

Table S2. Analysis of the distribution of the progeny of DsRed only -overexpressing blastomere (Control) at the blastocyst stage

Embryo	No of Cells	No of Red Cells (% of all cells)	No of Inner (% of all cells)	Inner positive (% of inner)	% of red that are inner	No of Outer (% of all cells)	Outer Positive (% of Outer)	% of red that are outer
DsRed1	26	13 (50)	6 (23)	4 (66)	30,77	20 (77)	9 (45)	69,23
DsRed2	28	14 (50)	10 (36)	7 (70)	50	18 (64)	7 (39)	50
DsRed3	26	11 (42)	6 (23)	4 (66)	36	20 (77)	7 (35)	64
DsRed4	32	12 (38)	9 (28)	7 (78)	58	23 (72)	5 (22)	42
DsRed5	36	16 (44)	10 (28)	6 (60)	38	26 (72)	10 (38)	62
DsRed6	32	14 (44)	7 (22)	6 (85)	43	25 (78)	8 (32)	57
DsRed7	29	13 (45)	7 (24)	5 (71)	38	22 (76)	8 (36)	62
DsRed8	34	16 (47)	7 (21)	4 (57)	25	27 (79)	12 (44)	75
DsRed9	29	13 (45)	11 (38)	7 (64)	54	18 (62)	6 (33)	46
DsRed10	31	15 (48)	12 (39)	6 (50)	40	19 (61)	9 (47)	60
MEAN	30.3	(45.31)	(28.1)	(66.9)	41.3	(71.9)	(37.1)	58.7
SD	3.3	(3.8)	(6.90)	(10.22)	10.26	(6.90)	(7.37)	10.26

*Mean and SD in parenthesis correspond to the mean and SD of data expressed as percentage

Blastocysts derived from DsRed only overexpression experiments were fixed and stained with Phalloidin-Texas red to visualise the cell membrane. Confocal z-stacks were taken at 1µm intervals through the whole embryo. Imaris software was used to outline the cell membranes and from those create 3D models of all cells of the embryo. Cells were then scored according to their relative position: those cells completely surrounded by others are denoted as inner cells, those that have an outer surface denoted as outer cells. In conjunction, cells were scored as either positive or negative according to whether they expressed DsRed or not.

Key to table headings:

- No of Cells, is the total cell number in the blastocyst
- No of red cells, is expressed as absolute numbers and also relative (parenthesis) to the total number of cells in the blastocyst
- No of inner cells, is expressed as absolute and relative (parenthesis) to the total number of cells in the blastocyst
- Inner positive cells, expressed as number of positive cells that are inner and relative (parenthesis) to the total number of inner cells
- % of red cells that are inner, is expressed as the relative number of inner cells that are positive for DsRed
- No of outer cells, is expressed as absolute and relative (parenthesis) to the total number of cells in the blastocyst
- Outer positive cells, are expressed as absolute number of positive cells that are outer and also relative (parenthesis) to the total number of outer cells
- % of red cells, that are outer is expressed as the relative number of outer cells that are positive for DsRed