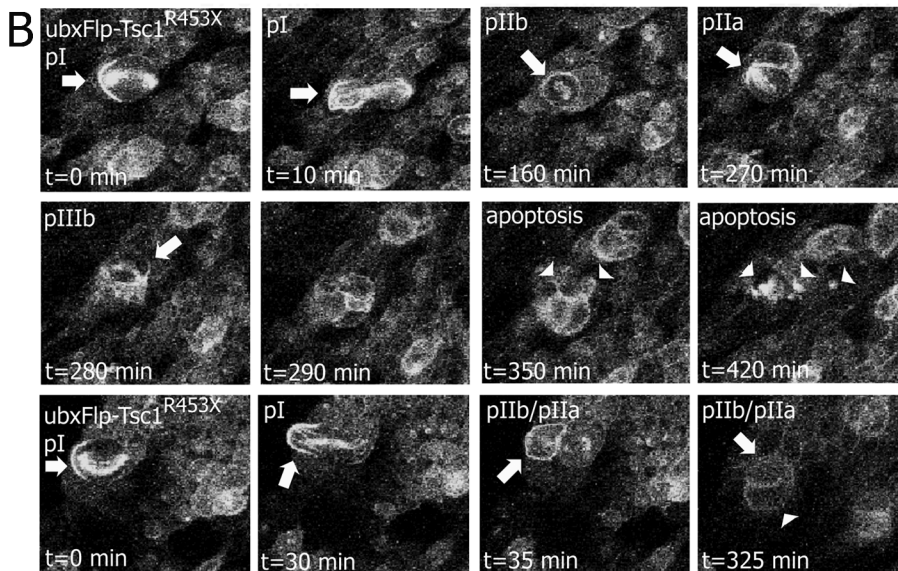
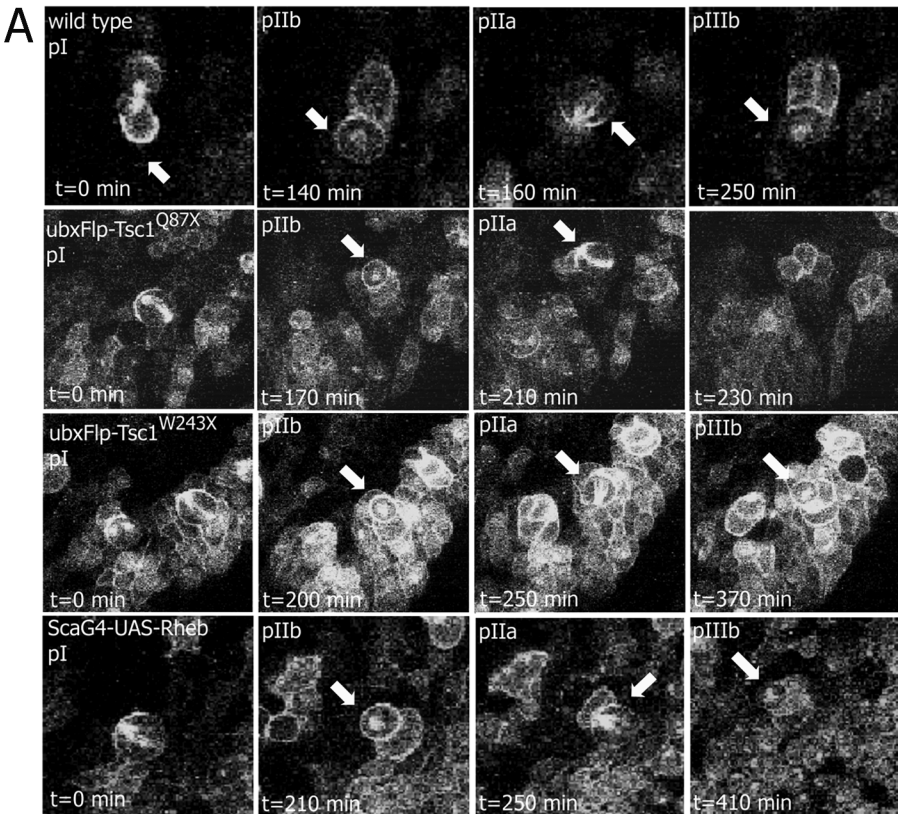


Supplementary Figure 1



Supplementary Figure 1. Division delays and apoptosis in Tsc1 mutant and Rheb expressing flies

(A) Live imaging of wild type, Tsc1 mutant, and Rheb overexpressing SOP lineage cells expressing Pon-GFP and Tau-GFP. Division delays in the Tsc1^{Q87X} and Tsc1^{W243X} alleles and in Rheb transgenic overexpression. Mitotic cells are identified by Tau-GFP localization to the mitotic spindle (white arrows).

(B) Division delays and apoptosis as well as division arrest in the Tsc1^{R453X} SOP lineage. Mitosis is delayed (white arrows) and cells undergo apoptosis (white arrowheads), or cells arrest after pI mitosis (bottom series). All panels in this figure are extracted from large area of cells undergoing mitosis; therefore individual images are pixilated.

Supplemental Table 1. Adult fly phenotypes

Cross		Number scored	Twinning % \pm st dev	Missing % \pm st dev
Tsc1 ^{R453X}		238	5.04 \pm 3.4	-
Tsc1 ^{W243X}		490	1.63 \pm 1.9	-
ScaGal4	CyO	658	0 \pm 0.0	0.6 \pm 0.6
ScaGal4	UAS-dTOR	618	0 \pm 0.0	0.65 \pm 0.7
ScaGal4-UAS-Rheb	CyO	1400	0.57 \pm 0.4	0.07 \pm 0.3
ScaGal4-UAS-Rheb	CyO*	1914	1.88 \pm 0.8	0.94 \pm 0.6
ScaGal4-UAS-Rheb	ScaGal4-UAS-Rheb*	328	2.95 \pm 1.2	7.69 \pm 0.7
ScaGal4-UAS-Rheb	UAS-Lgl3A-CA	1320	9.31 \pm 2.8**	2.27 \pm 1.2
ScaGal4	UAS-Lgl3A-CA	1295	2.39 \pm 1.2**	2.54 \pm 2.0
ScaGal4-UAS-Rheb	UAS-Rab11-YFP-CA31	1488	0.53 \pm 0.6	0.2 \pm 0.5
ScaGal4	UAS-Rab11-YFP-CA31	504	0.0 \pm 0.0	0.0 \pm 0.0
ScaGal4-UAS-Rheb	UAS-EP3324 (Nuf)	1104	0.72 \pm 0.5	0.0 \pm 0.0
ScaGal4	UAS-EP3324 (Nuf)	1815	0.66 \pm 0.7	0.22 \pm 0.4

All crosses were done at 25°C except *, which were done at 29°C.

** ScaGal4-UAS-Rheb/UAS-Lgl3A-CA vs ScaGal4/UAS-Lgl-CA, synergistic at

p<0.001

Supplemental Table 2. Division times

Strain	pIIb minutes \pm st dev (% of SOPs with delay)	pIIa minutes \pm st dev (% of SOPs with delay)	pIIIb minutes \pm st dev (% of SOPs with delay)
Wild type	139.5 \pm 17.03	153.6 \pm 14.6	277.72 \pm 36.8
Tsc1 ^{Q87X}	160 \pm 10 (21.5) <i>NS</i>	182.2 \pm 13.01 (64.3) <i>p=0.0004</i>	315 \pm 21.2 (14.3) (21.4)* <i>p=0.0004</i>
Tsc1 ^{W243X}	195 \pm 46.3 (75) <i>p=0.002</i>	238.7 \pm 56.1 (100) <i>p=0.00000002</i>	306.6 \pm 46.1 (50) <i>NS</i>
Tsc1 ^{R453X}	151.6 \pm 7.6 (34) (66)* <i>NS</i>	205 \pm 55 (34) (66)* <i>p=0.0007</i>	267 \pm 3.5 (66)* <i>NS</i>
ScaGal4/UAS-Rheb	195 \pm 39.2 (90.9) <i>p=0.000003</i>	234.5 \pm 45.1 (100) <i>p=0.0000000002</i>	363.7 \pm 69.2 (90.9) <i>p=0.0007</i>

* (% SOPs without further division)

NS-not significant