

## Supplementary Materials

### High-Dose Irradiation Inhibits Motility and Induces Autophagy in

### *Caenorhabditis elegans*

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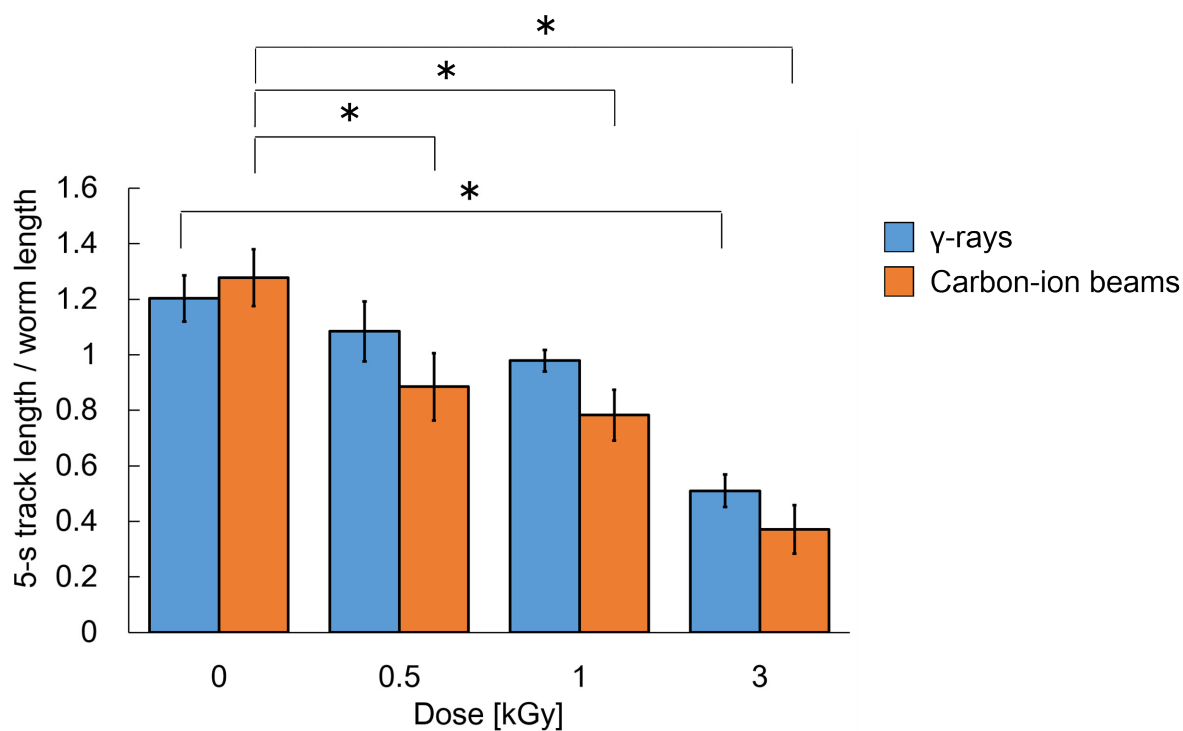
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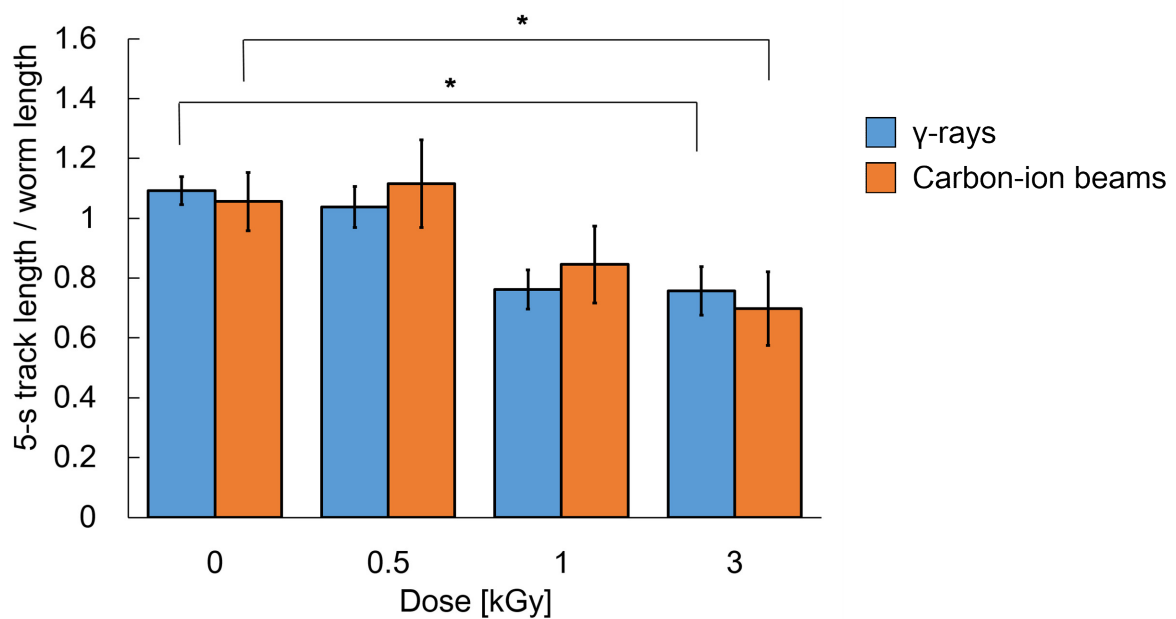
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## Supplementary Figures



**Figure S1.** Crawling ability of worms immediately after whole-body irradiation with different doses of  $\gamma$ -rays or carbon-ion beams. To evaluate motility of the irradiated worms, trajectories in crawling for 5-s duration were extracted and divided by the worm length, and the values of 5 worms were averaged at each condition every experiment. For each dose of radiation, 6 trials for  $\gamma$ -rays and 4 trials for carbon-ion broad beams were conducted. Error bar indicates SEM. The data was analyzed by the Student's  $t$ -test. \* indicates  $p$ -value  $< 0.05$ , significantly different one compared with the 0 kGy.



**Figure S2.** Crawling ability of worms 24 hours after whole-body irradiation with different doses of  $\gamma$ -rays or carbon-ion beams. To evaluate motility of the irradiated worms, trajectories in crawling for 5-s duration were extracted and divided by the worm length, and the values of 5 worms were averaged at each condition every experiment. For each dose of radiation, 6 trials for  $\gamma$ -rays and 4 trials for carbon-ion broad beams were conducted. Error bar indicates SEM. The data was analyzed by the Student's *t*-test. \* indicates *p*-value < 0.05, significantly different one compared with the 0 kGy.

**Video S1.** Typical crawling of non-irradiated control worm on agar for 5-s duration.

Original video of non-irradiated worm analyzed in Figure. 2B.

**Video S2.** Typical crawling of worms on agar for 5-s duration after whole-body irradiation with 6 kGy of  $\gamma$ -rays.

Each movie represents same three worms irradiated with 6 kGy (A) immediately after irradiation (0 hour), or (B) 24 hours after irradiation.