

## SUPPLEMENTARY TABLES

**Table S1:** The lifespan in wild type *C. elegans* with different concentrations of tart cherry at 20°C.

Treatment	Mean $\pm$ SE	Median lifespan	Maximum lifespan	Total number of worms
0 $\mu\text{g/ml}$	13.31 $\pm$ 0.61 <sup>a</sup>	14	19	120
3 $\mu\text{g/ml}$	14.92 $\pm$ 0.58 <sup>a</sup>	15	22	120
6 $\mu\text{g/ml}$	16.83 $\pm$ 0.77 <sup>b</sup>	17	22	120
12 $\mu\text{g/ml}$	16.73 $\pm$ 0.67 <sup>b</sup>	17	21	120

Lifespan assay was performed in micro-fluidic devices at 20°C, with (3, 6, or 12  $\mu\text{g/ml}$ ) or without (0  $\mu\text{g/ml}$ ) tart cherry extract. Each device contained 30 chambers and only one worm per chamber. Chambers were washed everyday with nematode growth medium to avoid progenies. Each lifespan experiment was performed 3 independent times with similar results. Values with different letters are significantly different ( $p < 0.05$ ) log rank (Mantel-Cox) test.

**Table S2.** The lifespan in *daf-16* mutant *C. elegans* with different concentrations of tart cherry at 20°C.

Treatment	Mean $\pm$ SE	Median lifespan	Maximum lifespan	Total number of worms
0 $\mu\text{g/ml}$	13.57 $\pm$ 0.51	14	18	120
3 $\mu\text{g/ml}$	12.65 $\pm$ 0.43	13	19	103
6 $\mu\text{g/ml}$	13.96 $\pm$ 0.51	12	19	103
12 $\mu\text{g/ml}$	14.29 $\pm$ 0.74	14	19	107

Lifespan assay was performed in micro-fluidic devices at 20°C, with (3, 6, or 12  $\mu\text{g/ml}$ ) or without (0  $\mu\text{g/ml}$ ) tart cherry extract. TC extract did not change the mean lifespan of *daf-16 C. elegans* significantly. Each device contained 30 chambers with only one worm per chamber. Chambers were washed everyday with nematode growth medium to avoid progenies. Each lifespan experiment was performed 3 independent times with similar results. Values with different letters are significantly different ( $p < 0.05$ ) log rank (Mantel-Cox) test.

**Table S3.** The lifespan in *aak-2* mutant *C. elegans* with different concentrations of tart cherry at 20°C.

<b>Treatment</b>	<b>Mean <math>\pm</math> SE</b>	<b>Median Lifespan</b>	<b>Maximum lifespan</b>	<b>Total number of worms</b>
<b>0 <math>\mu</math>g/ml</b>	15.68 $\pm$ 0.20	19	26	90
<b>3 <math>\mu</math>g/ml</b>	14.83 $\pm$ 0.15	18	24	100
<b>6 <math>\mu</math>g/ml</b>	14.41 $\pm$ 0.18	20	24	103
<b>12 <math>\mu</math>g/ml</b>	15.64 $\pm$ 0.83	19	23	104

Lifespan assay was performed in micro-fluidic devices at 20°C, with (3, 6, or 12  $\mu$ g/ml) or without (0  $\mu$ g/ml) tart cherry extract. TC extract did not change the mean lifespan of *aak-2 C. elegans* significantly. Each device contained 30 chambers and only one worm per chamber. Chambers were washed everyday with nematode growth medium to avoid

progenies. Each lifespan experiment was performed 3 independent times with similar results. Values with different letters are significantly different ( $p < 0.05$ ) log rank (Mantel-Cox) test.