

Supplementary Material: *Polygonum multiflorum* Extract Exerts Antioxidative Effects and Increases Life Span and Stress Resistance in the Model Organism *Caenorhabditis elegans* via DAF-16 and SIR-2.1

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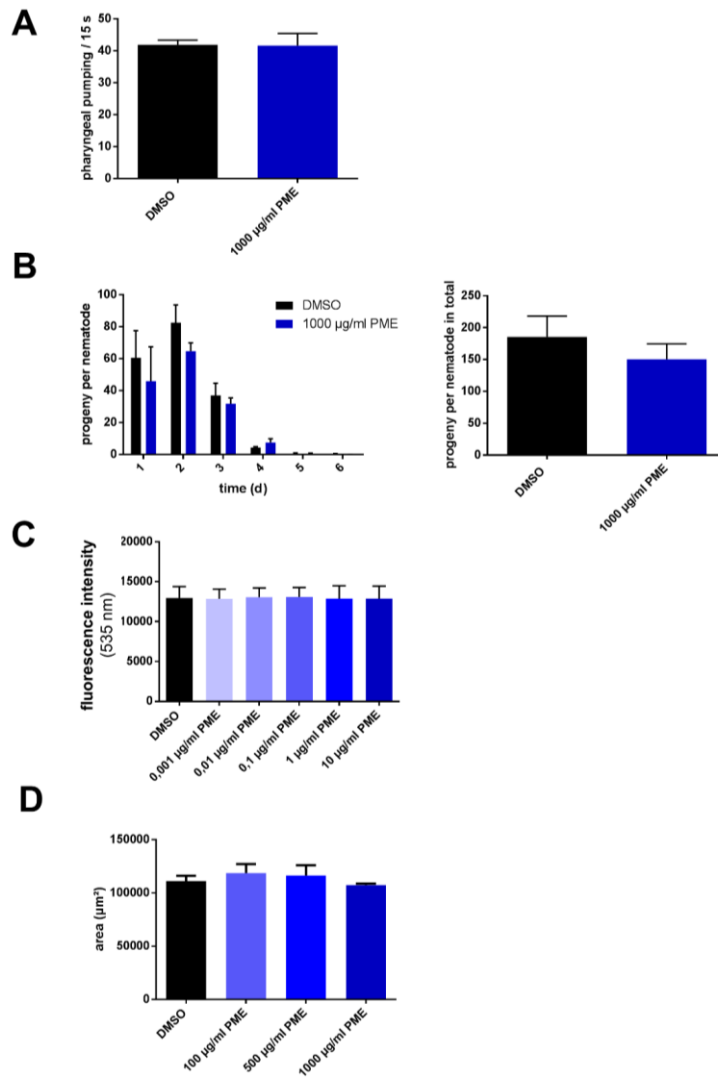


Figure S1. (A) Effect of PME on pharyngeal pumping: Wild type L4 larvae (N2) were treated for 96 h with PME or DMSO (vehicle, 0.4%) at 20 °C, then nematodes were transferred onto NGM agar-plates. Pharyngeal pumping was counted three times per nematode. Values are mean ± SD, $n = 3$ (8 individuals per group), unpaired t -test. (B) Effect of PME on offspring production: Wild type L4 larvae were treated with PME or DMSO (vehicle, 0.4%). Throughout 6 days the nematodes were transferred into new media every day and progeny was counted. Values are mean ± SD, $n = 3$ (10 individuals per group) unpaired t -test. (C) Quenching effects of PME: Fluorescent (oxidized) DCF was diluted with M9 and mixed with different concentrations of PME. The fluorescence was measured at 535 nm. Values are mean ± SD, $n = 3$ (measured in triplicates), unpaired t -test. (D) Effect of PME on the size of the nematode: Wild type L4 larvae (N2) were treated at 20 °C with PME or DMSO (vehicle, 0.4%) for 72 h, then transferred in media without PME for 24 h. Photos were taken and the size was measured by bordering the nematodes. Values are mean ± SD, $n = 3$ (20 individuals per group), one-way ANOVA with Dunnett's multiple comparisons test.

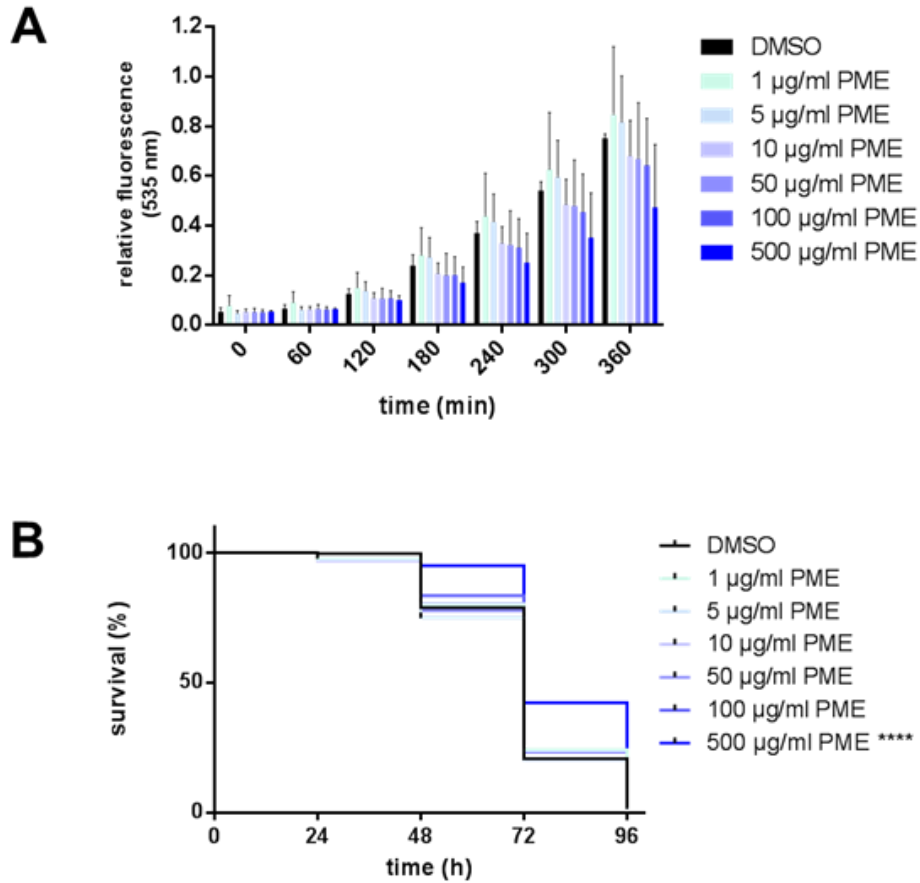


Figure S2. (A) Antioxidative effects (lower concentrations of PME): Wild type L4 larvae (N2) were treated with PME or DMSO (vehicle, 0.4%) for 48 h and transferred into wells containing H₂DCF-DA. The thermally-induced increase in ROS was detected via fluorescence intensity of DCF (535 nm). Values are mean \pm SD, normalized to DMSO at 420 min, $n = 3$ (16 individuals per group), one-way ANOVA with Tukey's multiple comparisons test; (B) Resistance against paraquat (lower concentrations of PME): Wild type L4 larvae (N2) were treated with PME or DMSO (vehicle, 0.4%) for 72 h, then nematodes were transferred into PME-free medium containing 50 mM paraquat. The survival of the nematodes was tested by touch-provoked movement. Kaplan-Meier statistics were used for the comparison of the survival curves, $n = 3$ (60 individuals per group), Log-Rank (Mantel-Cox)-test.