



**Figure 1 supplement 1. *ric-7(n2657)* animals show normal DA9 development, better regeneration and increased degeneration of GABA motor neurons.**

(A and B) GFP::RAB-3 and mCherry labeling in DA9 of control (A) and *ric-7(n2657)* (B) animals (2d old adults). Scale bars = 10  $\mu$ m.

(C) Length of the asynaptic region and the synaptic region in control and *ric-7(n2657)* animals (2d old adults). Mean  $\pm$  SEM. ns, not significant. Unpaired t test.

(D) Number of axonal RAB-3 puncta in control and *ric-7(n2657)* animals (2d old adults). Mean  $\pm$  SEM. ns, not significant. Unpaired t test.

(E and F) Regeneration and degeneration of GABA motor neurons in control (E) and *ric-7(n2657)* (F) animals 24hr after axotomy. White arrowheads point to the remaining distal axon segments in control (E) which have degenerated in *ric-7(n2657)* (F). The red line in (F) indicates the length of the regenerating axon along the dorsal-ventral axis and the white line indicates the width of the animal. Scale bars = 10  $\mu$ m.

(G) Relative length of regenerating axons (the ratio of the length of red line and white line in (F)) in control and *ric-7(n2657)* animals 24hr after axotomy. Black line is median. \*\*\*p<0.001. Kolmogorov-Smirnov test.

(H) Percentage of degenerating axons of GABA motor neurons in control and *ric-7(n2657)* animals 24hr after axotomy. \*\*\*\*p<0.0001.  $\chi^2$  test.