

Supplementary Table 1. Genetic interventions that modulate reproductive aging in *C. elegans*.

Intervention ¹	Longitudinal experiments ² / Male mated ³	Reproductive span to peak (days) ⁴	Reproductive span after peak (days) ⁵	Total reproductive span (days) ⁶	Peak progeny number ⁷	Total progeny number ⁸	Matricidal hatching ⁹	Morphological phenotypes ¹⁰	Reference	
TGF-β dauer and Sma/Mab pathway	<i>daf-7</i> (e1372)	yes/no	+/-	↑	↑	↓	ND	↑	ND	(Luo et al., 2009)
	<i>daf-1</i> (m40)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Luo et al., 2009)
	<i>daf-14</i> (m77)	yes/no	+/-	↑	↑	↓	ND	ND	ND	(Luo et al., 2009)
	<i>daf-4</i> (e1364)	yes/no	↑	↑	↑	↓	↓	↑	ND	(Luo et al., 2009)
	<i>daf-3</i> (mgDf90)	yes/no	+/-	↑	↑	↓	ND	ND	ND	(Luo et al., 2009)
	<i>sma-2</i> (e502)	yes/both	↑ (only self-fertile)	↑	↑ (both mated and self-fertile)	↓	↓	↑	ND	(Luo et al., 2009)

	<i>sma-2</i> RNAi	yes/both	ND	ND	↑ (both mated and self-fertile)	ND	ND	ND	ND	(Luo et al., 2009)(Luo et al., 2010)
	<i>sma-4</i> (<i>e729</i>)	yes/no	ND	↑ but difficult to measure due to matricidal hatching	not determined due to matricidal hatching	ND	ND	↑	ND	(Luo et al., 2009)
	<i>sma-3</i> (<i>wk20</i>)	yes/both	ND	ND	↑ (both mated and self-fertile)	ND	ND	↑	ND	(Luo et al., 2009)
	<i>sma-3</i> (<i>wk28</i>)	yes/no	ND	ND	↑	ND	ND	↑	ND	(Luo et al., 2009)(Luo et al., 2010)
	<i>sma-3</i> (<i>wk30</i>)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Templeman et al., 2020)
	<i>dbl-1</i> (<i>nk3</i>)	yes/both*, no**,***	+/- **or ↑***	↑**,***	↑ (both mated and self-fertile)	↓**	↓**	↑***	ND	(Luo et al., 2009*; Madhu et al., 2019**; de Lucas et al., 2021***)
	<i>sma-9</i> (<i>wk55</i>)	yes/yes	+/-	↑	↑	↓	↓	↑	ND	(Luo et al., 2009)
	<i>sma-9</i> (<i>qc3</i>)	yes/yes	↑	↑	↑	ND	↓	ND	ND	(Luo et al., 2009)
	<i>crh-1</i> (<i>n3450</i>)	yes/yes	ND	ND	↑	ND	ND	ND	ND	(Templeman et al., 2020)

	<i>crh-1</i> (n3315)	yes/yes	ND	↑	↑	ND	ND	ND	significant improvement in the morphology of aging oocytes	(Templeman et al., 2020)
	<i>sma-10</i> (ok2224)	yes/no	+/-	↑	↑	↓	↓	↓	ND	(de Lucas et al., 2021)
Hedgehog related	<i>wrt-10</i> over expression (hypodermis)	yes/yes	ND	ND	↑	ND	ND	ND	delay of oocyte quality deterioration	(Templeman et al., 2020)
Insulin/IGF-1 signaling pathway	<i>age-1</i> (hx546)	yes/yes day1	+/-	ND	+/-	↓	↓	ND	ND	(Hughes et al., 2007)
	<i>daf-2</i> (e1370)	yes/yes day1	+/-	ND	+/-	↓	↓	ND	ND	(Hughes et al., 2007)
	<i>daf-2</i> (m41)	yes/yes day1	+/-	ND	↓	↓	↓	ND	ND	(Hughes et al., 2007)
	<i>daf-2</i> (RNAi)	yes/no	+/-	↑	↑	+/-	ND	ND	ND	(Wang et al., 2014)
	<i>daf-16</i> (mu86): <i>daf-2</i> (e1370)	yes/yes day1	+/-	ND	↑	+/-	+/-	ND	ND	(Hughes et al., 2007)

	<i>daf-16(mu86)</i>	yes/yes day1	+/-	ND	+/-	+/-	↓	ND	ND	(Hughes et al., 2007)
	<i>daf-16(m26)</i>	yes/yes day1	+/-	ND	+/-	+/-	↓	ND	ND	(Hughes et al., 2007)
	<i>sucg-1</i>	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
	F36F2.2	yes/no	ND	ND	↑	ND	+/-	ND	ND	(Wang et al., 2014)
	<i>nhr-85</i>	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
Sodium homeostasis	<i>nhx-2</i> (RNAi)	yes/no	+/-	↑	↑	↓	ND	ND	ND	(Wang et al., 2014)
	<i>sgk-1</i> (RNAi)	yes/no	↑	↑	↑	↓	ND	ND	ND	(Wang et al., 2014)
Dietary restriction	<i>eat-2(ad465)</i>	yes/yes day1	+/-	↑	↑	↓	↓	↓	ND	(Hughes et al., 2007)
	<i>eat-2(ad465)</i>	yes/both	↑	↑	↑(both mated and self-fertile)	↓	↓	↑	ND	(Luo et al., 2009)
	<i>eat-2</i> (RNAi)	yes/both	↑	↑	↑(both mated and self-fertile)	↓	↓	↑	ND	(Luo et al., 2009)

	<i>eat-2(ad1116)</i>	yes/no	↑	↑	↑	↓	↓	ND	ND	(Crawford et al., 2007)
	<i>phm-2(am117)</i>	yes/yes	↑	↑	↑	↓	↓	↑	ND	(Hughes et al., 2011; Kumar et al., 2019)
unc-25 (GABA synthesis)	<i>unc-25(e156)</i>	yes/no	↑	↑	↑	↓	↓	ND	ND	(Cermak et al., 2020)
	<i>unc-25(n2324)</i>	yes/no	↑	↑	↑	↓	↓	ND	ND	(Cermak et al., 2020)
Mitochondrial genes	<i>clk-1(qm30)</i>	yes/yes day1	↑	ND	+/-	↓	↓	ND	ND	(Hughes et al., 2007)
	<i>isp-1(qm150)</i>	yes/yes day1	↑	ND	+/-	↓	↓	ND	ND	(Hughes et al., 2007)
<i>dhcr-24</i> (F52H2.6 RNAi)		yes/no	+/-	+/-	+/-	↑	↑	ND	ND	(Kim et al., 2018)
<i>moma-1</i> (RNAi)		yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
F37C4.8 (RNAi)		yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
Y38H6C.21 (RNAi)		yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)

R07H5.9 (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
VC27A7L.1 (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
<i>ilys-3</i> (RNAi)	yes/no	ND	ND	↑	ND	↓	ND	ND	(Wang et al., 2014)
<i>suc1-2</i> (RNAi)	yes/no	↑	↑	↑	↓	ND	ND	ND	(Wang et al., 2014)
<i>oac-16</i> (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
<i>adal-1</i> (RNAi)	yes/no	ND	ND	↑	ND	+/-	ND	ND	(Wang et al., 2014)
F25H8.1 (RNAi)	yes/no	ND	ND	↑	ND	+/-	ND	ND	(Wang et al., 2014)
<i>daf-3</i> (RNAi)	yes/no	ND	ND	↑	ND	+/-	ND	ND	(Wang et al., 2014)
<i>rskn-1</i> (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)

<i>igdb-2</i> (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
F20B10.3 (RNAi)	yes/no	ND	ND	↑	ND	+/-	ND	ND	(Wang et al., 2014)
T04B2.1 (RNAi)	yes/no	ND	ND	↑	ND	+/-	+/-	ND	(Wang et al., 2014)
Y58A7A.1 (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
<i>cox-18</i> (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
F54E2.1 (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
<i>hmr-1</i> (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)
<i>unk-1</i> (RNAi)	yes/no	ND	ND	↑	ND	ND	ND	ND	(Wang et al., 2014)

¹Intervention: gene with mutant allele or RNAi.

²Longitudinal experiment: the same individual animal is observed at sequential time points. yes: measured in a longitudinal experiment, no: measured in a cross-sectional experiment.

³Male mated: yes- hermaphrodites were exposed to males, with adult day of exposure specified, no: self-fertile hermaphrodites.

⁴Reproductive span to peak: time from adult day 0 until day of peak egg-laying (Figure 1).

⁵Reproductive span after peak: time from day of peak egg-laying until last day of egg-laying (Figure 1).

⁶Total reproductive span: time from adult day 0 until last day of egg-laying (Figure 1).

⁷Peak progeny number: Number of eggs laid on day of peak progeny production (Figure 1).

⁸Total progeny number: Total number of eggs laid (Figure 1).

⁹Matricidal hatching: If mature hermaphrodites cannot deposit eggs into the environment, then eggs hatch inside the hermaphrodite, and larvae feed on the parent resulting in death.

¹⁰Morphological phenotypes: interventions may affect age-related changes in gonad morphology.

⁴⁻⁹↑: increase; ↓: decrease; +/-: no change; ND: not determined.

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