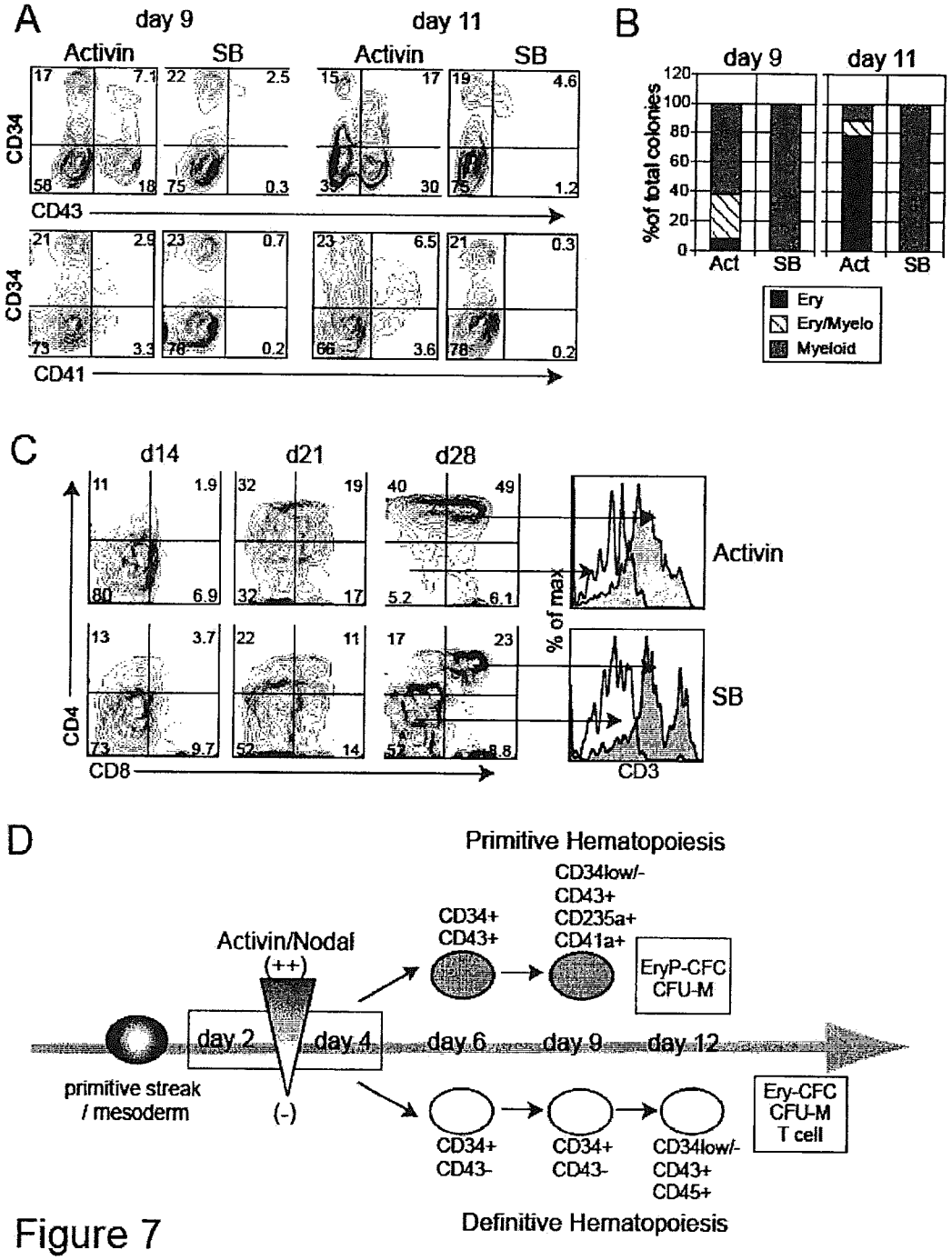

A
day 9
day 11
Activin
SB
Activin
SB
CD34
CD43
CD34
CD41
B
day 9
day 11
%of total colonies
Act
SB
Act
SB
Ery
Ery/Myelo
Myeloid
C
d14
d21
d28
Activin
SB
% of max
CD4
CD8
CD3
D
Primitive Hematopoiesis
CD34low/-
CD43+
CD235a+
CD41a+
CD34+
CD43+
Activin/Nodal
(++)
EryP-CFC
CFU-M
day 2
day 4
day 6
day 9
day 12
primitive streak
/ mesoderm
(-)
CD34+
CD43-
CD34+
CD43-
CD34low/-
CD43+
CD45+
Ery-CFC
CFU-M
T cell
Definitive Hematopoiesis

Figure 7

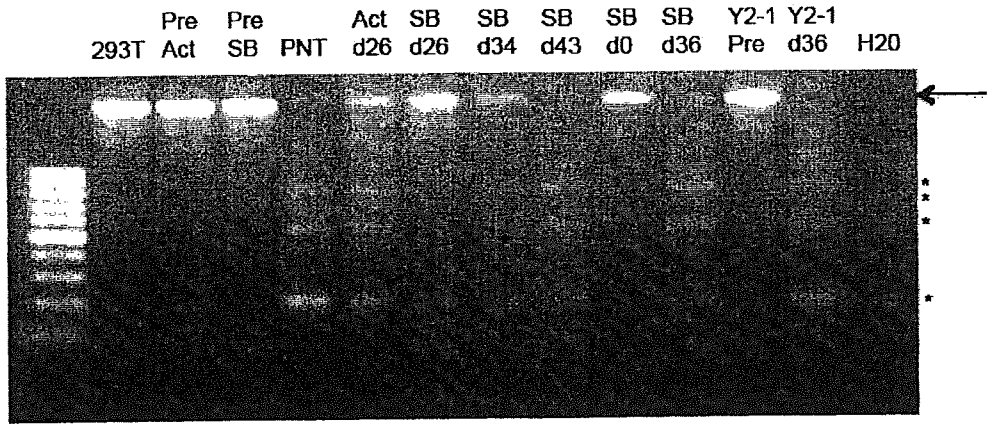

293T
Pre Act
Pre SB
PNT
Act d26
SB d26
SB d34
SB d43
SB d0
SB d36
Y2-1 Pre
Y2-1 d36
H20

Figure 8

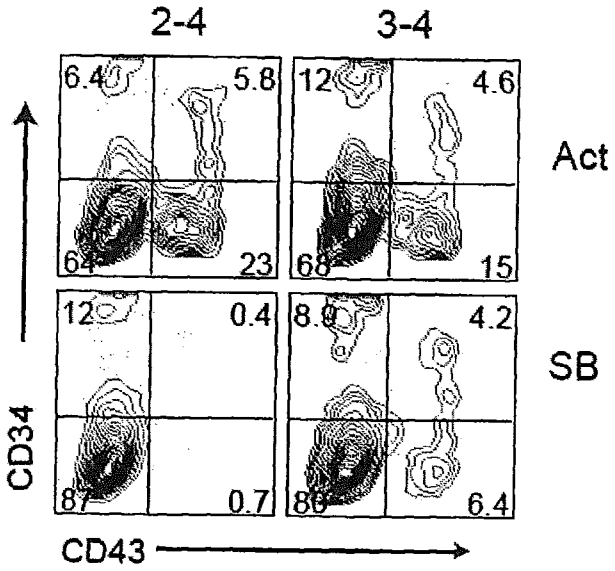


Figure 9

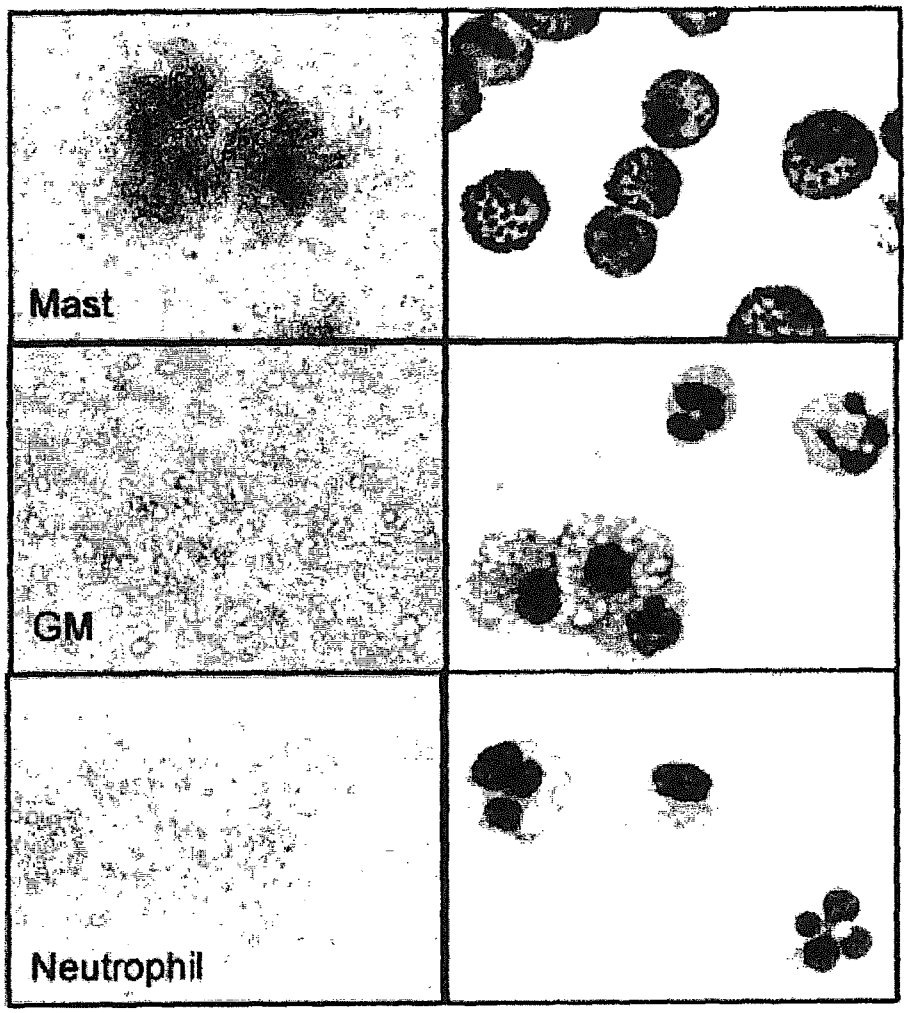


Figure 10