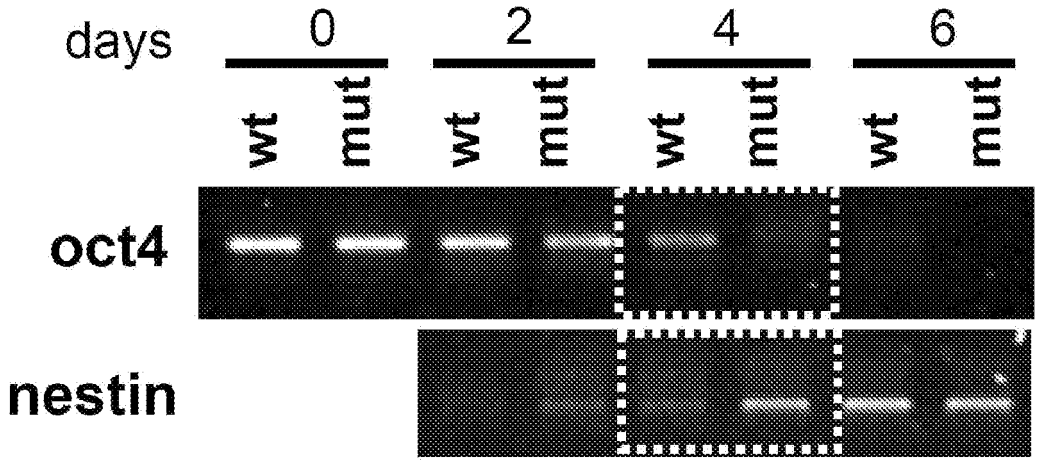

days
0
2
4
6
wt
mut
wt
mut
wt
mut
wt
mut
oct4
nestin

FIG.1

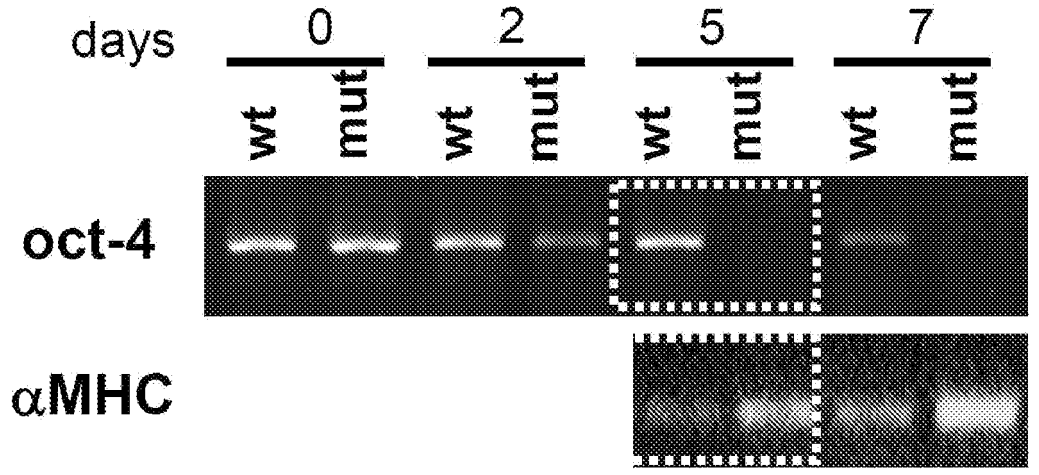

days
0
2
5
7
wt
mut
wt
mut
wt
mut
wt
mut
oct-4
αMHC

FIG.2

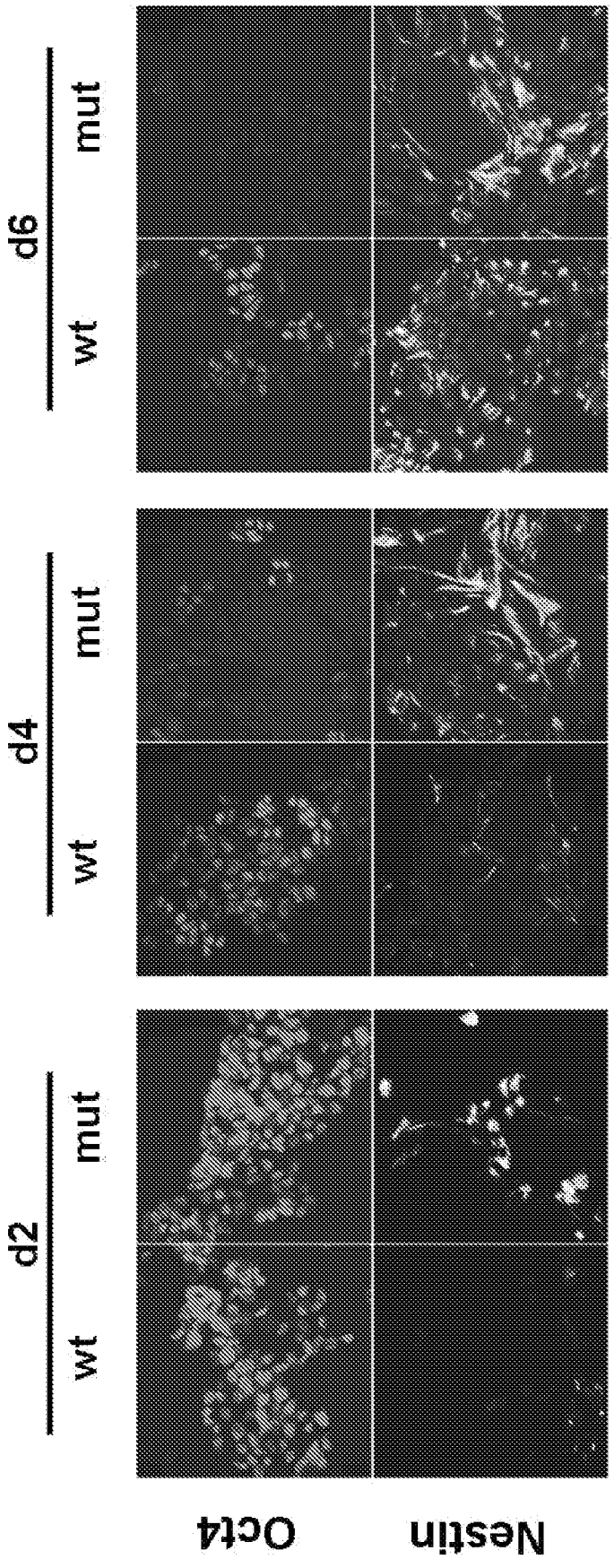
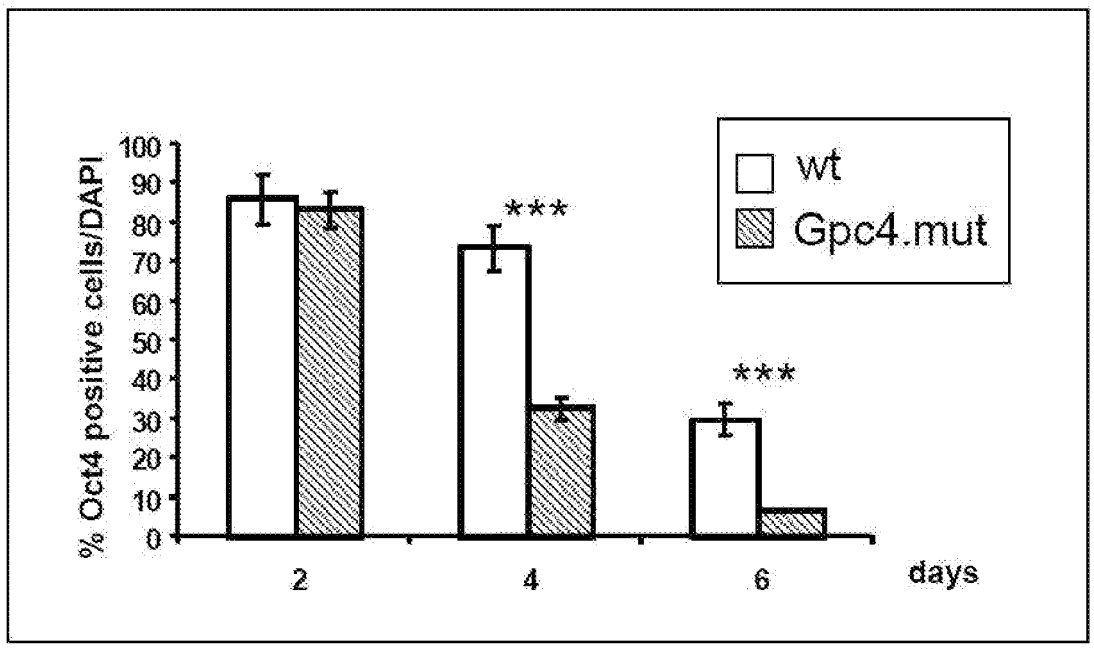


FIG.3


% Oct4 positive cells/DAPI
100
90
80
70
60
50
40
30
20
10
0
***
***
wt
Gpc4.mut
2
4
6
days

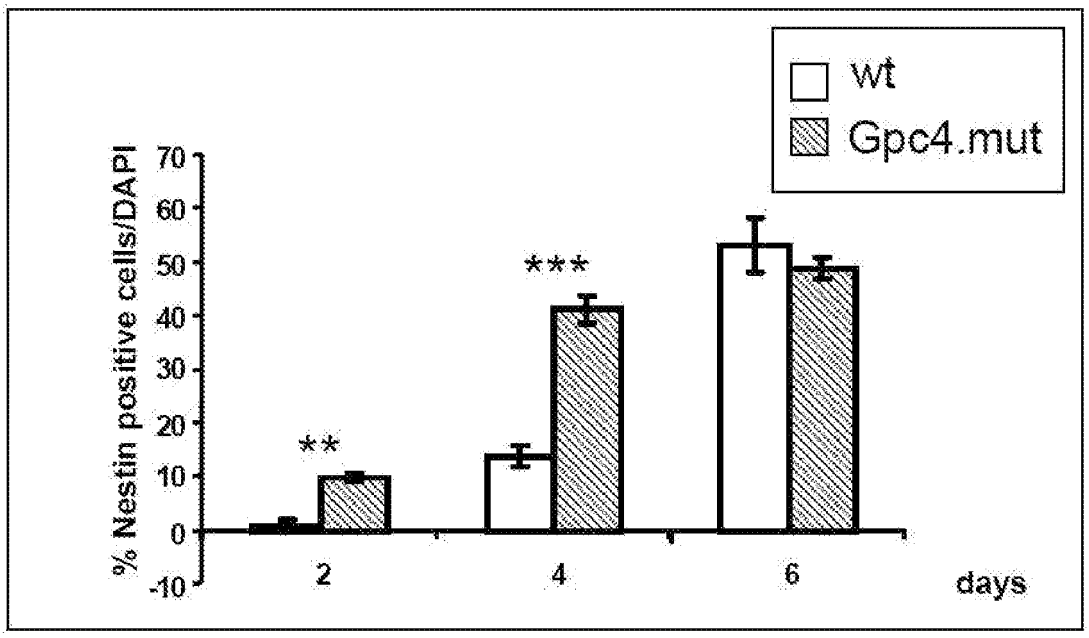

% Nestin positive cells/DAPI
70
60
50
40
30
20
10
0
-10
**
***
wt
Gpc4.mut
2
4
6
days

FIG.4

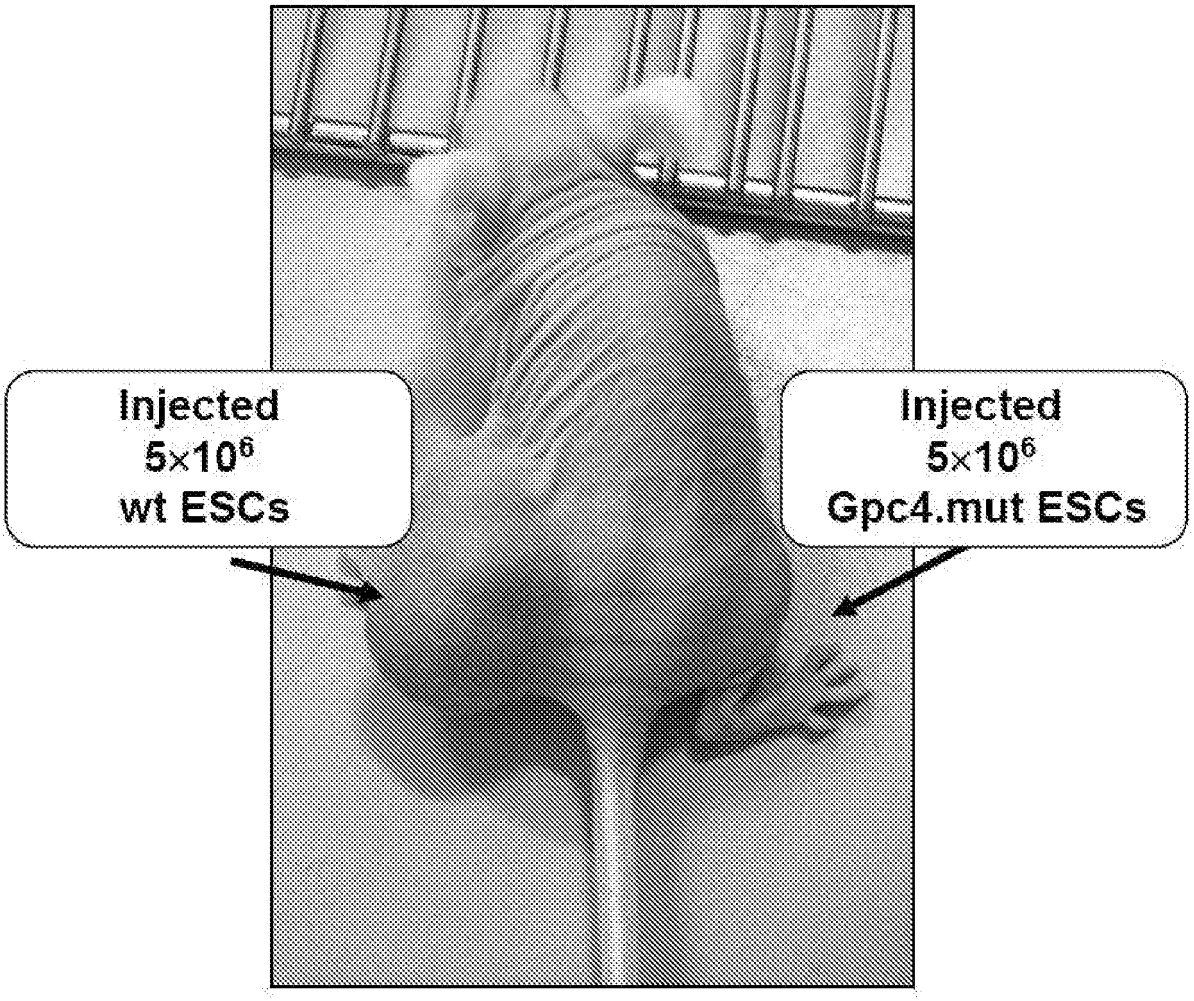


FIG.5

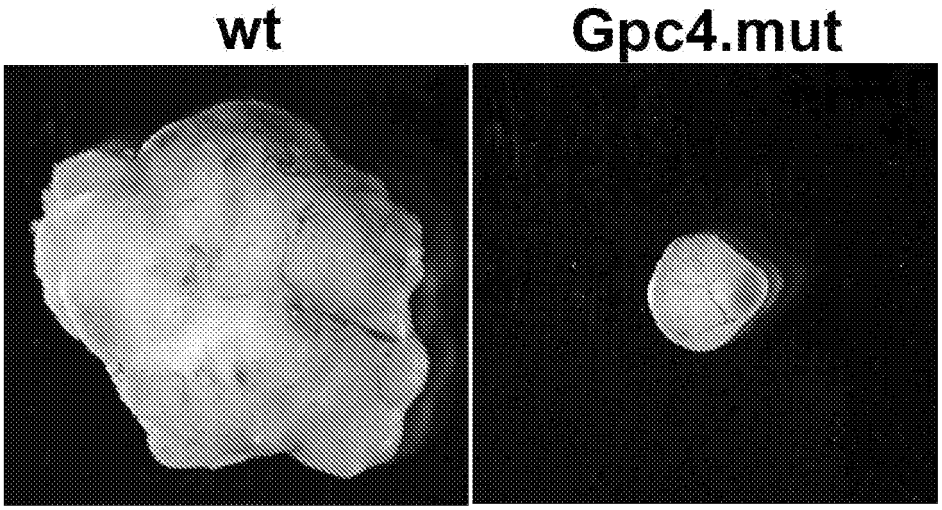


FIG.6

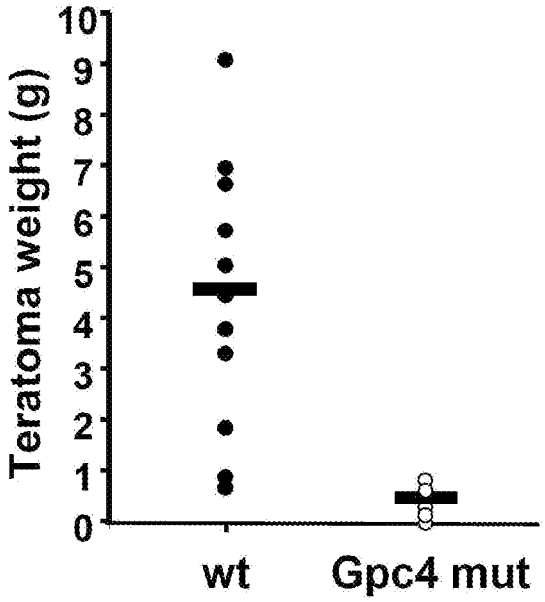


FIG.7

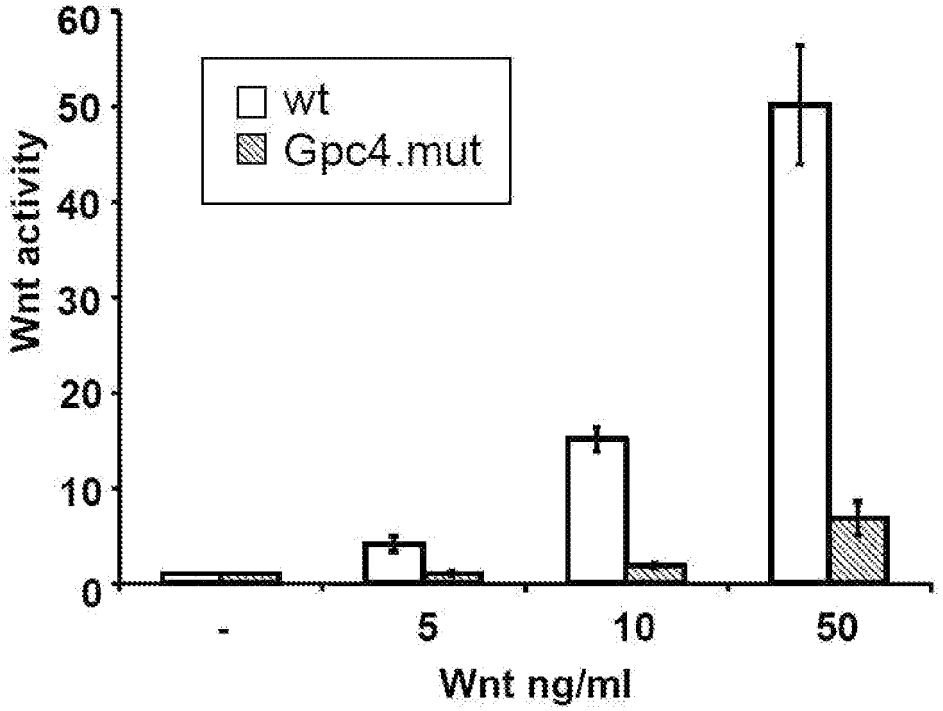

60
50
40
30
20
10
0
Wnt activity
wt
Gpc4.mut
-
5
10
50
Wnt ng/ml

FIG.8

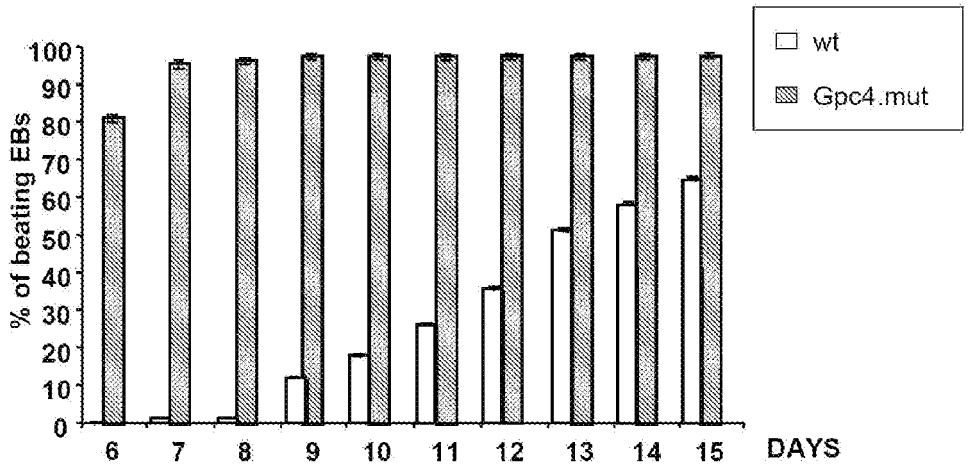

100
90
80
70
60
50
40
30
20
10
0
% of beating EBs
wt
Gpc4.mut
6
7
8
9
10
11
12
13
14
15
DAYS

FIG.9

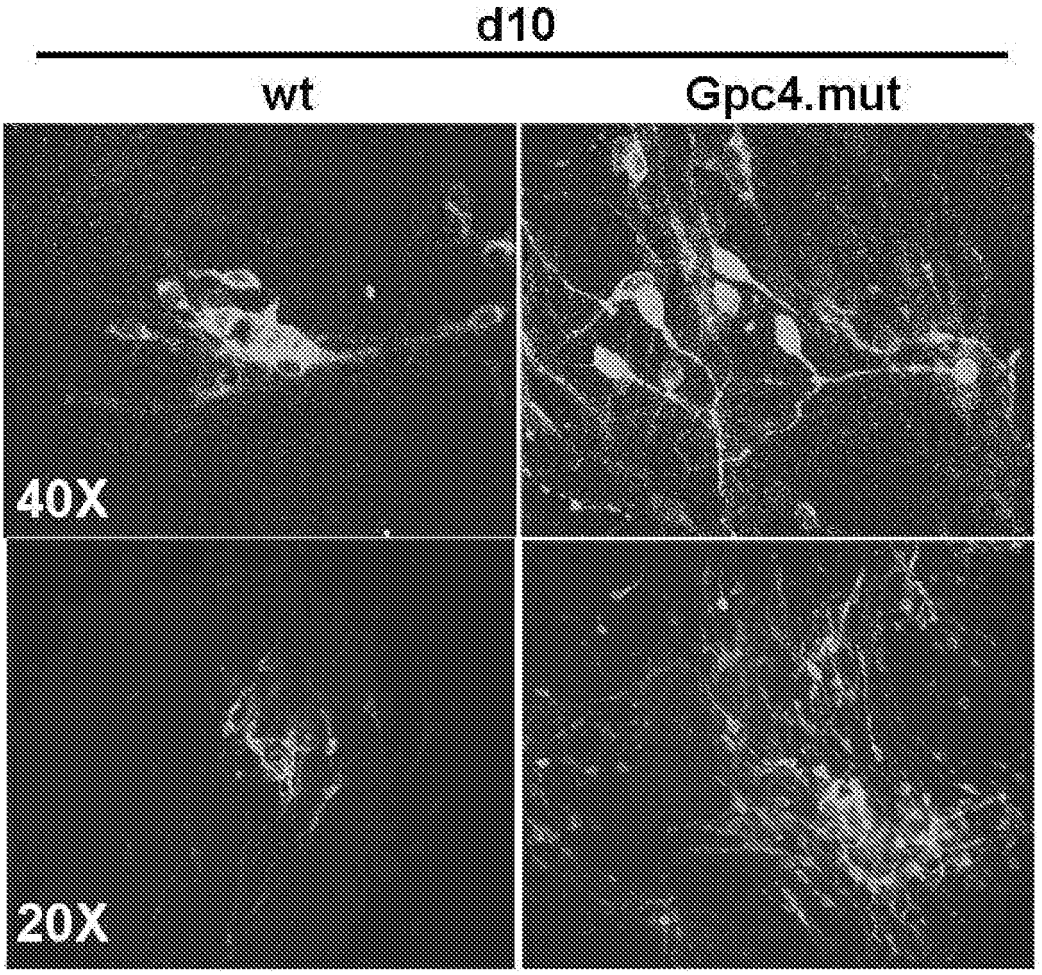


FIG.10

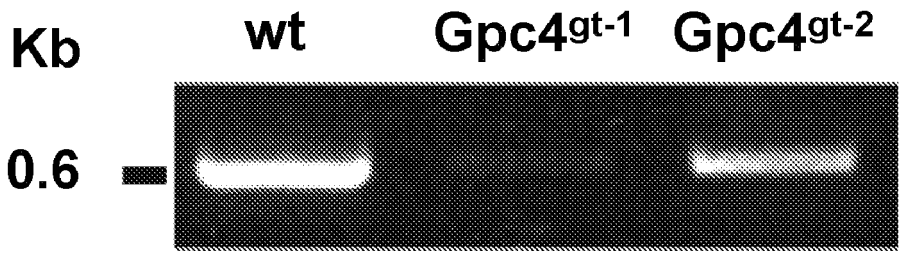


FIG.11

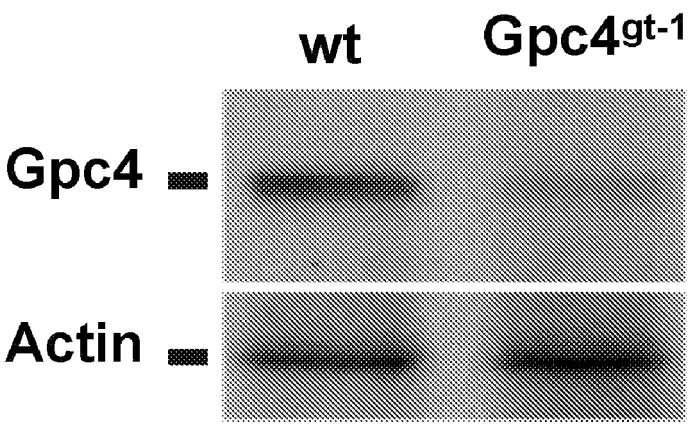


FIG.12

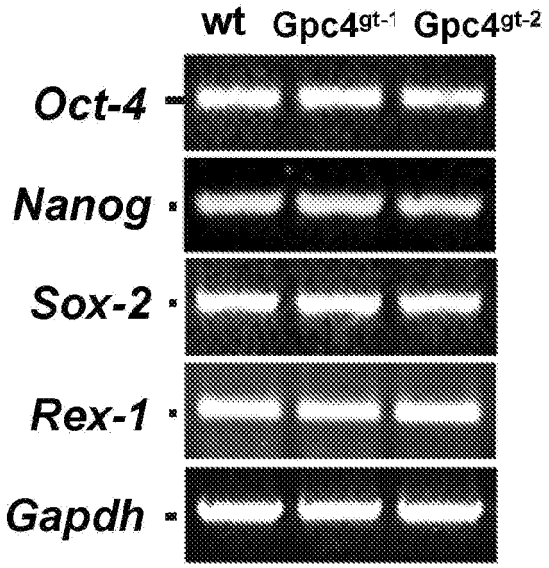

wt
Gpc4gt-1
Gpc4gt-2
Oct-4
Nanog
Sox-2
Rex-1
Gapdh

FIG.13

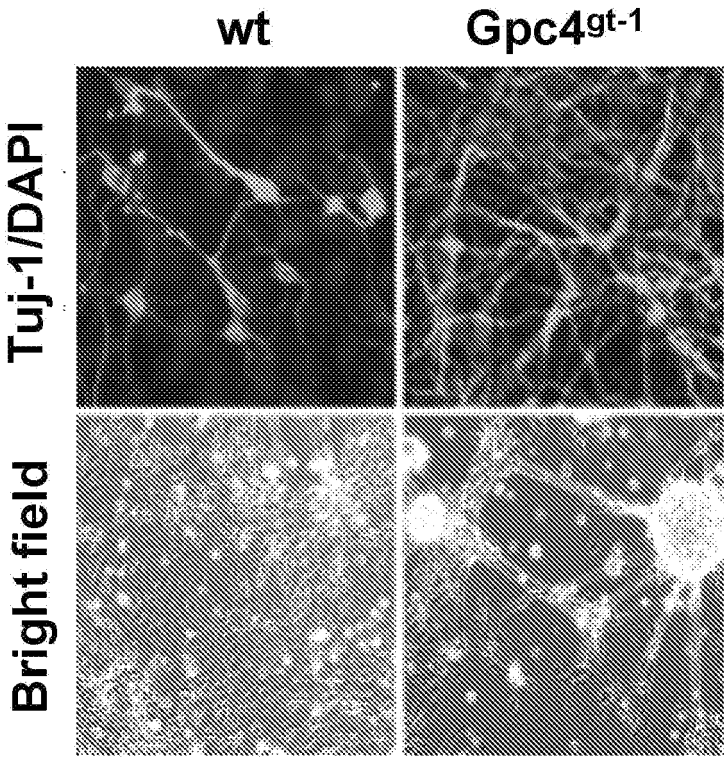

wt
Gpc4gt-1
Tuj-1/DAPI
Bright field

FIG.14

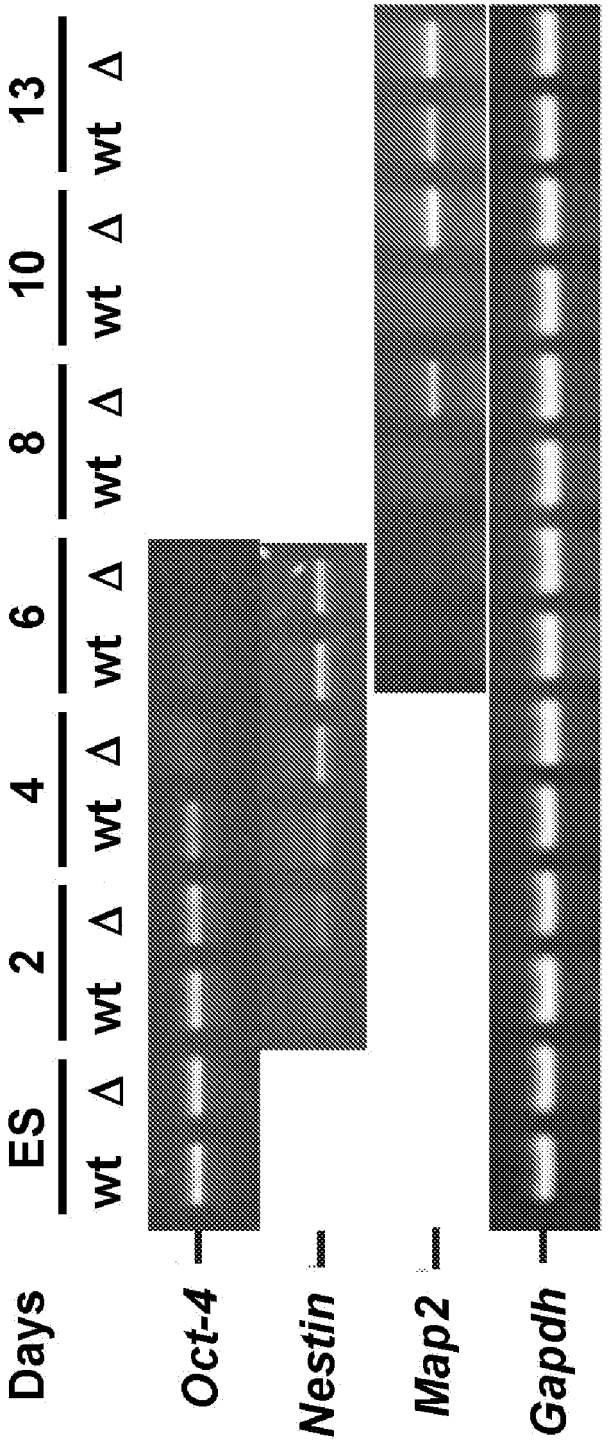

Days
ES
2
4
6
8
10
13
wt Δ wt Δ wt Δ wt Δ wt Δ wt Δ
Oct-4
Nestin
Map2
Gapdh

FIG.15

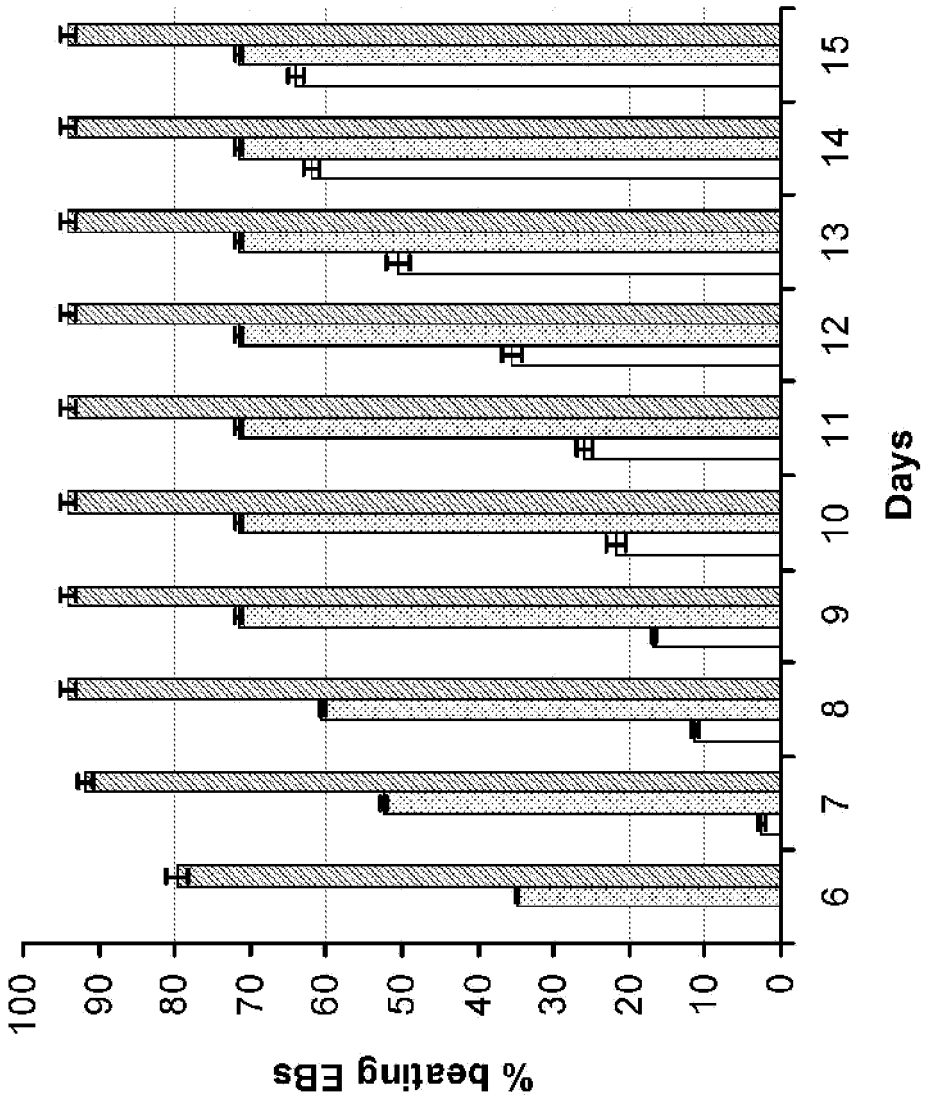

% beating EBs
100
90
80
70
60
50
40
30
20
10
0
6
7
8
9
10
11
12
13
14
15
Days

FIG.16

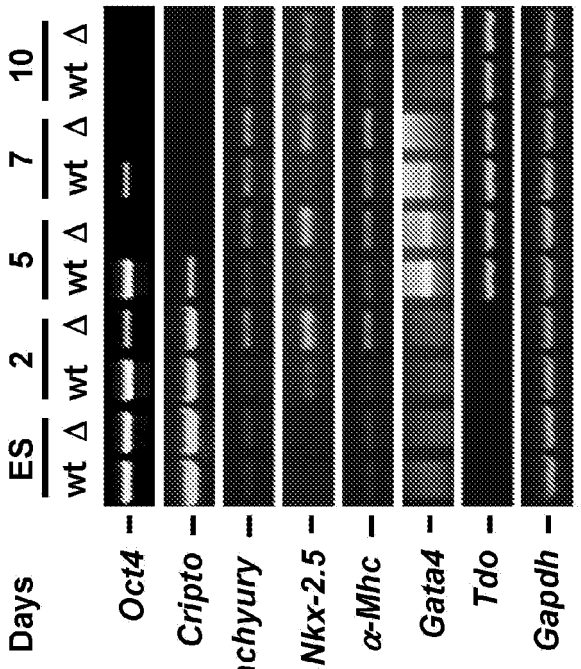

Days
ES
2
5
7
10
wt Δ wt Δ wt Δ wt Δ
Oct4
Cripto
Brachyury
Nkx-2.5
α-Mhc
Gata4
Tdo
Gapdh

FIG.17

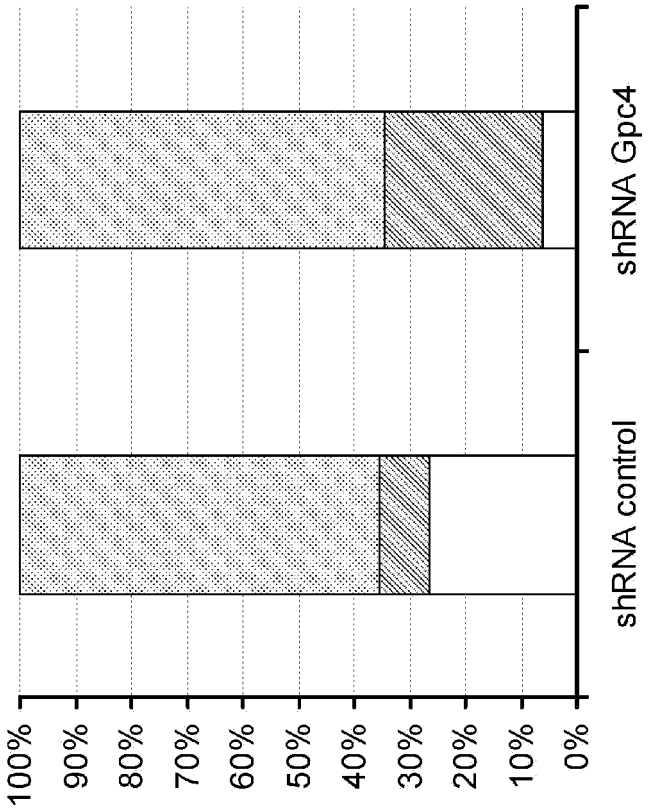

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
shRNA control
shRNA Gpc4

FIG.18

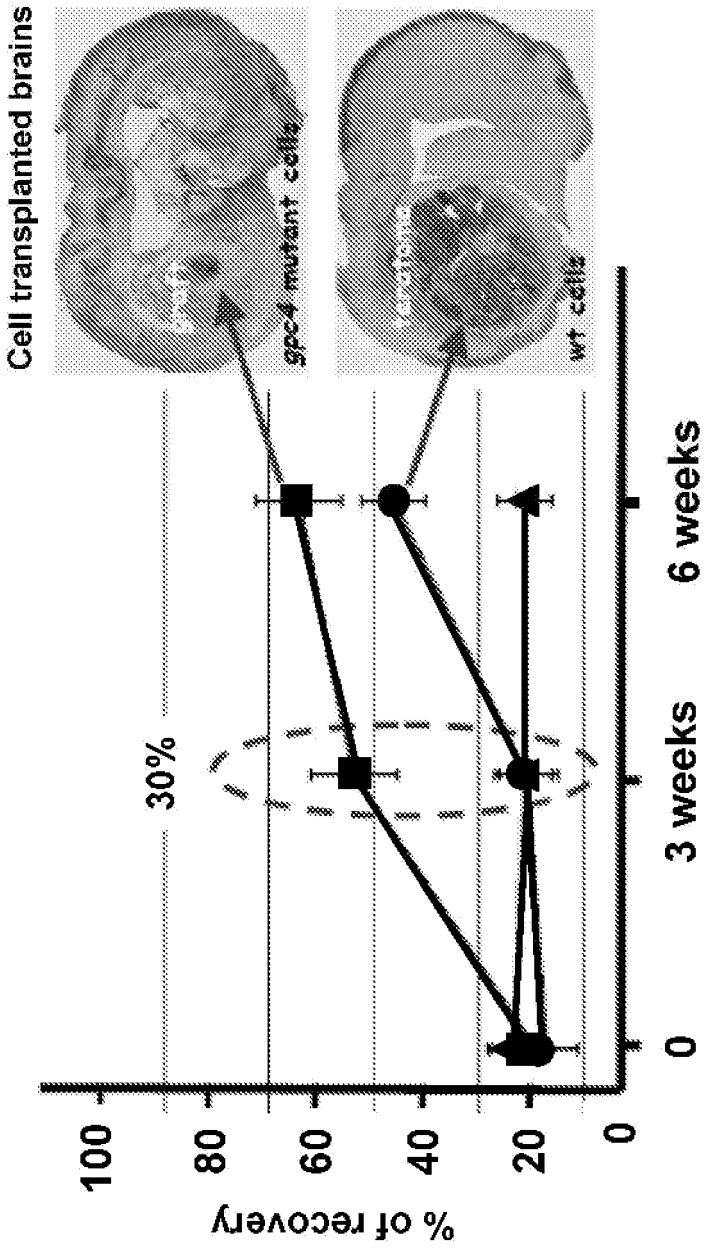

Cell transplanted brains
gpc4 mutant cells
wt cells
30%
% of recovery
100
80
60
40
20
0
0
3 weeks
6 weeks

FIG.19