Fig 1

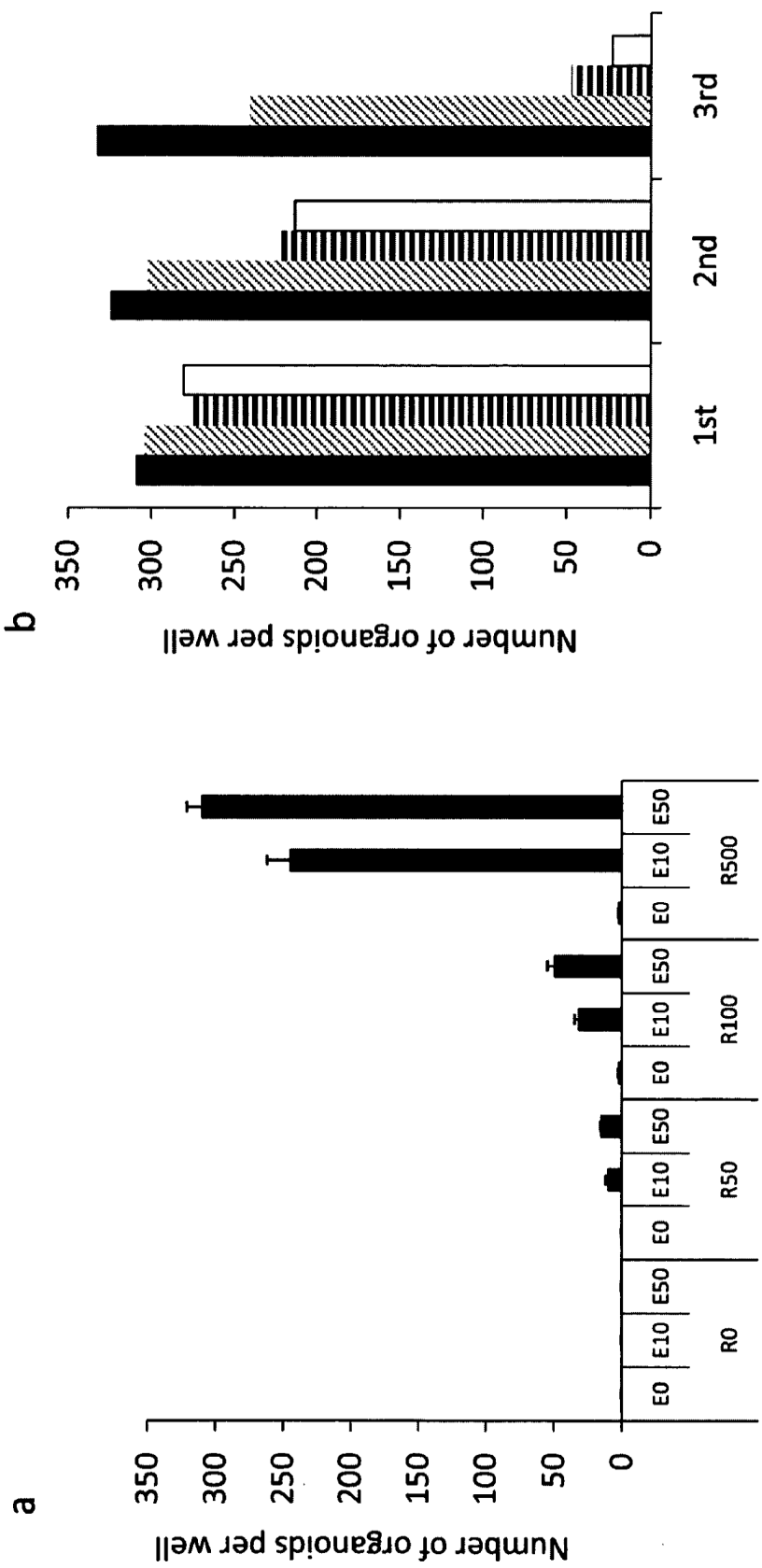

a
Number of organoids per well
0
50
100
150
200
250
300
350
E0
E10
E50
R0
E0
E10
E50
R50
E0
E10
E50
R100
E0
E10
E50
R500
b
Number of organoids per well
0
50
100
150
200
250
300
350
1st
2nd
3rd

Fig 2

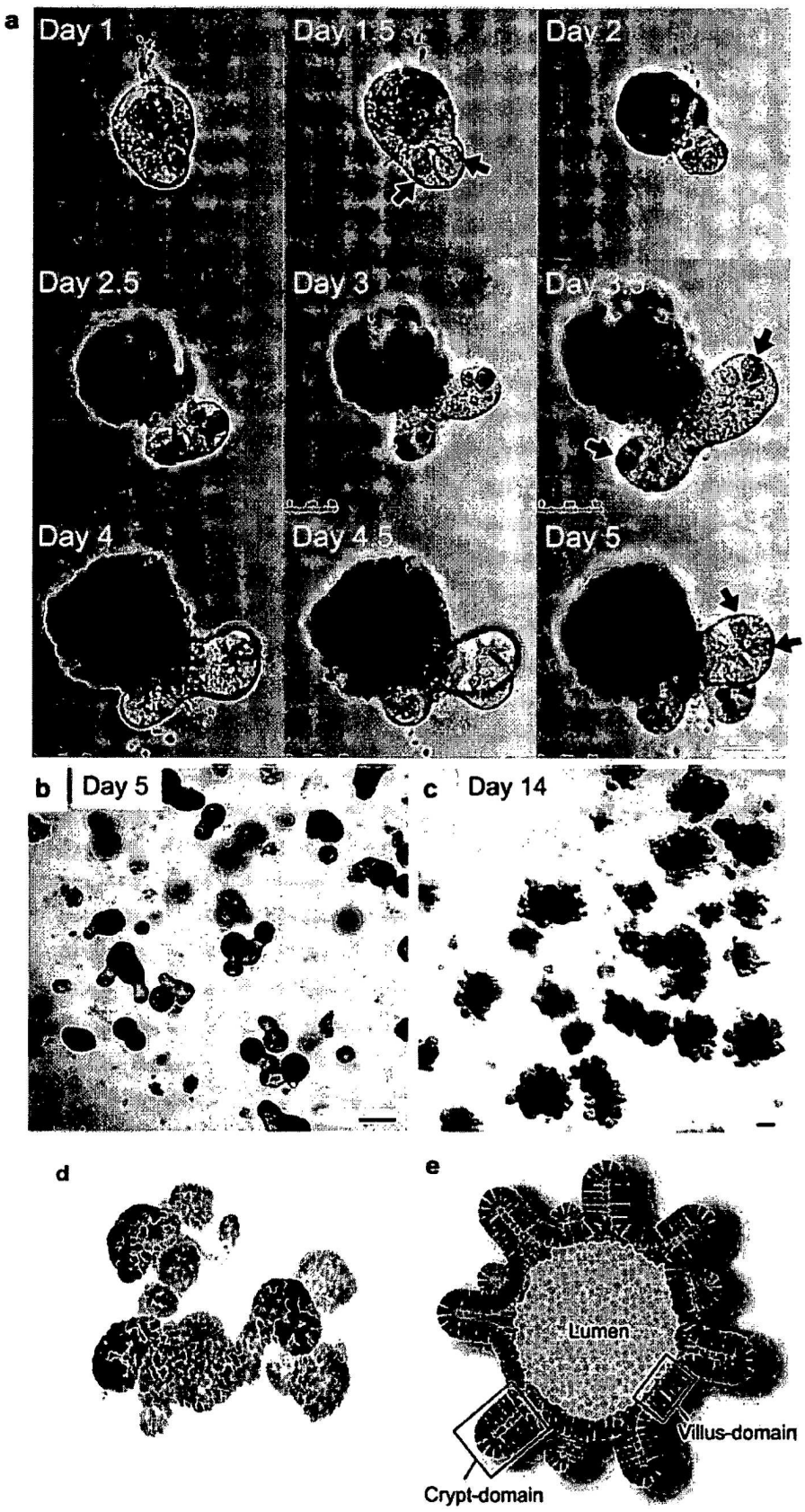
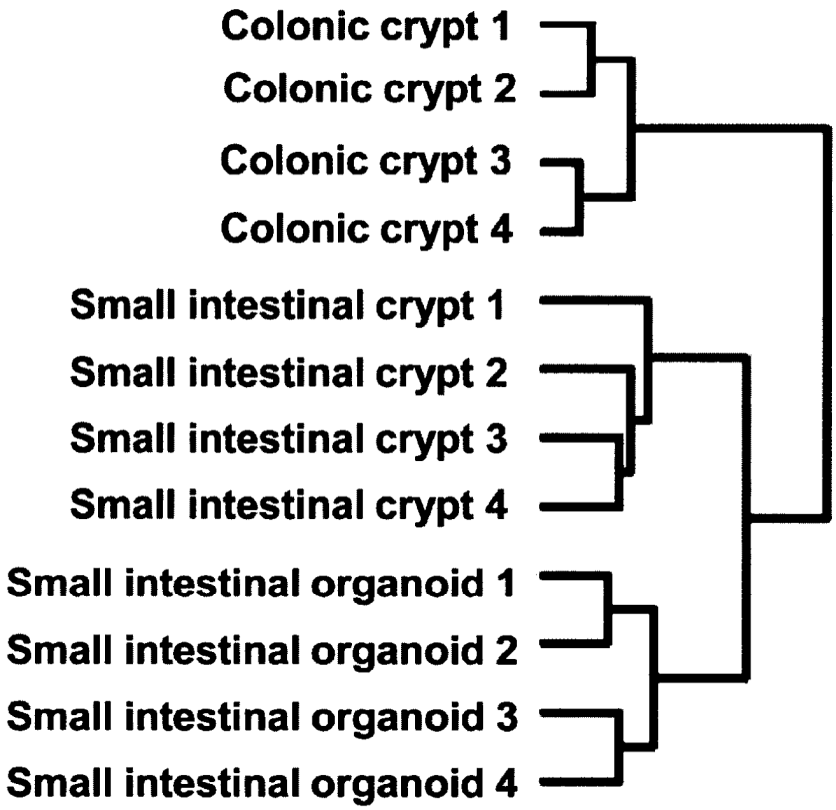

a
Day 1
Day 1.5
Day 2
Day 2.5
Day 3
Day 3.5
Day 4
Day 4.5
Day 5
b
Day 5
c
Day 14
d
e
Lumen
Villus-domain
Crypt-domain

Fig 3


Colonic crypt 1
Colonic crypt 2
Colonic crypt 3
Colonic crypt 4
Small intestinal crypt 1
Small intestinal crypt 2
Small intestinal crypt 3
Small intestinal crypt 4
Small intestinal organoid 1
Small intestinal organoid 2
Small intestinal organoid 3
Small intestinal organoid 4

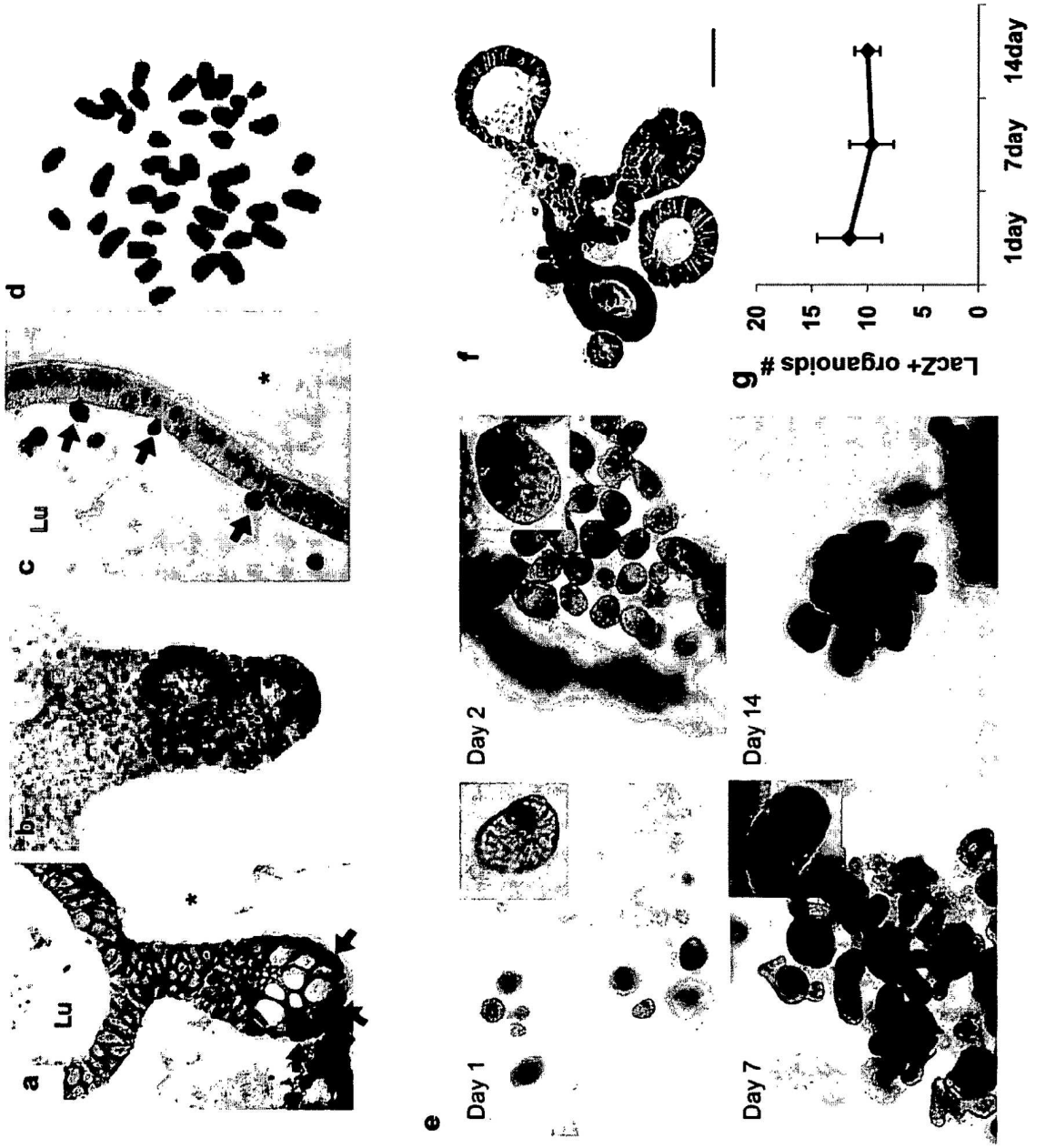

a
Lu
b
c
Lu
d
e
Day 1
Day 2
Day 7
Day 14
f
g
LacZ+ organoids #
20
15
10
5
0
1day
7day
14day

Fig 4



Fig 5b



Fig 5c

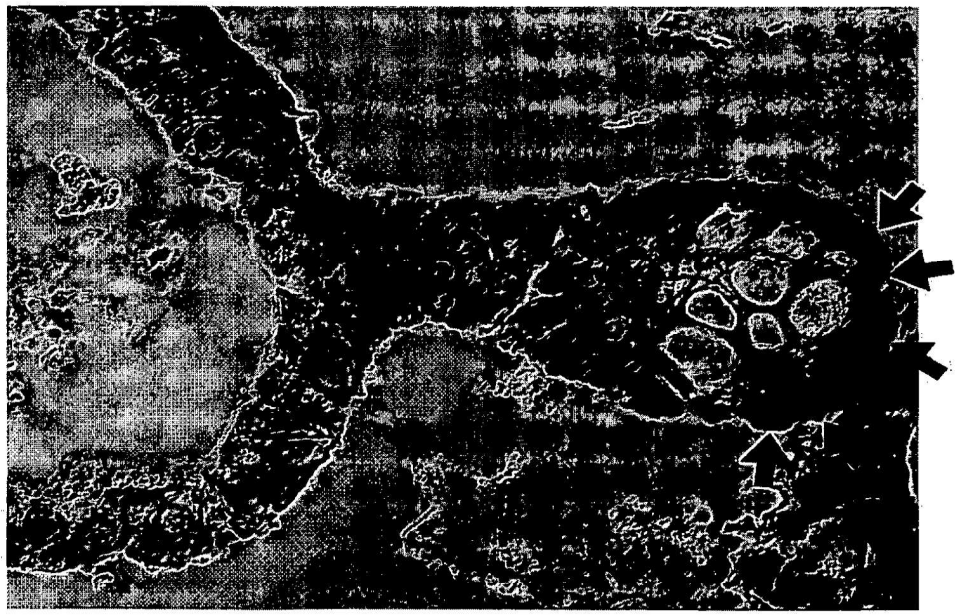


Fig 5a

Fig 6

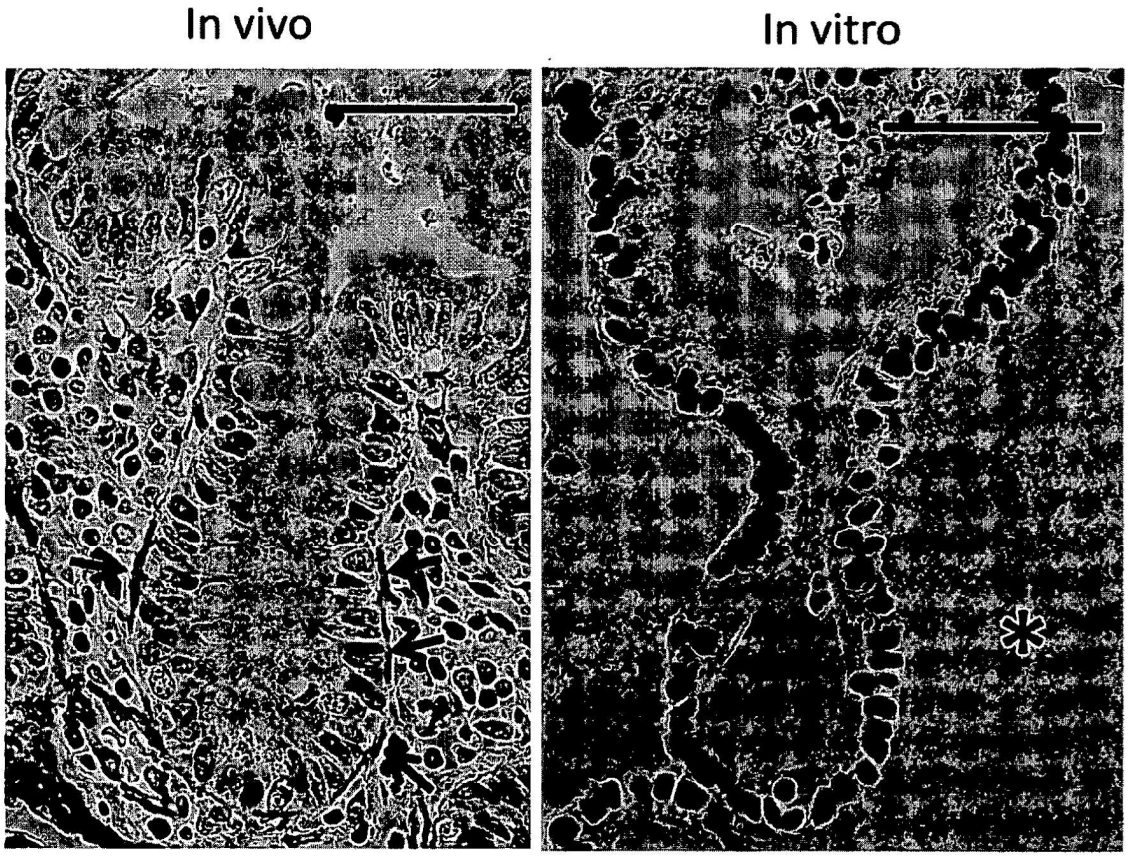


Fig 7

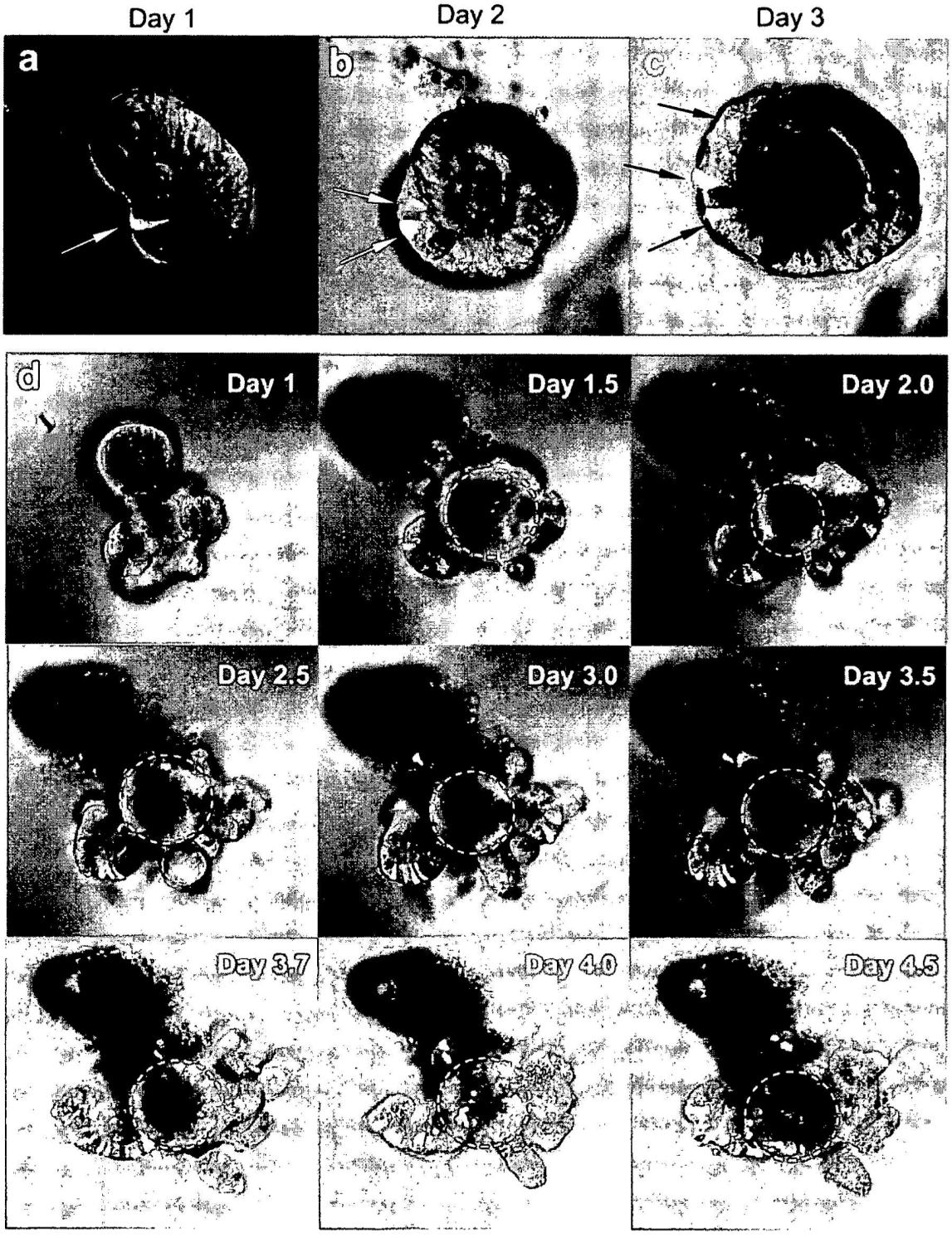

Day 1
Day 2
Day 3
a
b
c
d
Day 1
Day 1.5
Day 2.0
Day 2.5
Day 3.0
Day 3.5
Day 3.7
Day 4.0
Day 4.5

Fig 8

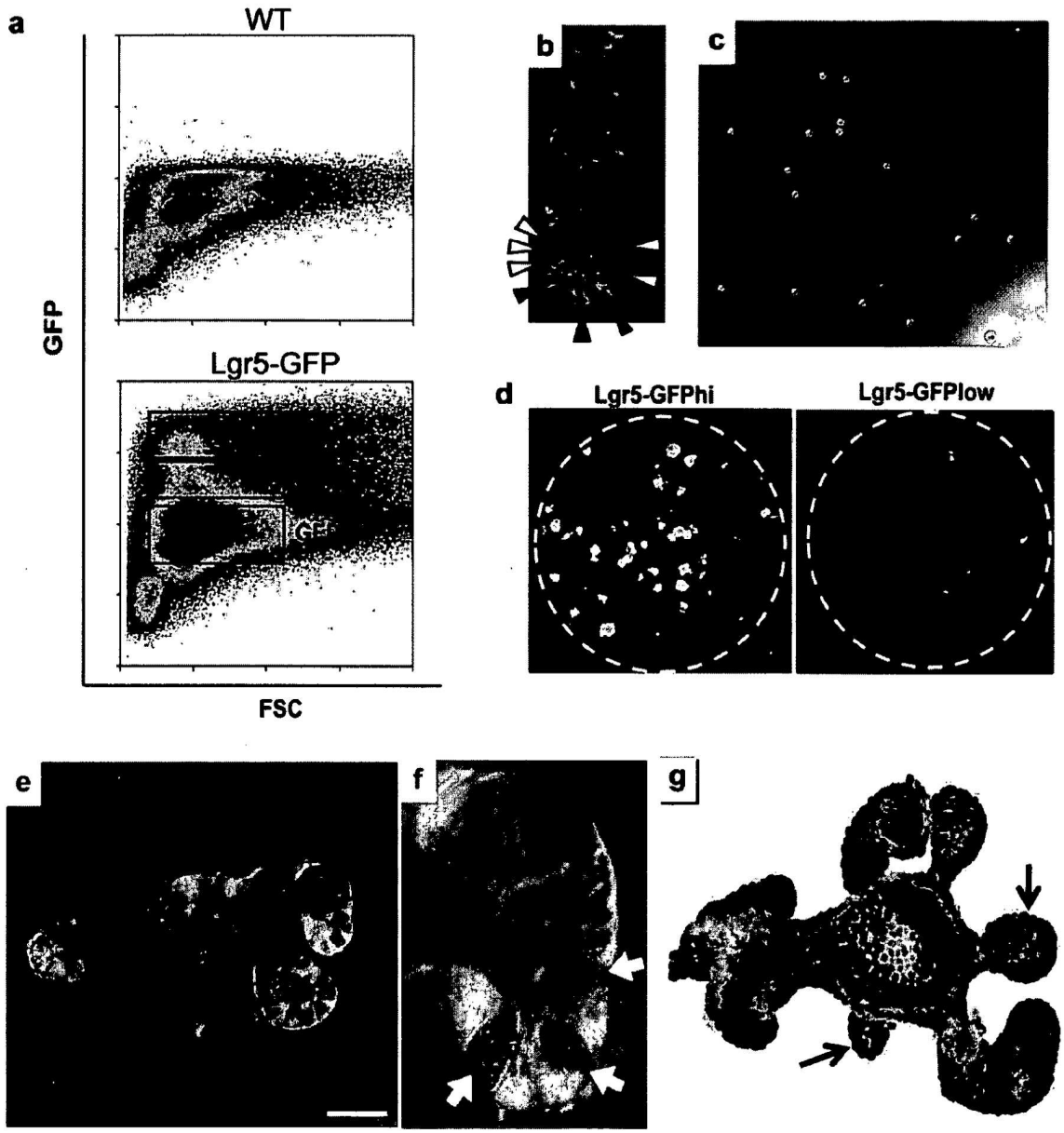


Fig 9

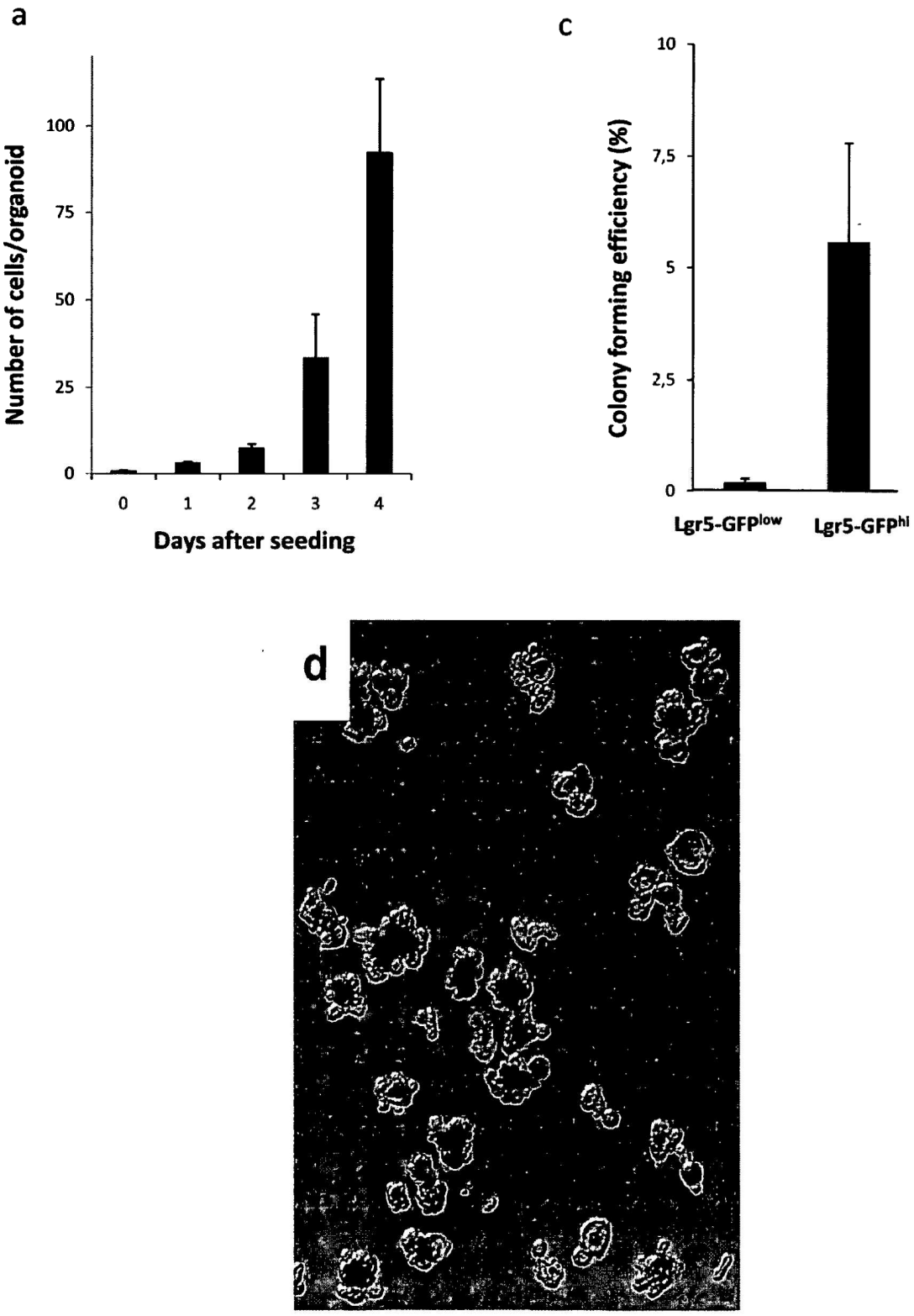
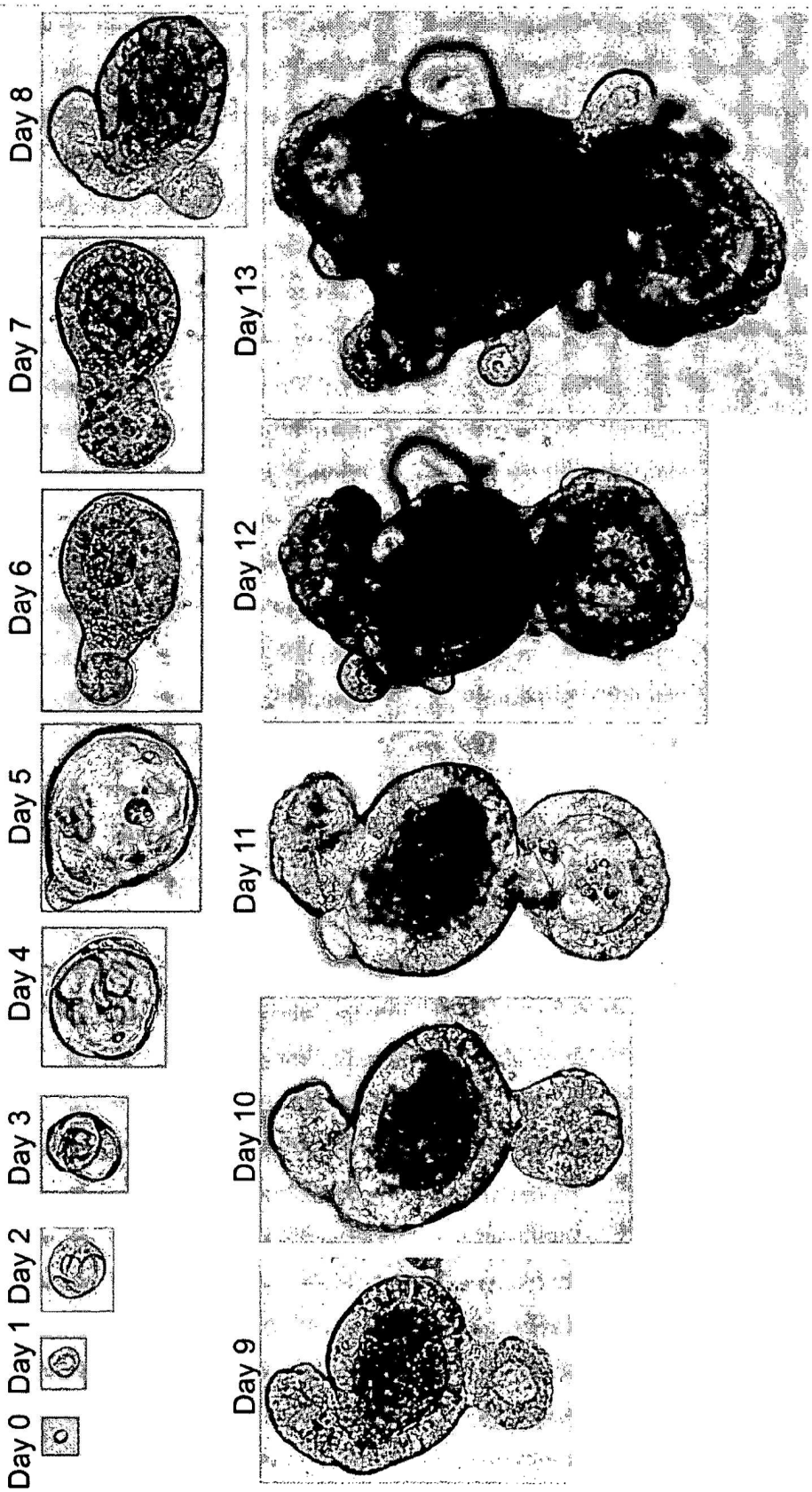

a
Number of cells/organoid
100
75
50
25
0
0
1
2
3
4
Days after seeding
c
Colony forming efficiency (%)
10
7,5
5
2,5
0
Lgr5-GFPlow
Lgr5-GFPhi
d

Fig 9b


Day 0
Day 1
Day 2
Day 3
Day 4
Day 5
Day 6
Day 7
Day 8
Day 9
Day 10
Day 11
Day 12
Day 13

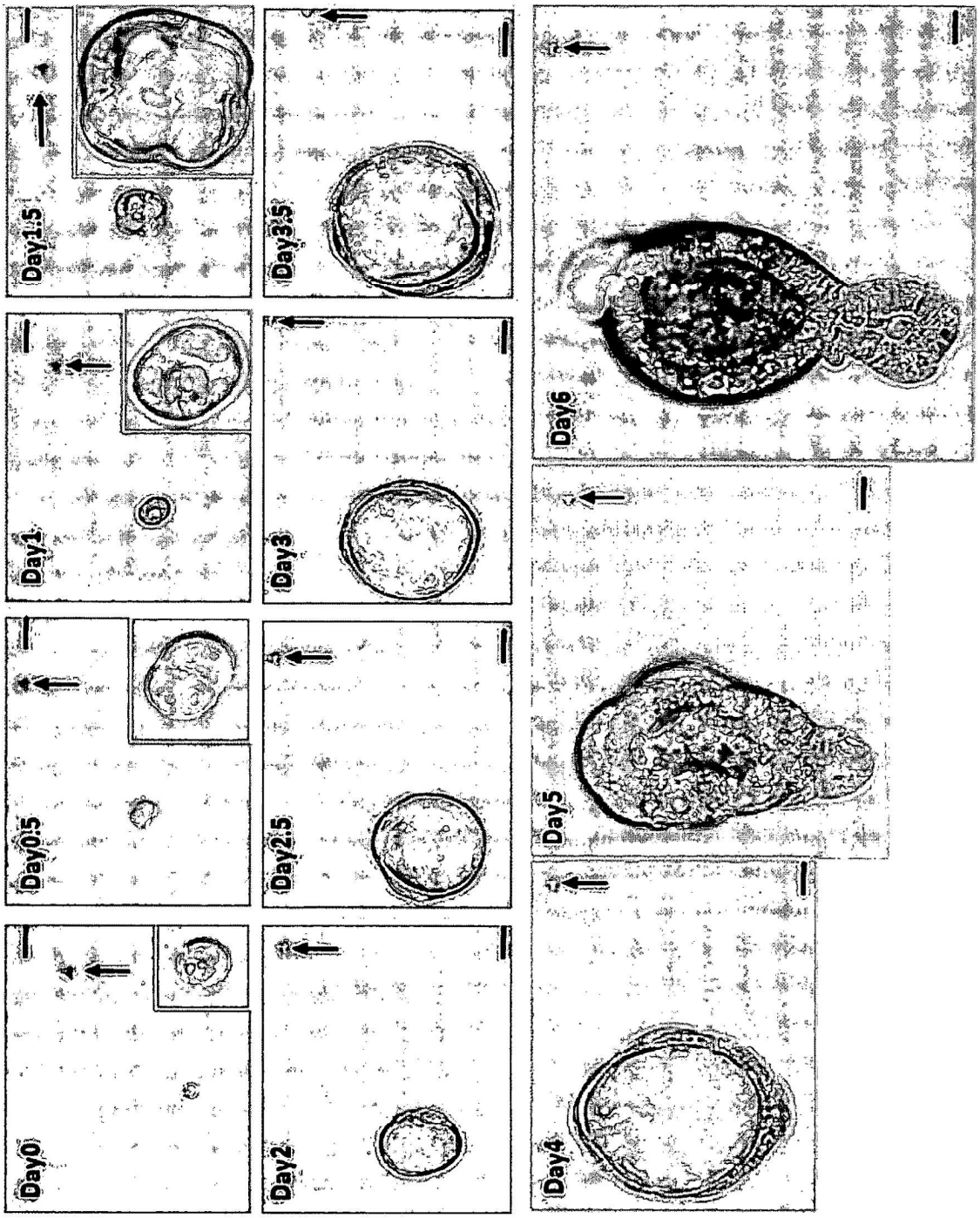


Fig 10

Fig 11

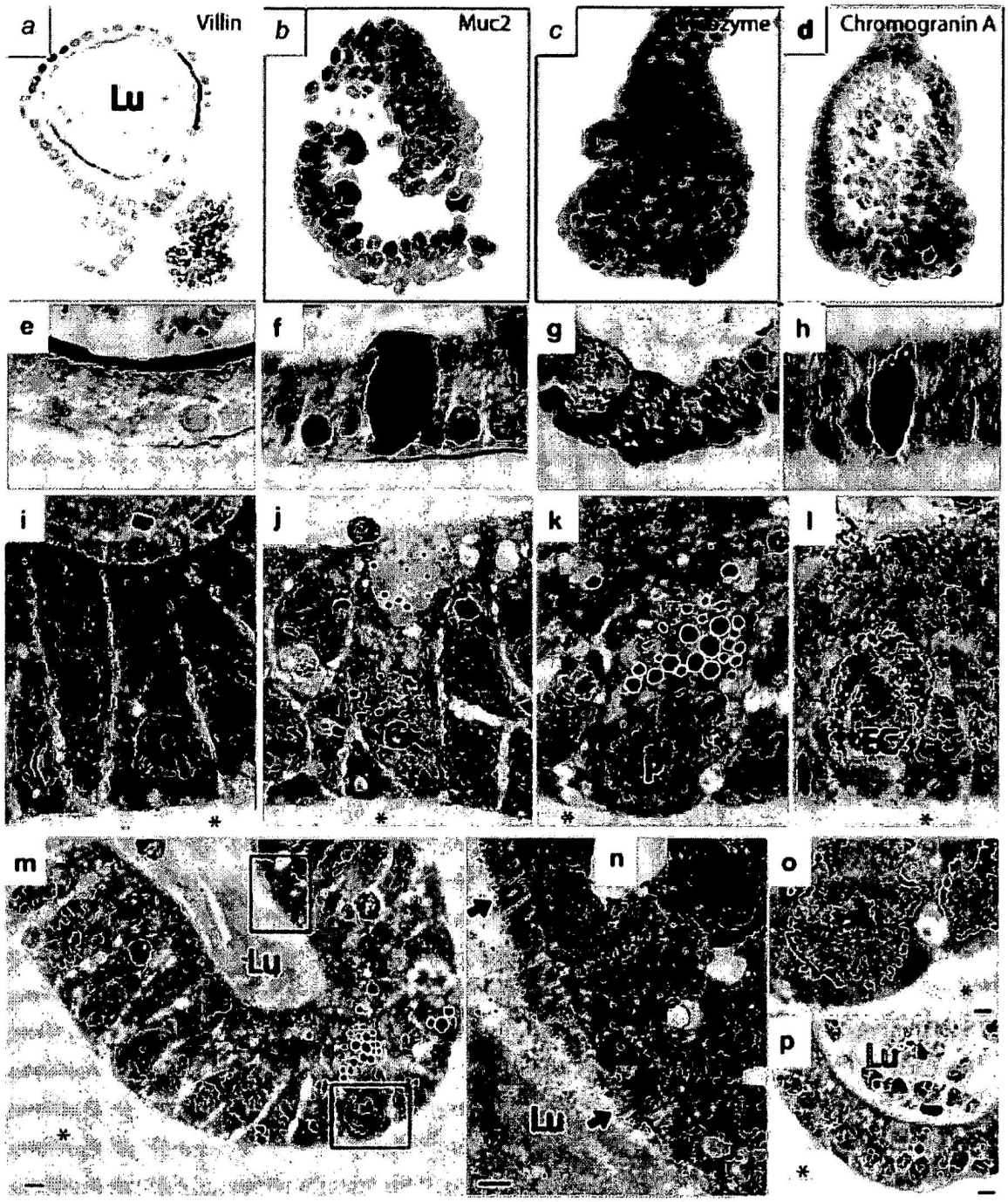


Fig 12

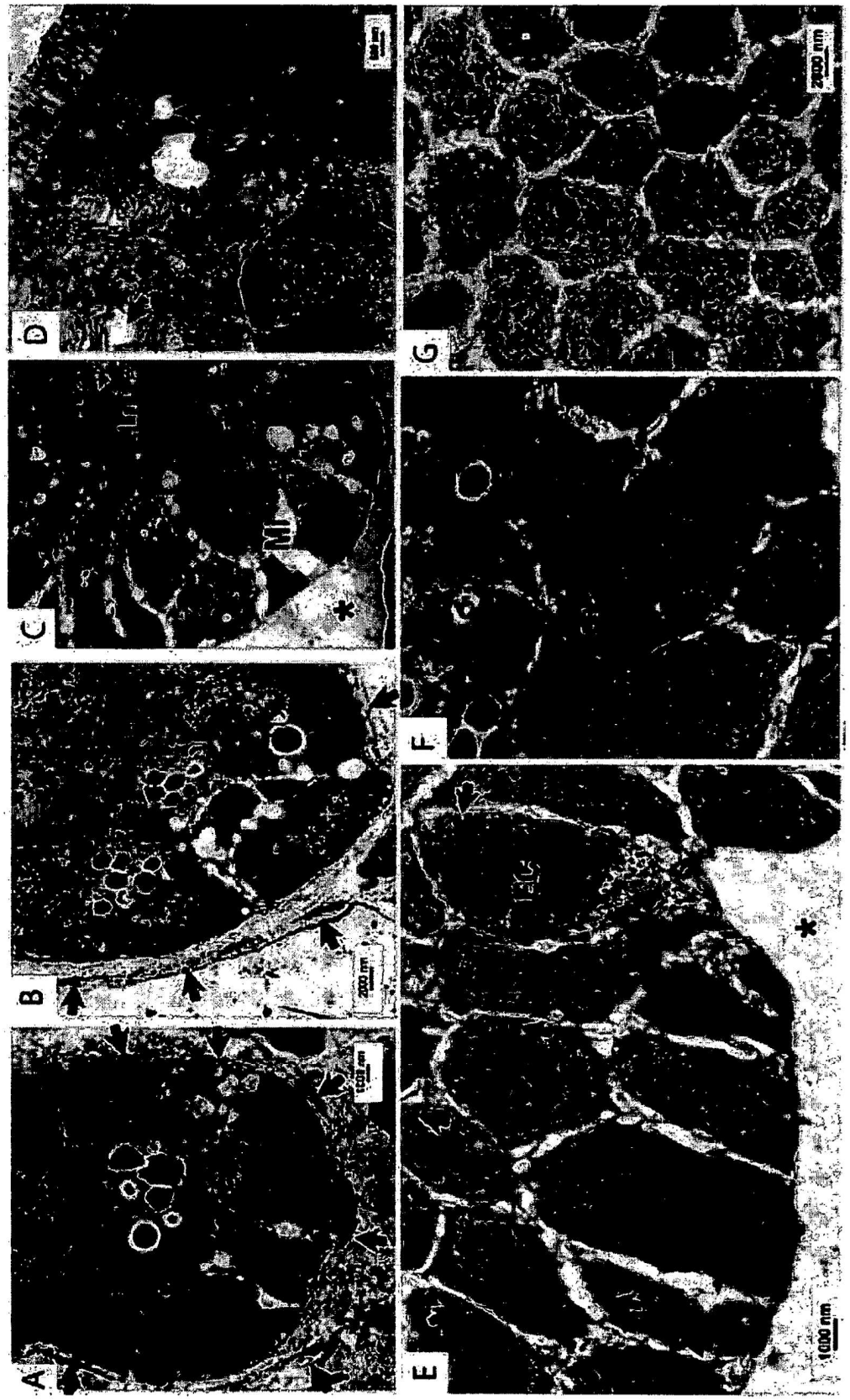


Fig 13



Fig 14a

Freshly isolated colon crypts



Fig 14b

Colon crypt organoid Day 4

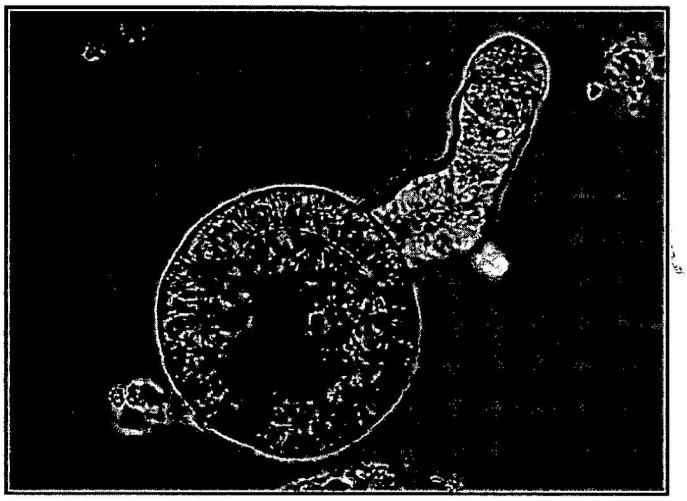


Fig 14c

Colon crypt organoid Day 14

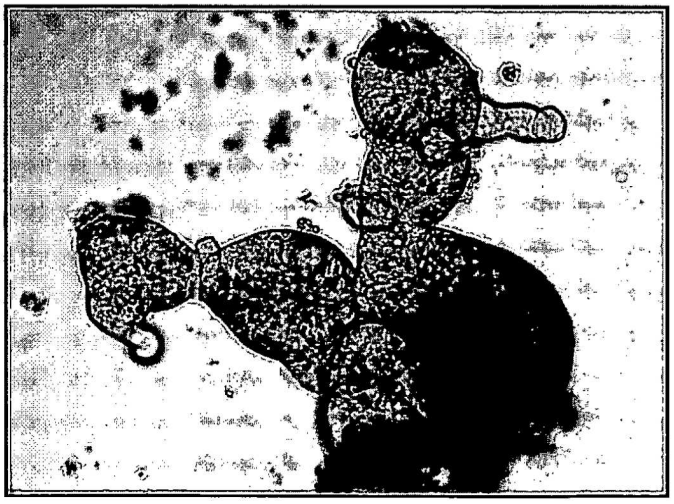


Fig 15

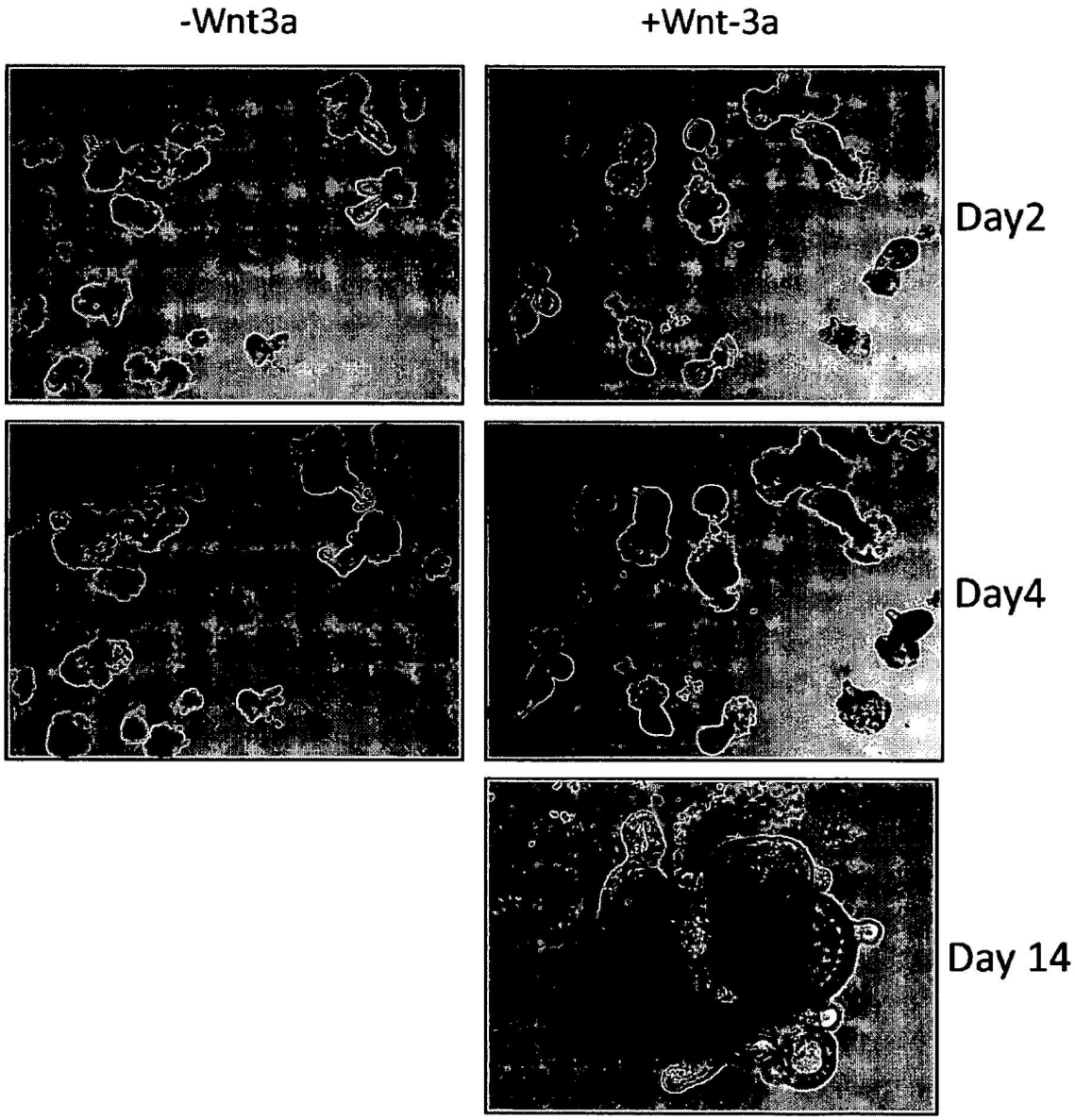


Fig 16

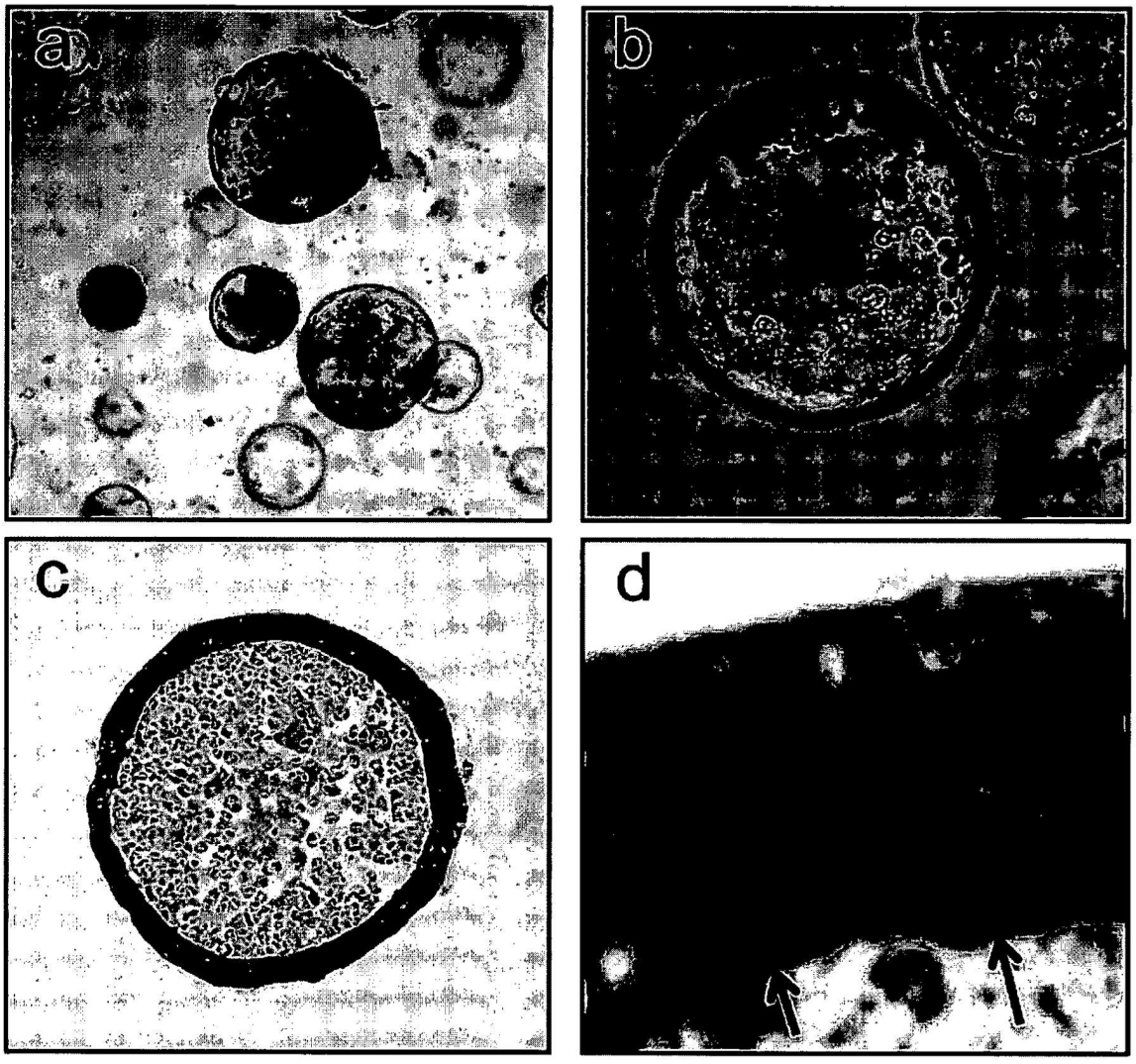


Fig 17a

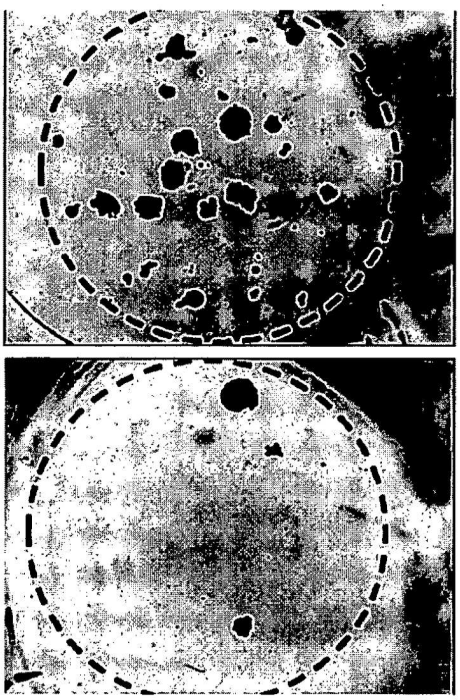


Fig 17b

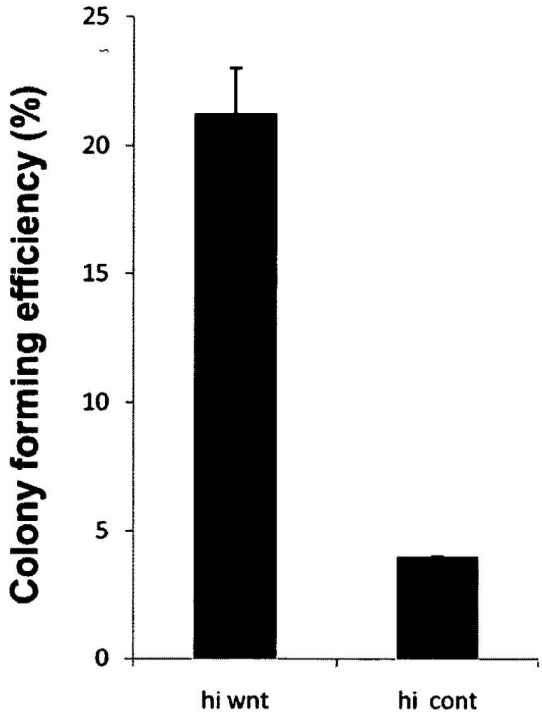


Fig 18

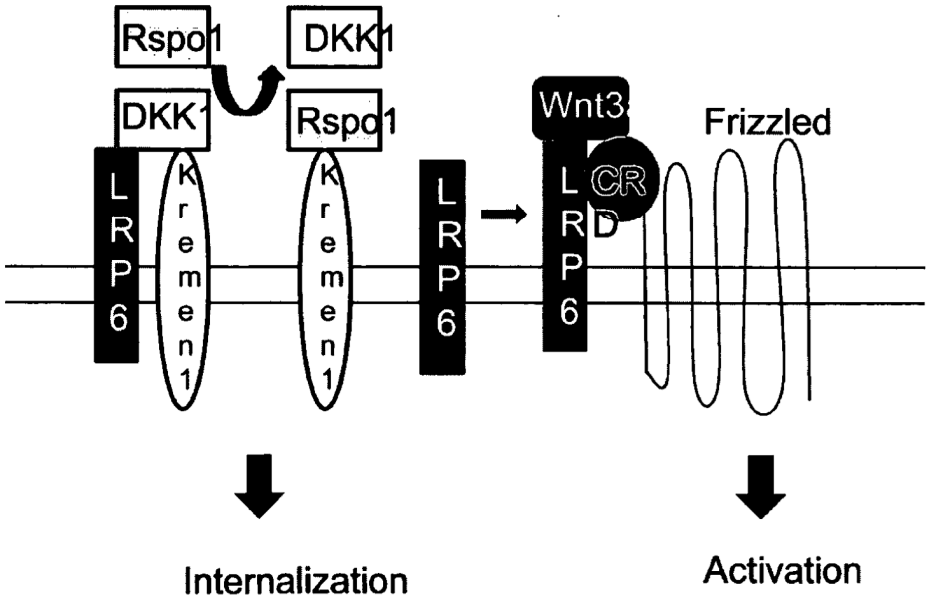


Fig 19

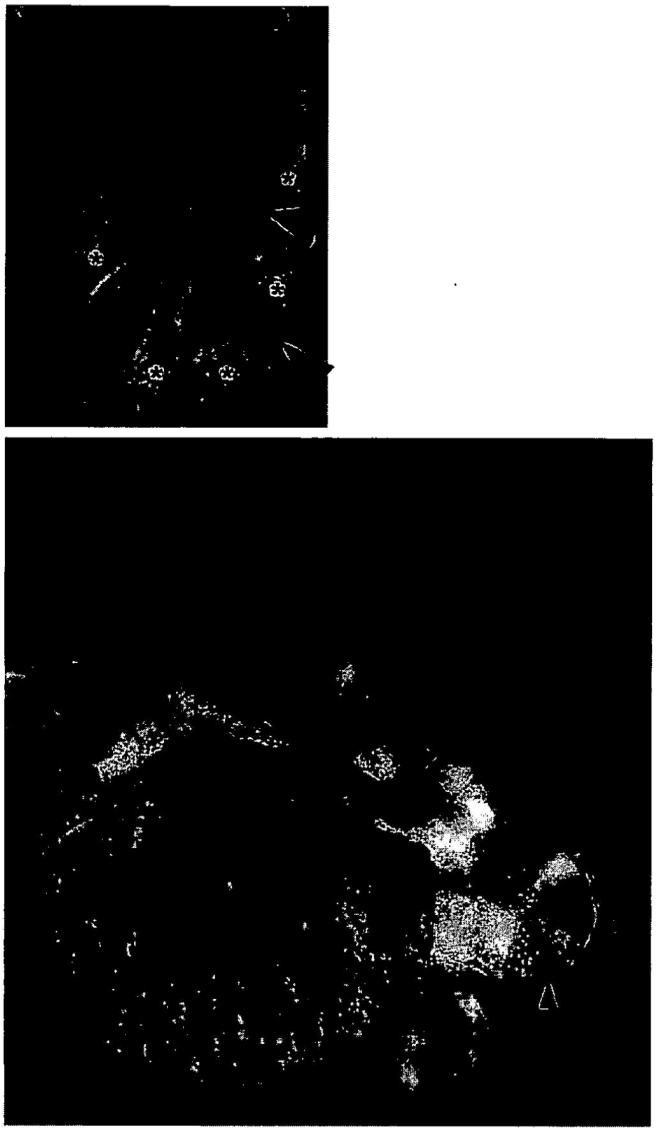


Fig 20

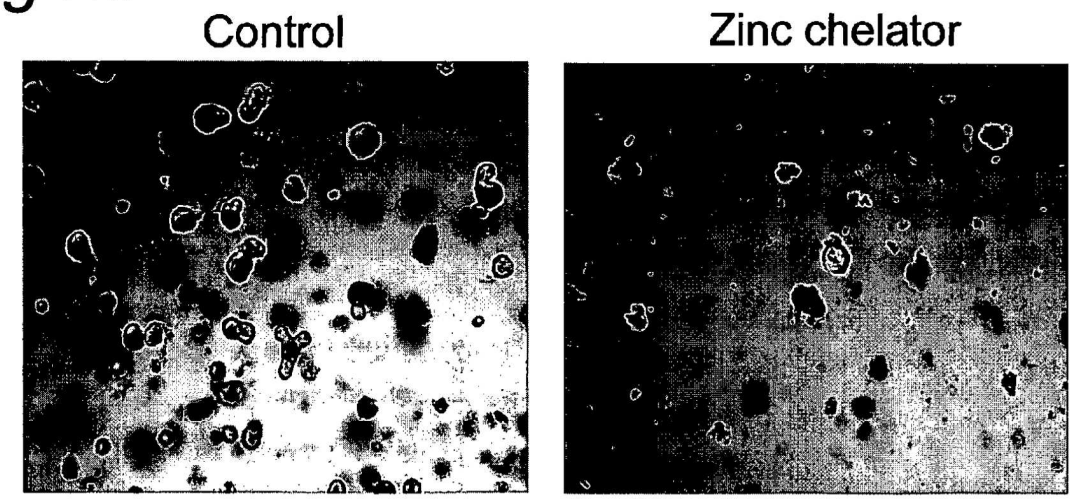


Fig 21a



Fig 21b

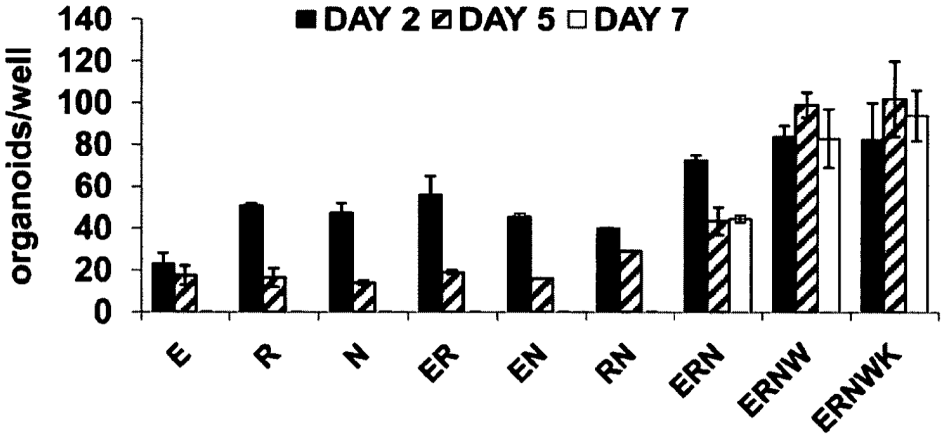


Fig 21c

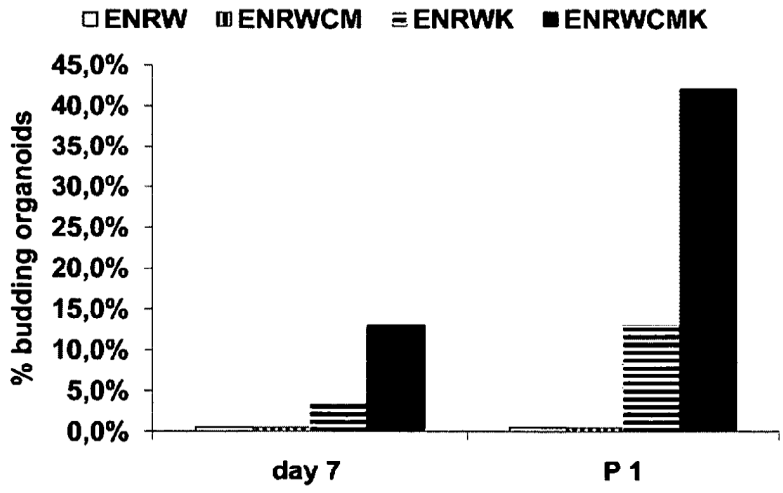


Fig 22a

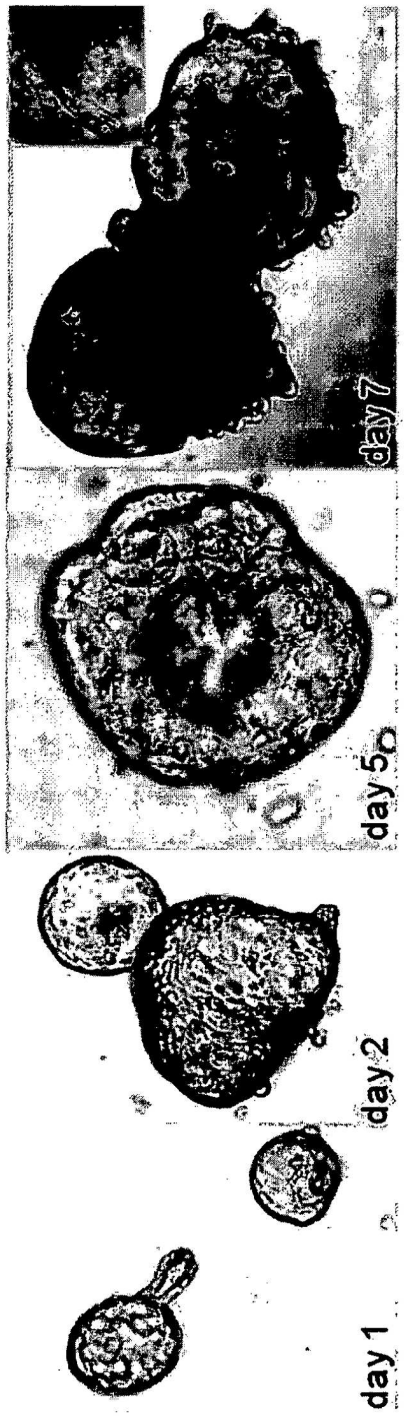


Fig 22b



Fig 23

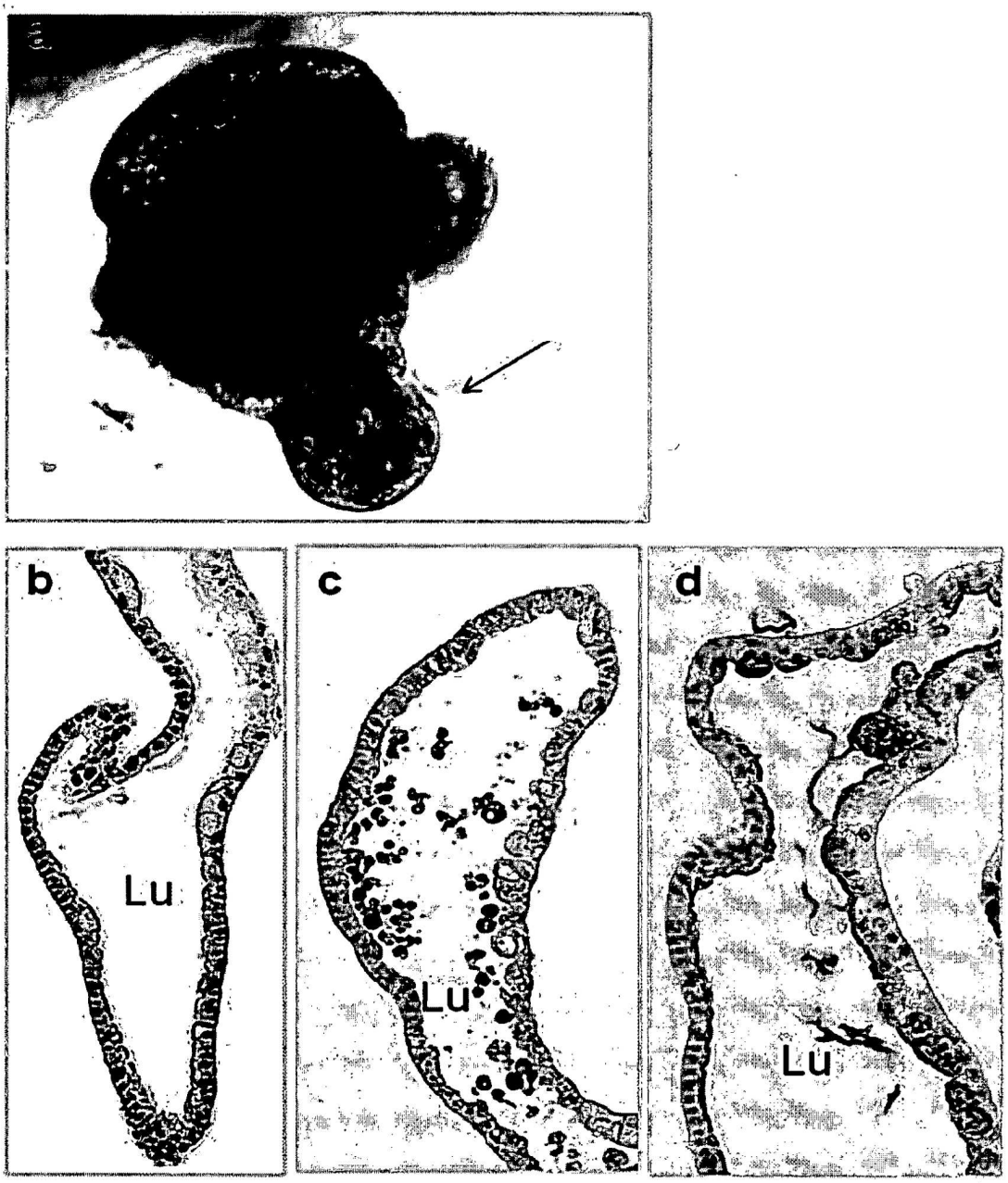


Fig 24a

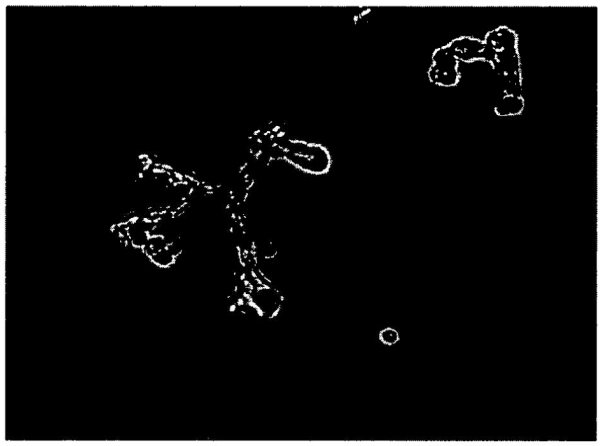


Fig 24b



Fig 24c

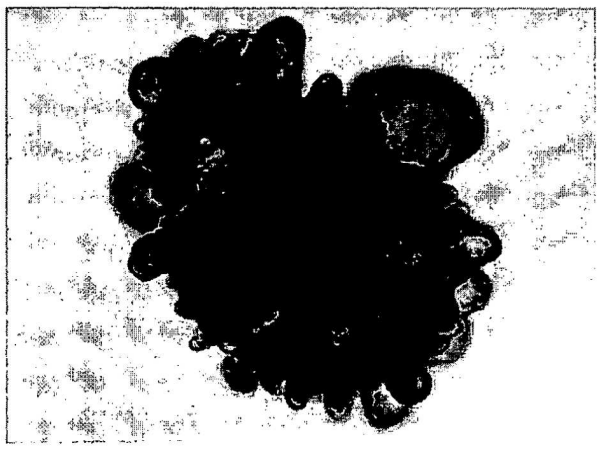


Fig 25a

Pancreatic duct organoid with islet like structures (arrows) Day 21



Fig 25b

Islet like structure (high magnification)

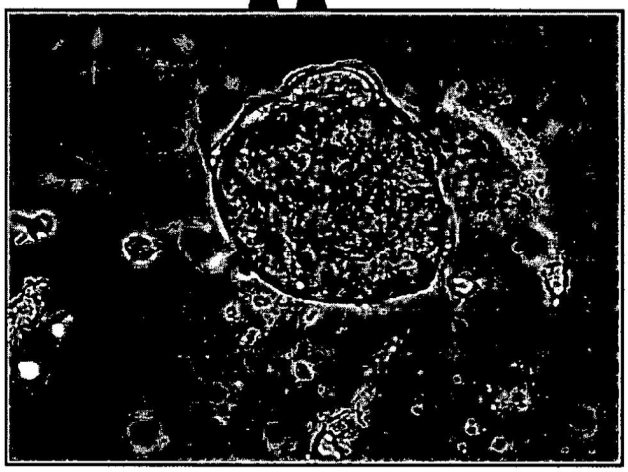


Fig 25c

Pancreatic islet-like structure

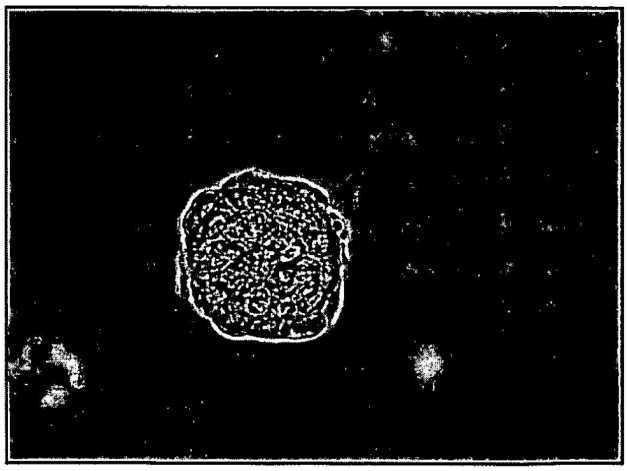


Fig 26a

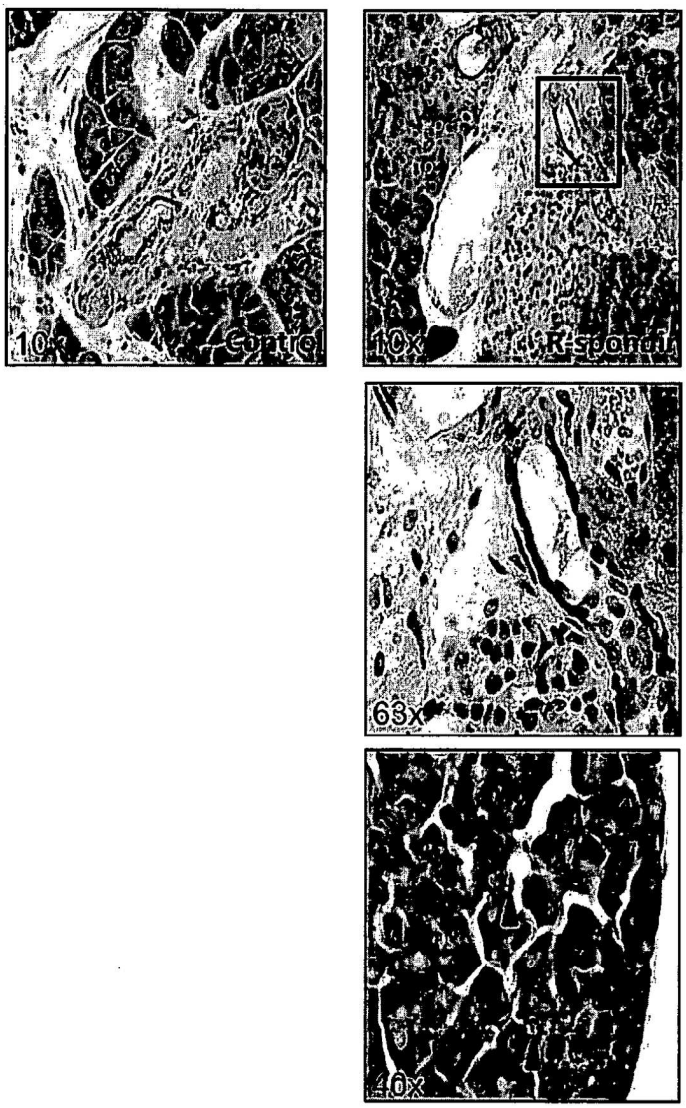


Fig 26c

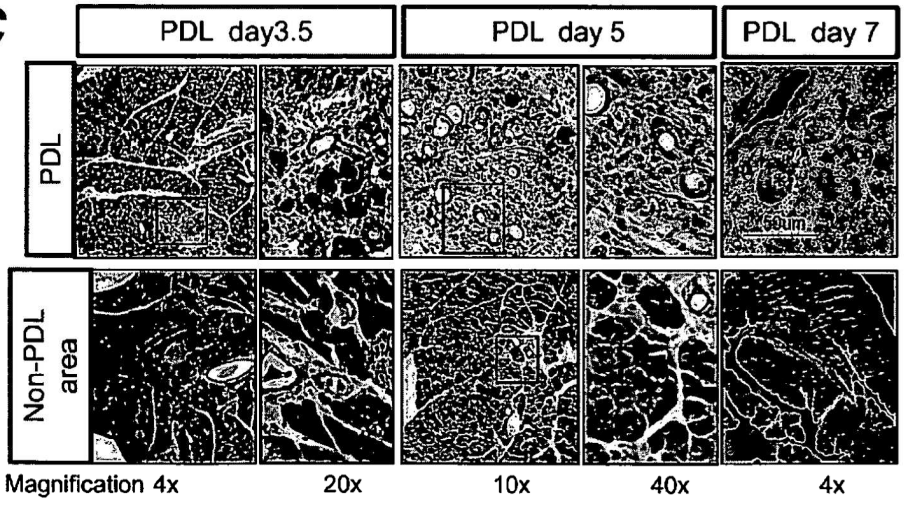


Fig 26d

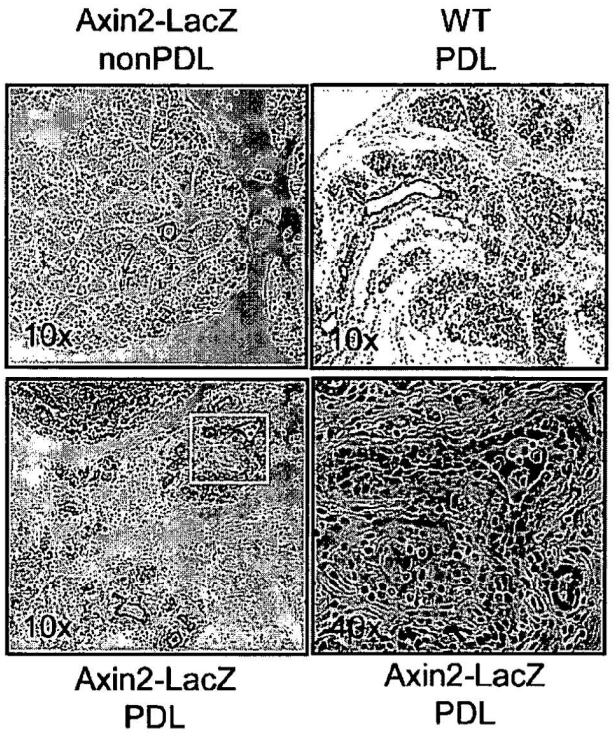


Fig 26e

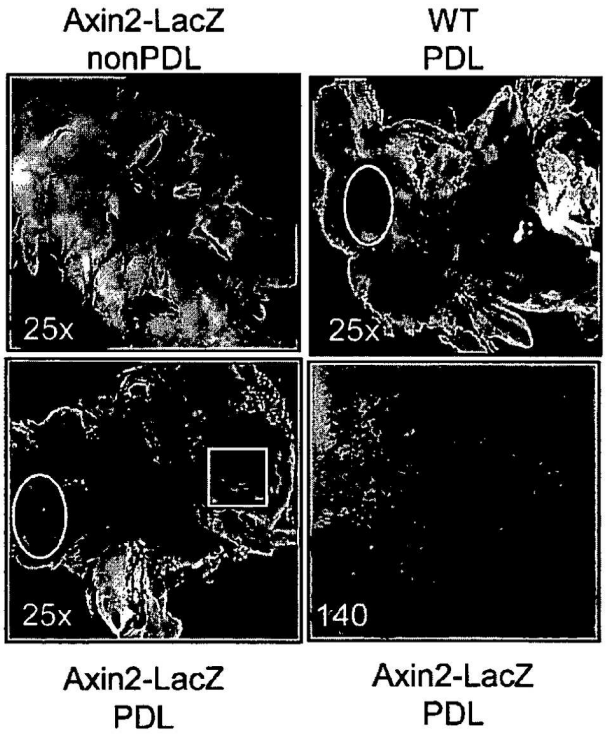


Fig 26f

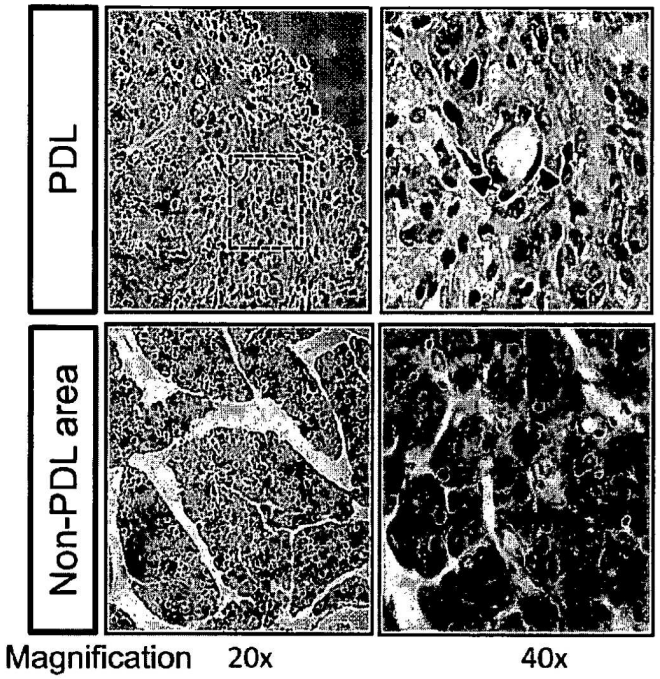


Fig 26g

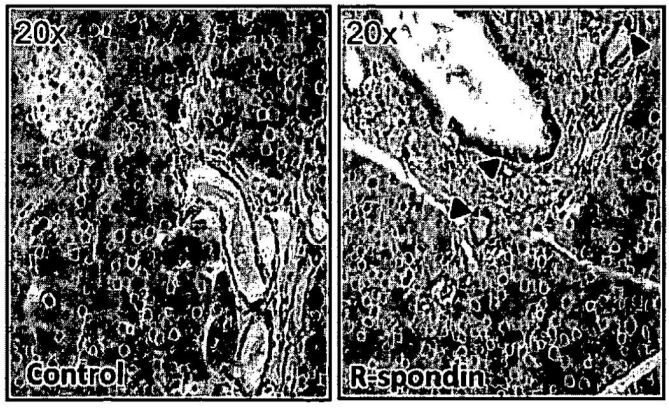


Fig 26h

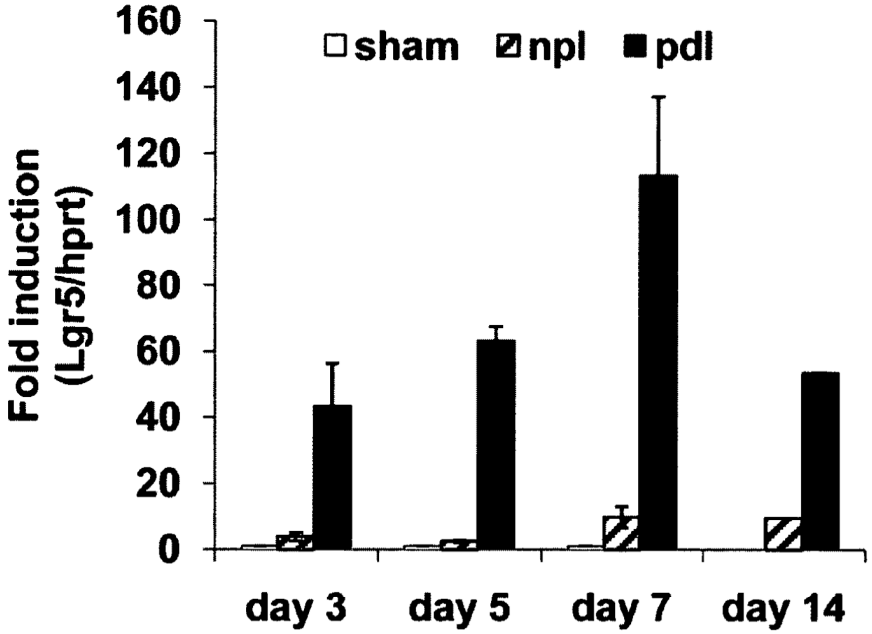


Fig 26i

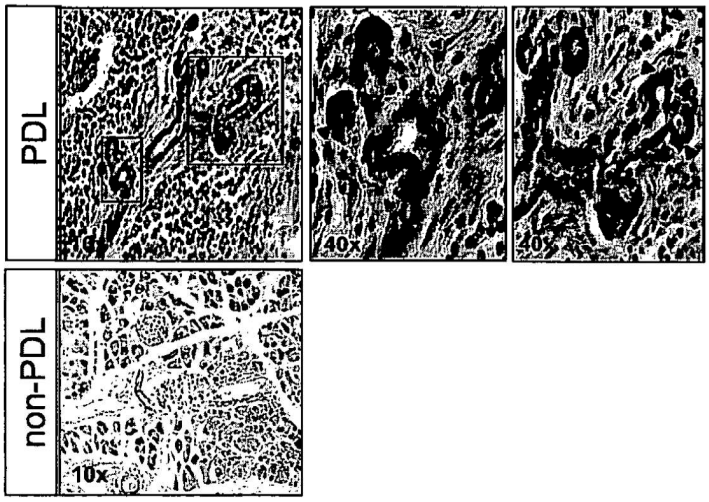


Fig 27a

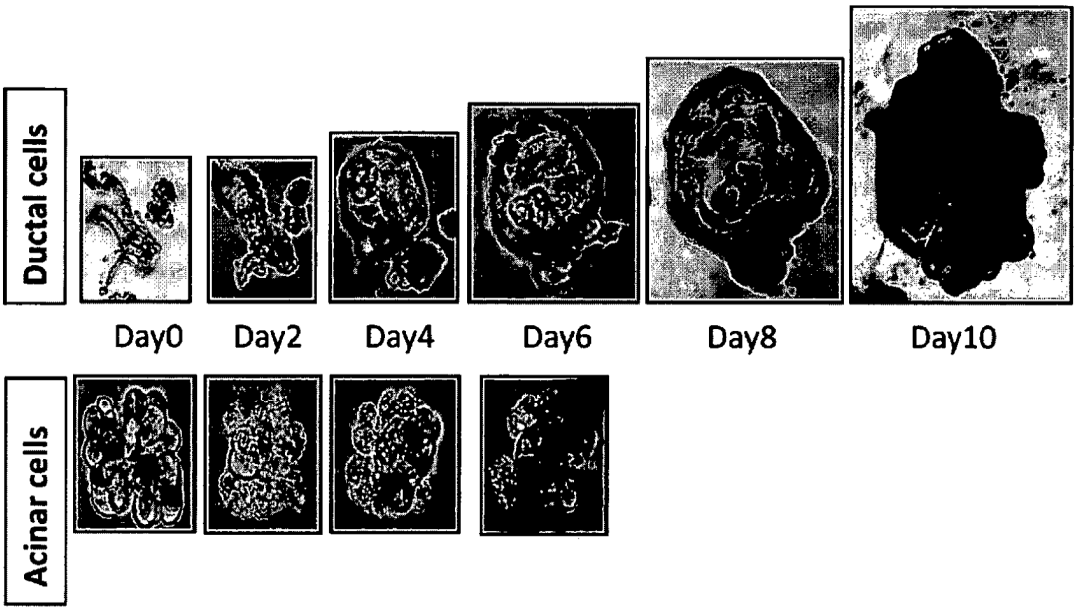


Fig 27b

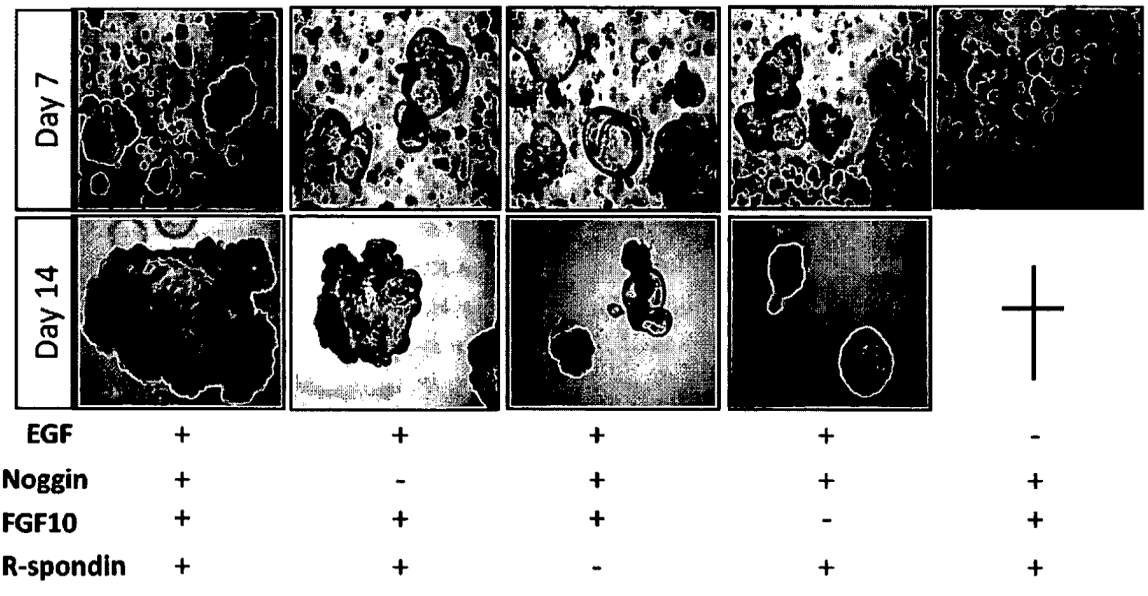


Fig 27c

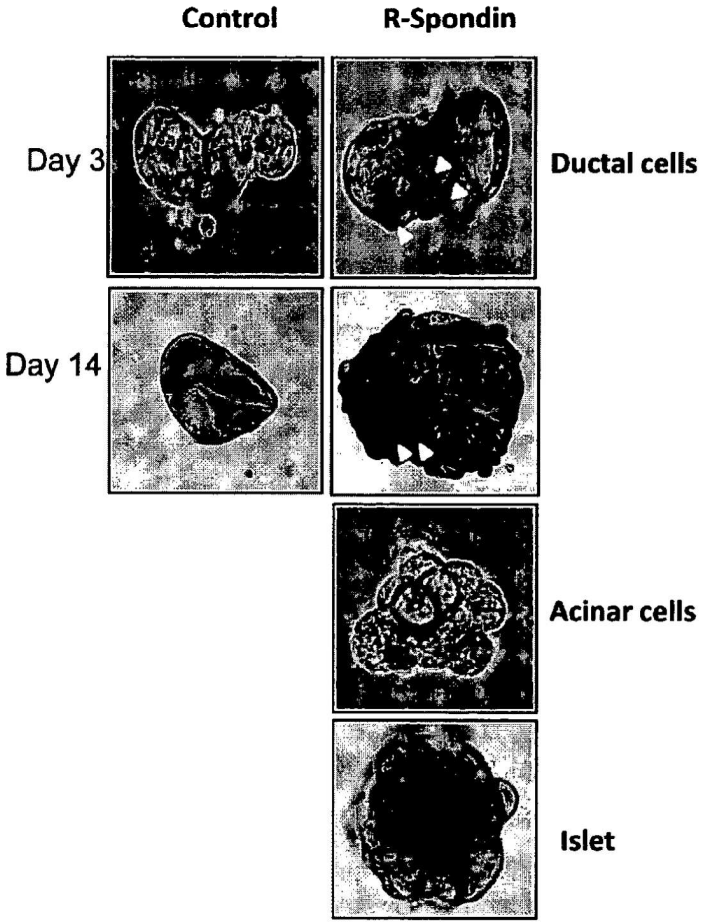


Fig 27d

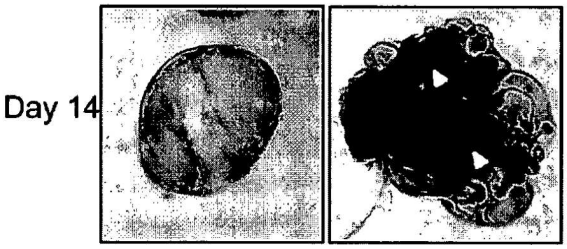


Fig 27e

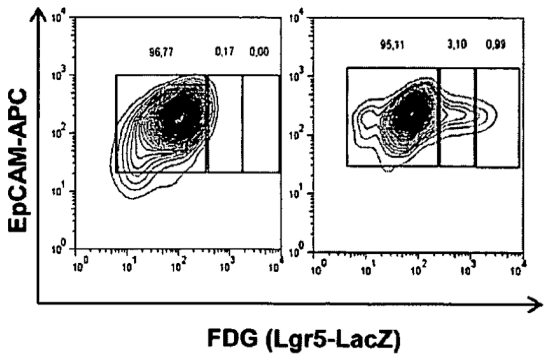


Fig 28

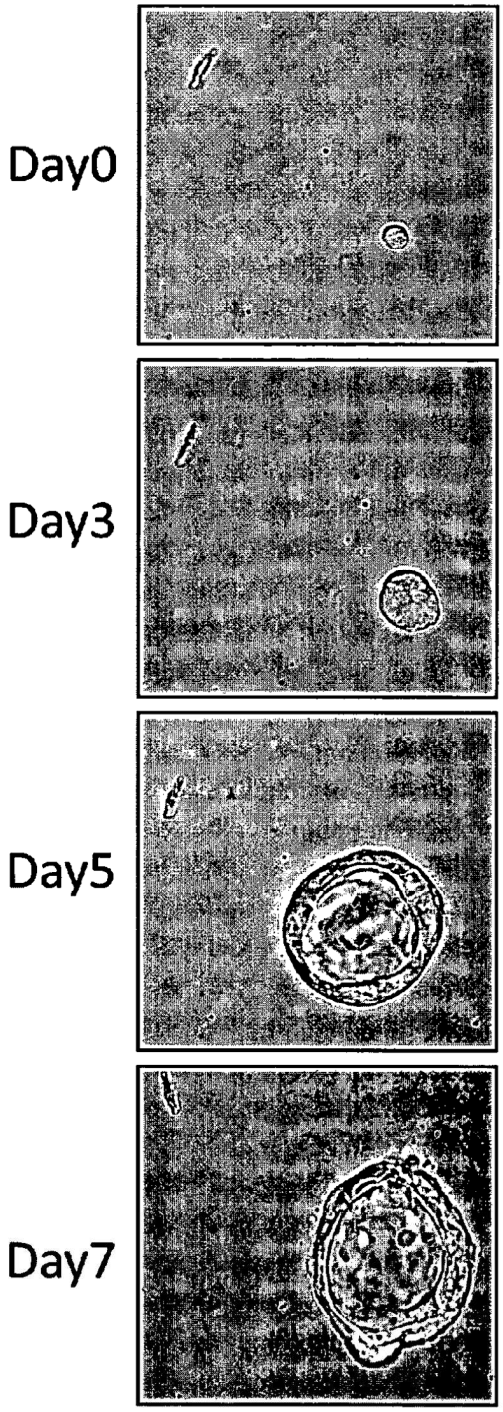


Fig 29a

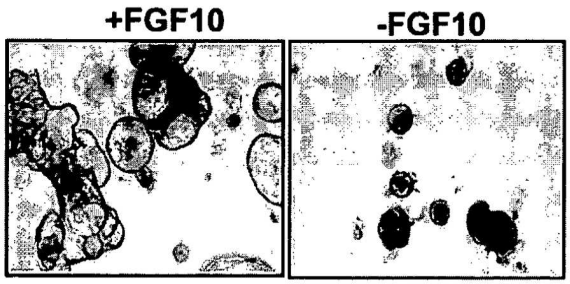


Fig 29b

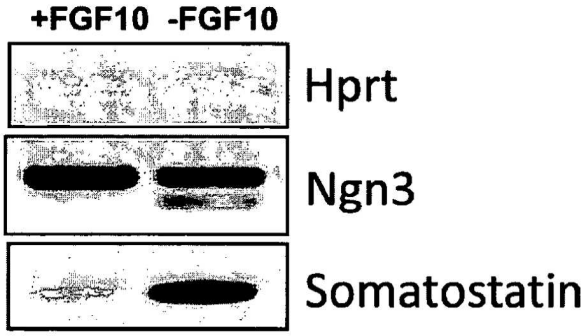


Fig 29e

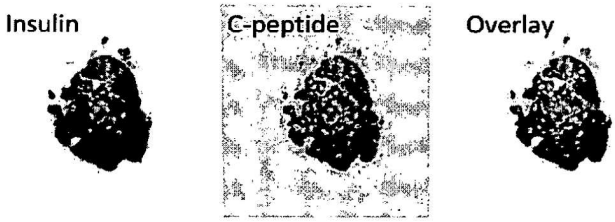


Fig 29f

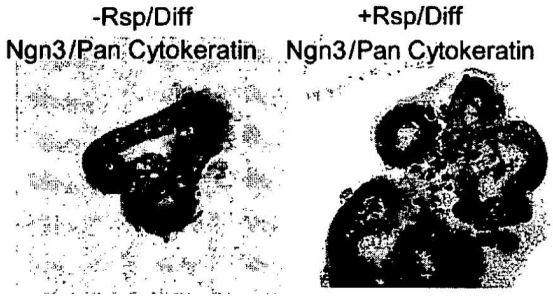


Fig 29c

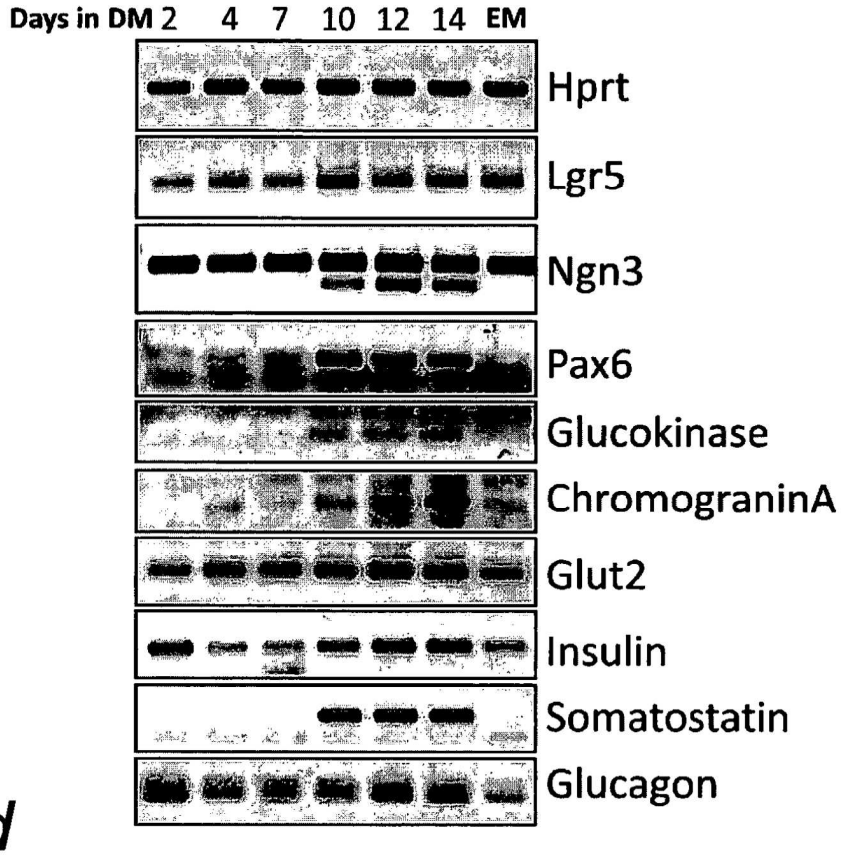


Fig 29d

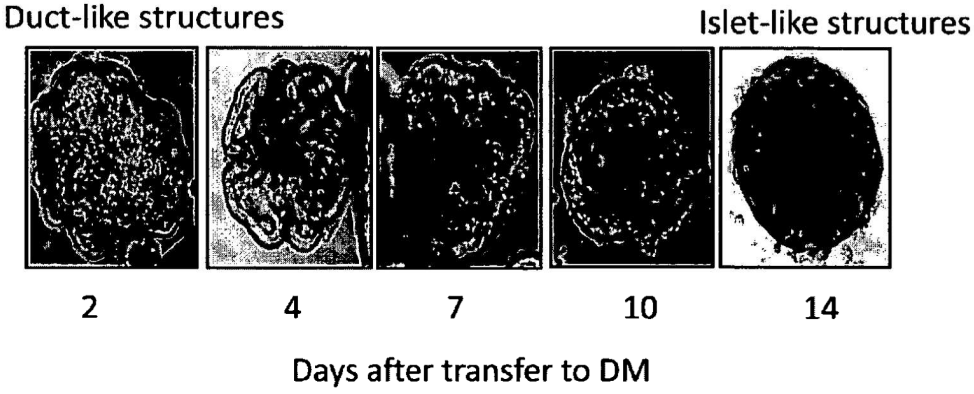


Fig 30

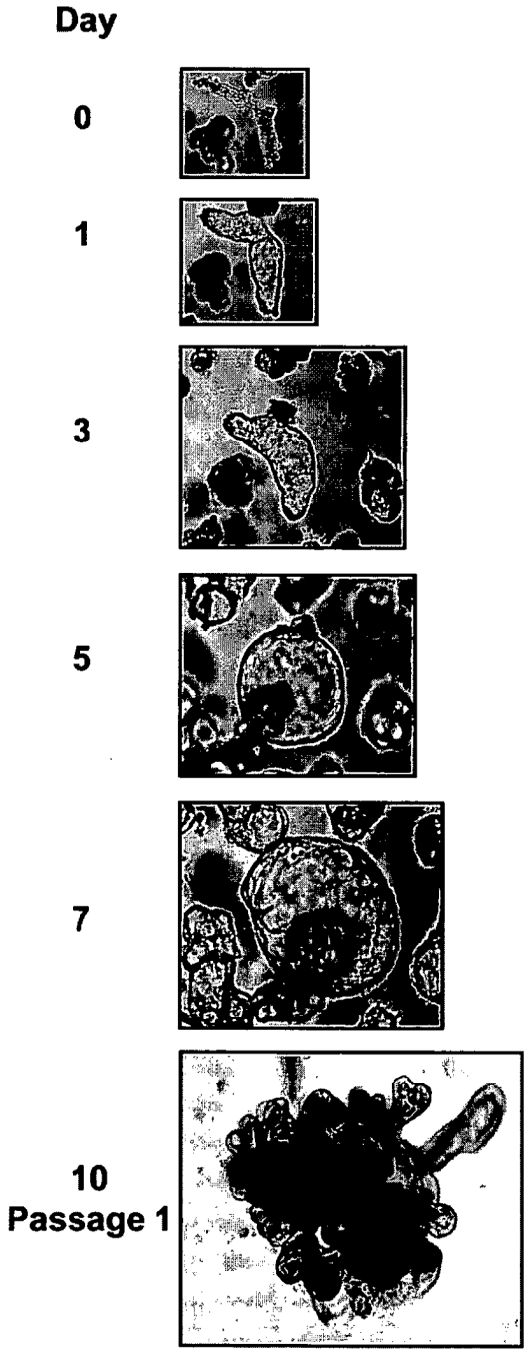


Fig 31a

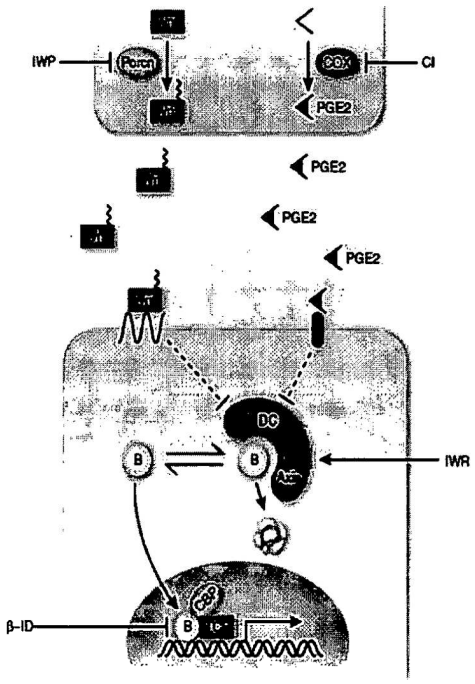


Fig 31

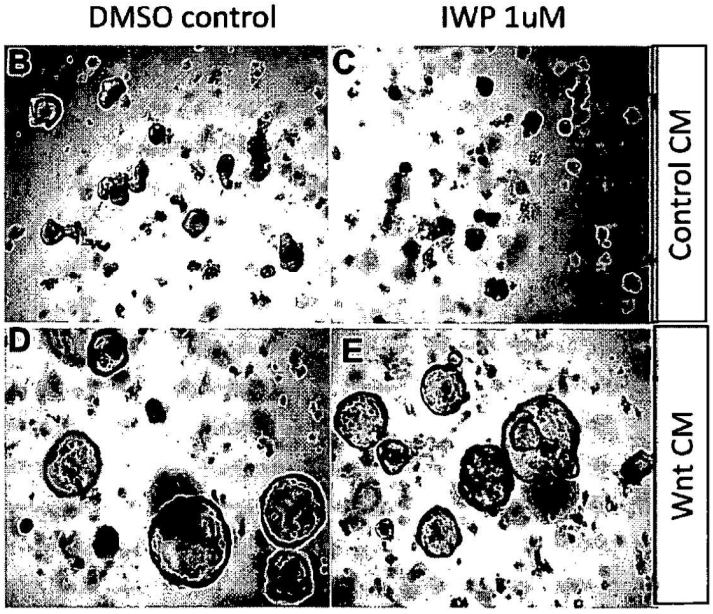


Fig 32

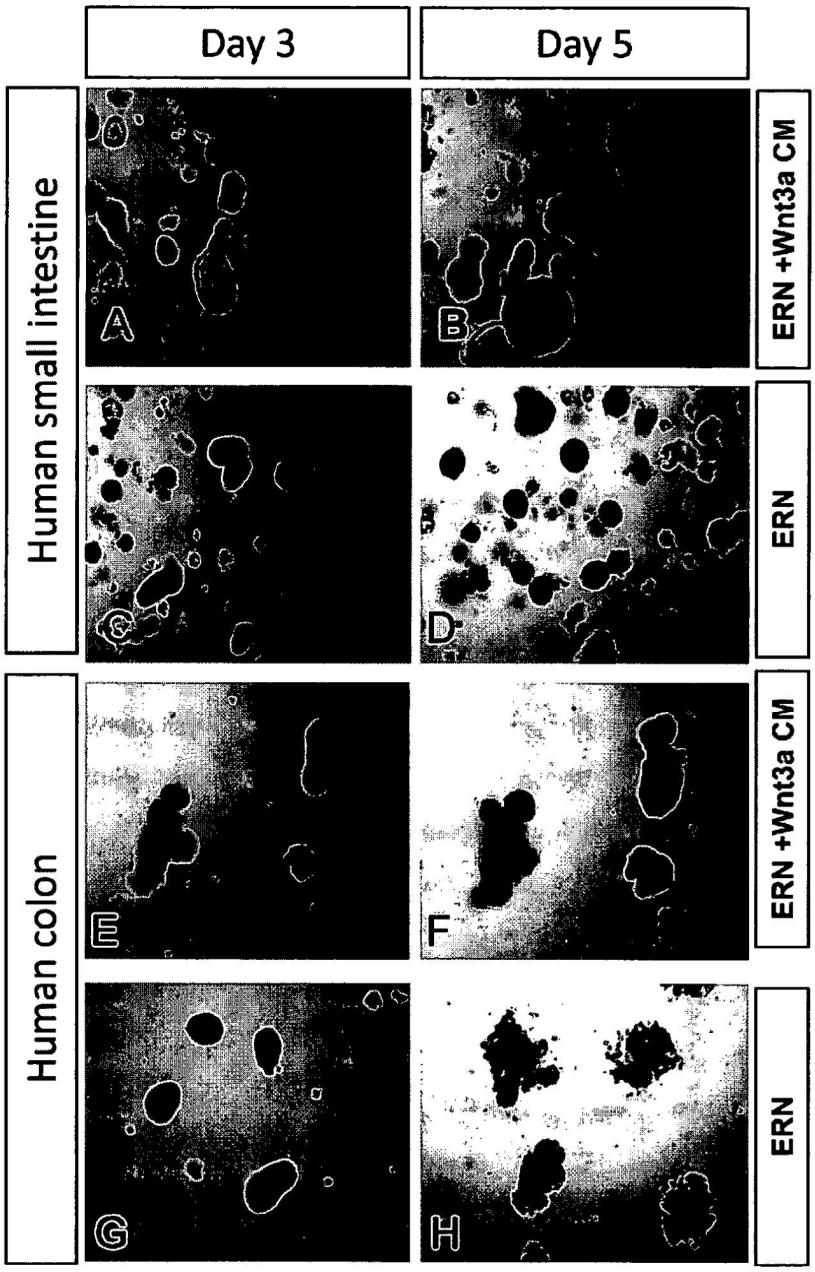

Day 3
Day 5
Human small intestine
Human colon
ERN +Wnt3a CM
ERN
ERN +Wnt3a CM
ERN
A
B
C
D
E
F
G
H

Fig 33a

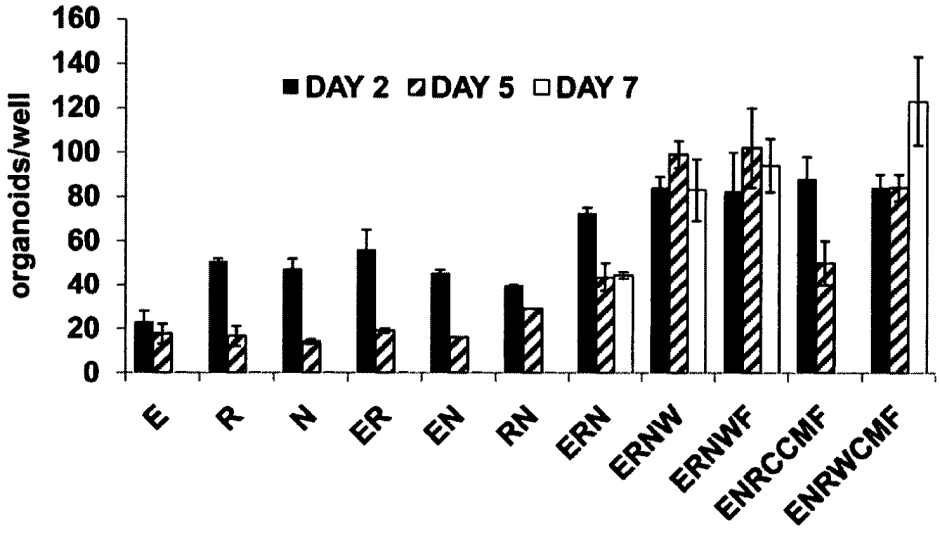


Fig 33b

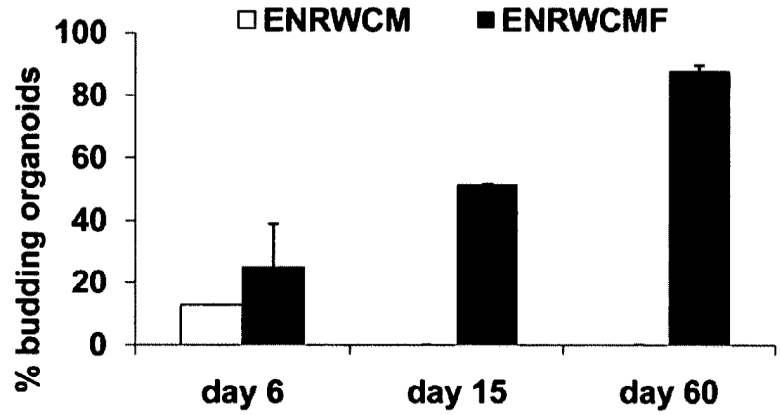


Fig 33c

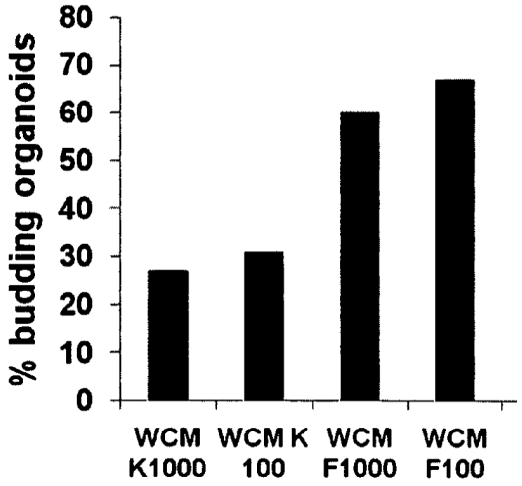


Fig 33d

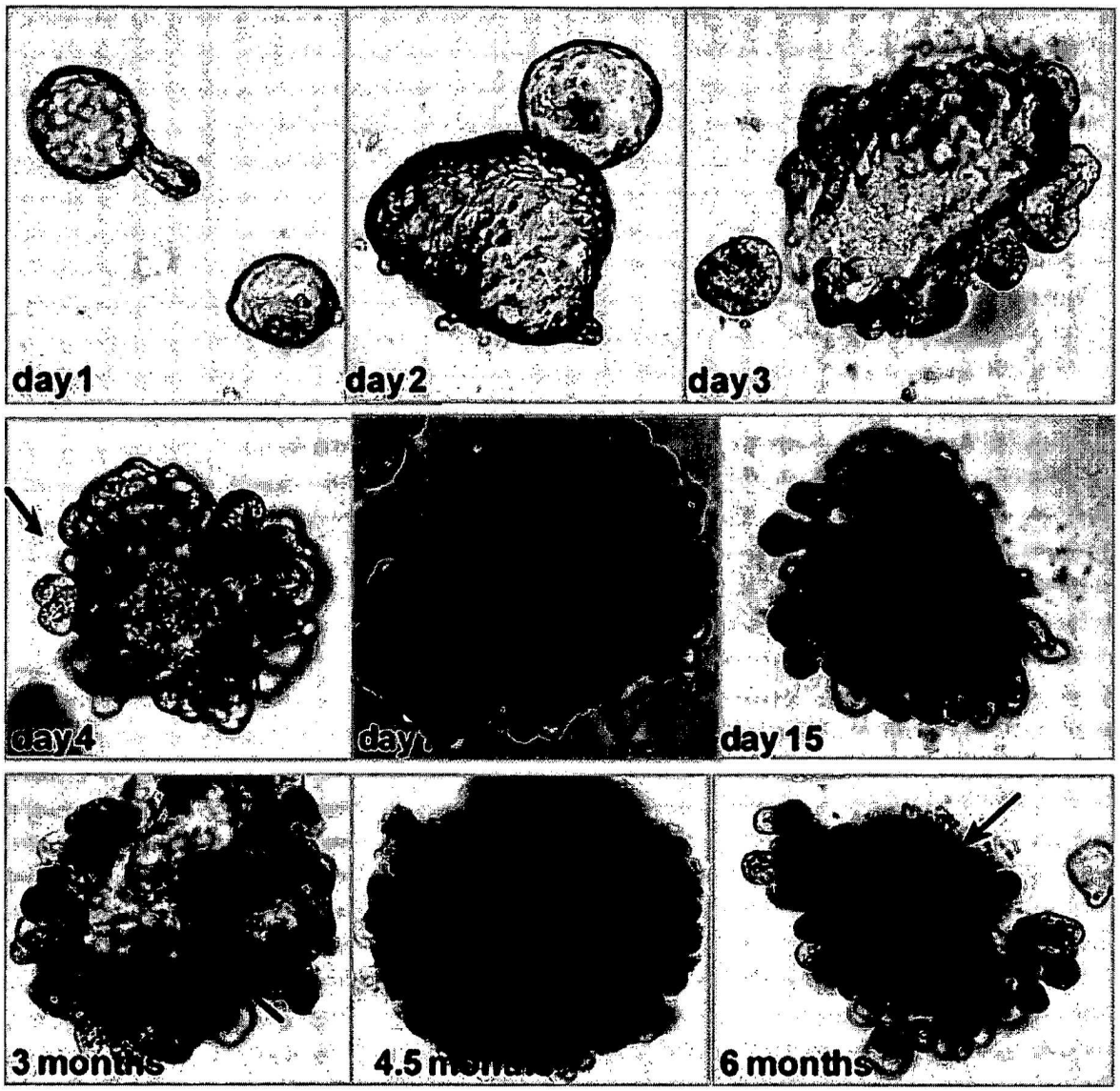


Fig 33e

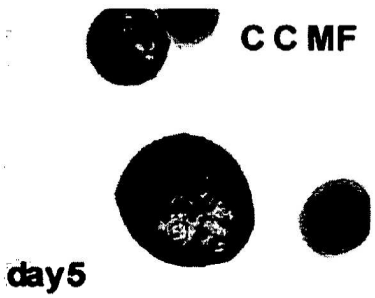


Fig 33f

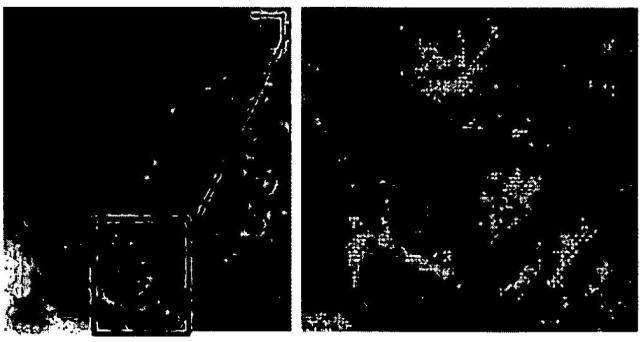


Fig 34a



Fig 34b

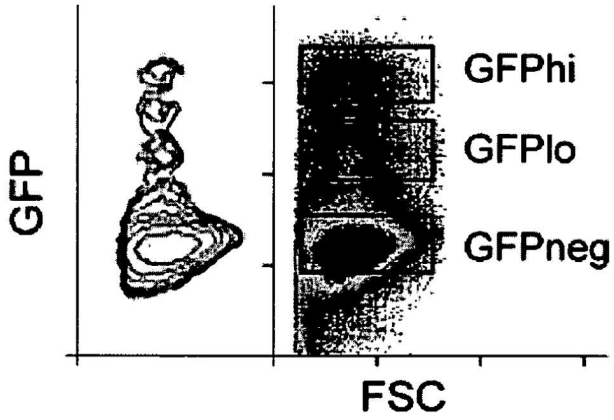


Fig 34c

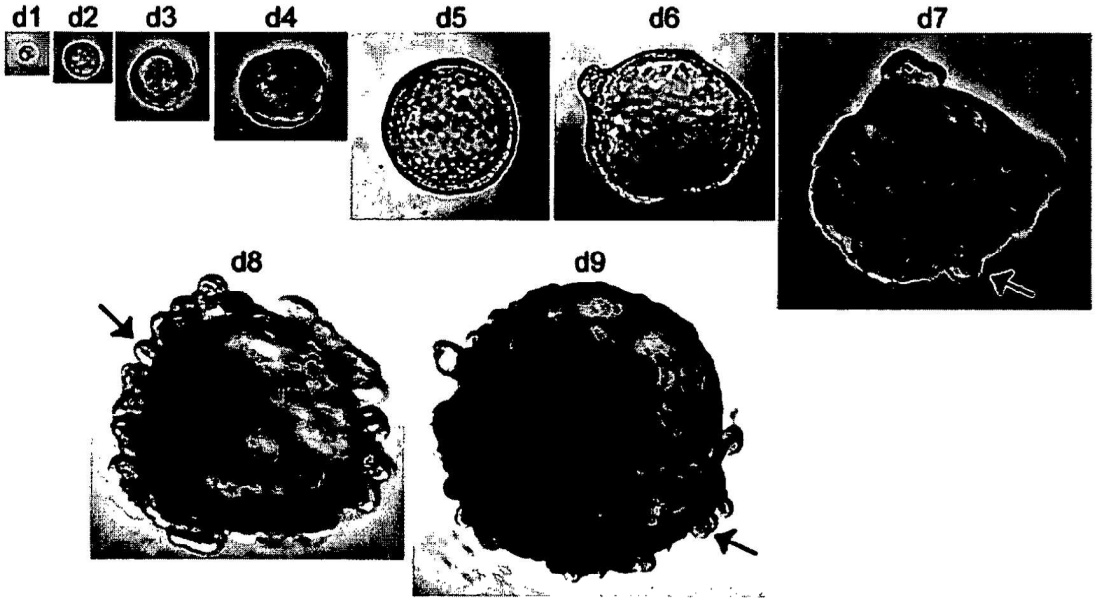


Fig 34d

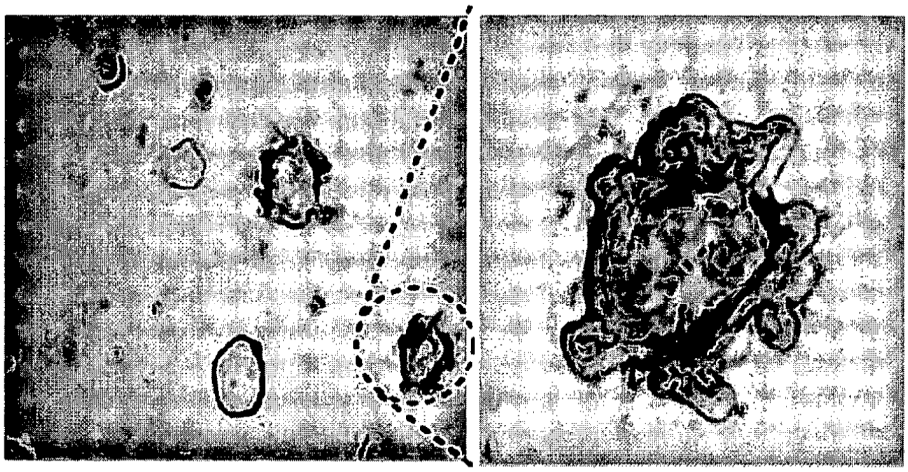


Fig 34e

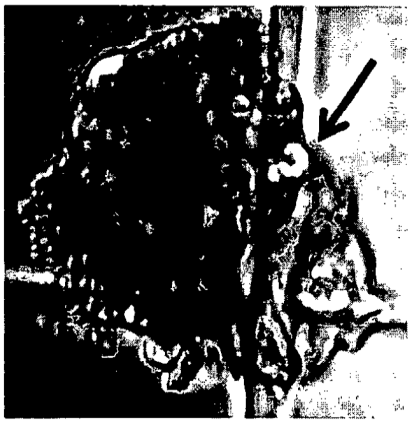


Fig 34f

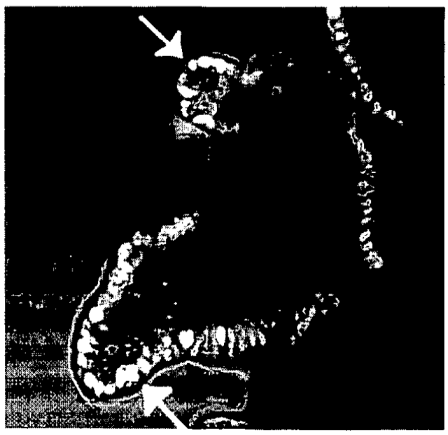


Fig 34g

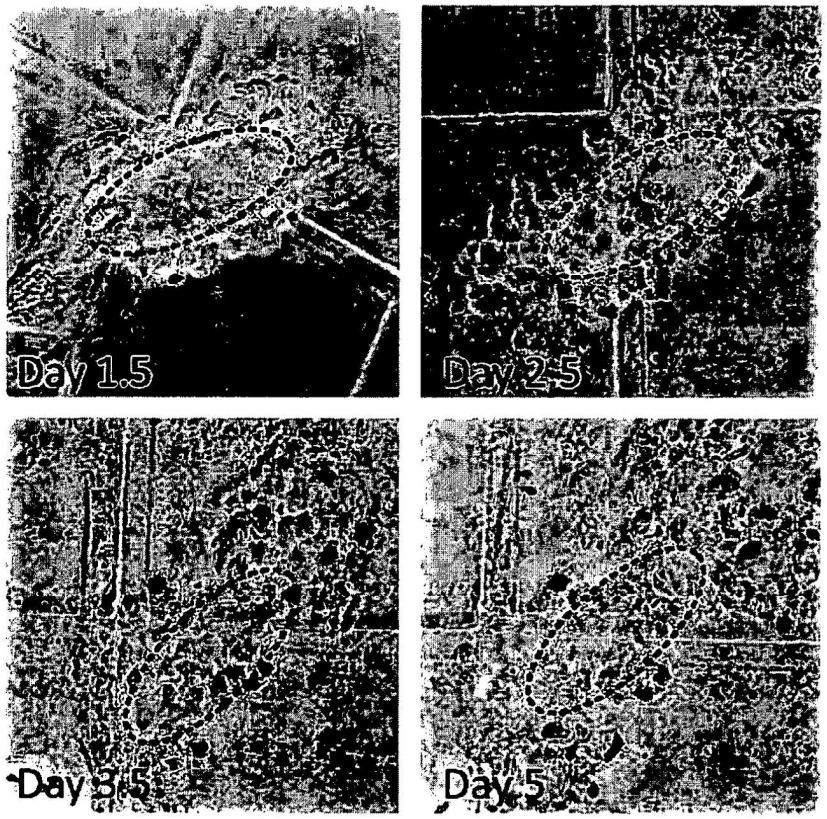


Fig 34h

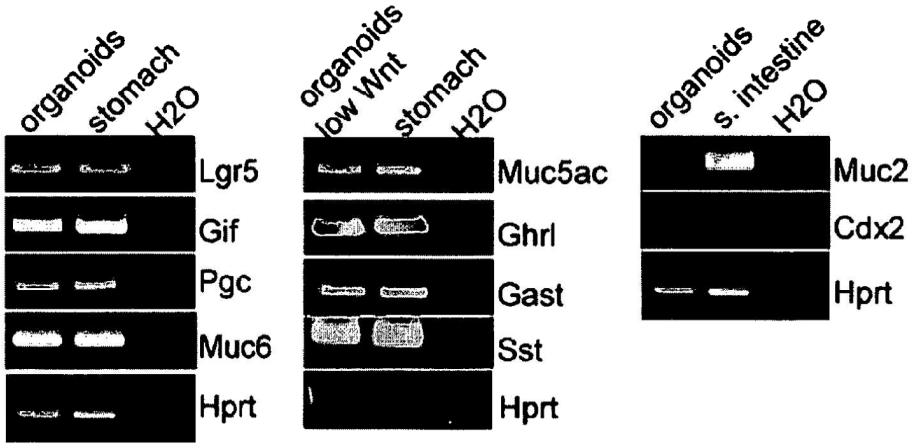


Fig 34i

