

**Table S1. Quantification of mitotic parameters in wild-type and *bub3<sup>1</sup>* mutant brains.**

Genotype <sup>a</sup>	Time in colchicine (minutes)	Optical fields	Mitotic Figures	Prophase (number of cells)	%	Prometaphase (number of cells)	%	SCS (number of cells)	%	Mitotic Index
<i>Oregon R</i>	0	4478	3795	617	16.3	2366	62.3	812	21.4	0.85
	60	1798	1876	174	4.5	3675	94.8	27	0.7	2.16
<i>bub3<sup>1</sup>/bub3<sup>1</sup></i>	0	2498	1390	211	15.2	833	59.9	117	24.9	0.56
	60	1102	493	70	14.2	348	70.6	75	15.2	0.45
<i>bub3<sup>1</sup>/Df(3R)Dr-rv1</i>	0	1936	1090	280	25.7	520	47.7	290	26.6	0.56
	60	1570	717	83	11.6	457	63.7	177	24.7	0.46

<sup>a</sup>Ten brains were scored for each genotype. Oregon R, wild-type control. SCS, sister chromatid separation.

**Table S2. Quantification of cyclin B levels in cells with and without Bub3 after colchicine incubation.**

	<b>G1/S</b>	<b>G2</b>	<b>Mitosis</b>
<b><i>Oregon R</i></b>	20.86 ± 3.16 (n=66)	33.66 ± 9.50 (n=162)	34.50 ± 9.15 (n=99)
<b><i>bub3<sup>1</sup></i></b>	21.98 ± 4.59 (n=42)	29.05 ± 17** (n=187)	28.00 ± 10.73*** (n=133)
<b>Control</b>	33.41 ± 9.13 (n=30)	65.41 ± 17.08 (n=50)	75.08 ± 20.04 (n=50)
<b>Bub3 RNAi</b>	35.25 ± 11.54 (n=46)	39.53 ± 11.50*** (n=72)	42.30 ± 9.45*** (n=26)

Oregon R, wild-type control. Values represent mean pixel intensity per cell ±s.d. *n*, number of cells scored. Cells from five different brains were analysed for each genotype. \*\**P*<0.005; \*\*\**P*<0.0005.

**Table S3. Quantification of cyclin B levels in control and Bub3-depleted cells by RNAi.**

	<b>G1/S</b>	<b>G2</b>
<b>Control</b>	17.098 ± 4.56 ( <i>n</i> =251)	38.65 ± 12.89 ( <i>n</i> =212)
<b>Bub3 RNAi</b>	16.48 ± 4.88 ( <i>n</i> =210)	25.47 ± 6.32*** ( <i>n</i> =169)

Values represent mean pixel intensity per cell ± s.d. *n*, number of cells scored.  
\*\*\**P*<0.0005.

**Table S4. Quantification of cyclin B levels in wild-type cells and after mutation of the APC/C subunit after colchicine incubation.**

Genotype	G1/S	G2	Mitosis
<b>Oregon R</b>	19.04 ± 6.83 (n=166)	32.36 ± 15.39 (n=201)	35.34 ± 16.65 (n=177)
<i>cdc27/cdc27</i>	19.95 ± 4.36 (n=127)	51.17 ± 17.20*** (n=72)	75.03 ± 24.87*** (n=65)
<i>cdc27;bub3<sup>1</sup>/cdc27;bub3<sup>1</sup></i>	16.39 ± 3.83 (n=100)	32.07 ± 14.7 (n=228)	28.49 ± 20.51* (n=98)

Oregon R, wild-type control. Values represent mean pixel intensity per cell ± s.d. *n*, number of cells scored. Cells from five different brains were analysed for each genotype. \**P*<0.05; \*\*\**P*<0.0005.

**Table S5. Quantification of mitotic parameters in neuroblasts mutated for *bub3* and the APC/C subunit *cdc27*.**

Genotype	Optical Fields	Mitotic Figures	Prophase		Prometa-Metaphase		SCS		Mitotic Index
			(number of cells)	%	(number of cells)	%	(number of cells)	%	
<b><i>Oregon R</i></b>	1798	3876	174	4.5	3675	94.8	27	0.7	2.16
<i>cdc27/cdc27</i>	1688	4660	336	7.2	4280	91.8	44	0.9	2.76
<i>cdc27 bub3<sup>1</sup></i>	1202	1151	49	4.3	984	85.5	118	10.3	0.96
<i>cdc27 bub3<sup>1</sup></i>									
<i>bub3<sup>1</sup>/bub3<sup>1</sup></i>	1102	493	70	14	348	70.6	75	15.2	0.45

Oregon R, wild-type control. At least five brains were scored for each genotype. SCS, sister chromatid separation.

**Table S6. Quantification of cyclin A levels in control and cells depleted of Bub3 by RNAi.**

	<b>G1/S</b>	<b>G2</b>
<b>Control</b>	23.29 ± 7.65 (n=50)	49.75 ± 26.03 (n=79)
<b>Bub3 RNAi</b>	5.84 ± 1.59*** (n=53)	8.65 ± 3.59*** (n=48)

Values represent mean pixel intensity per cell ± s.d. *n*, number of cells scored.  
\*\*\**P*<0.0005.

**Table S7. Quantification of cyclin B levels in wild-type and *bubR1*<sup>l</sup> mutant neuroblasts after colchicine incubation.**

	<b>G1/S</b>	<b>G2</b>	<b>Mitosis</b>
<b><i>Oregon R</i></b>	20.86 ± 3.16 (n=66)	33.66 ± 9.50 (n=162)	34.50 ± 9.15 (n=99)
<b><i>bubR1</i><sup>l</sup></b>	20.41 ± 6.79 (n=106)	33.07 ± 16.37 (n=161)	29 ± 14.87*** (n=47)

Oregon R, wild-type control. Values represent mean pixel intensity per cell ± s.d. *n*, number of cells scored. Cells from five different brains were analysed for each genotype. \*\*\**P*<0.0005.