

SUPPLEMENTARY INFORMATION

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Supplementary Table 1 | Lifespan data. Unless noted otherwise, all ageing experiments were performed on plates seeded with HT115(DE3) *E. coli* bacteria, carrying appropriate RNAi plasmid constructs (SEM: standard error of the mean; *P* values were calculated using the log-rank test, as described in Methods).

Strain	Mean±SEM (days)	Max*±SEM (days)	Deaths [†] /total	P value
Wild type (N2)	20.67 ±1.66	25.50 ±0.42	955/1150 (10)	
<i>dct-1(RNAi)</i>	19.00 ±1.15	26.50 ±0.26	827/986 (10)	ns #
<i>pink-1(RNAi)</i>	19.00 ±0.57	25.17 ±0.47	910/1230 (10)	ns #
<i>pdr-1(RNAi)</i>	20.30 ±0.57	25.25 ±0.8	445/550 (5)	ns #
<i>lgg-1(RNAi)</i>	18.00 ±0.50	25.10 ±0.27	185/220 (2)	ns #
<i>lgg-1(RNAi);dct-1(RNAi)</i>	17.50 ±1.00	24.90 ±0.23	194/225 (2)	ns ‡
<i>pink-1(RNAi);lgg-1(RNAi)</i>	16.5 ±1.50	24.80 ±0.29	180/200 (2)	ns ‡
<i>lgg-1(RNAi);pdr-1(RNAi)</i>	18.50 ±0.5	25.70 ±0.15	186/210 (2)	ns ‡
<i>dct-1(tm376)</i>	20.50 ±0.50	28.33 ±0.49	140/160 (2)	ns
<i>pink-1(RNAi);dct-1(tm376)</i>	21.00 ±1.00	28.33 ±0.49	148/173 (2)	ns ‡
<i>pink-1(tm1779)</i>	18.50 ±1.50	25.00 ±0.25	348/425 (4)	ns
<i>pink-1(tm1779);dct-1(RNAi)</i>	19.00 ±2.0	25.25 ±0.25	162/180 (2)	ns ‡
<i>pink-1(tm1779);pdr-1(RNAi)</i>	17.5 ±1.00	24.60 ±0.16	167/190 (2)	ns ‡
<i>pdr-1(gk448)</i>	19.00 ±0.5	25.60 ±0.16	190/215 (2)	ns
<i>pink-1(RNAi);pdr-1(gk448)</i>	17.00 ±1.50	24.80 ±0.32	197/250 (2)	ns ‡
<i>pdr-1(gk448);dct-1(RNAi)</i>	19.50 ±0.50	25.73 ±0.33	255/320 (2)	ns ‡
<i>daf-2(RNAi)</i>	40.00 ±0.50	57.80 ±0.84	286/340 (2)	
<i>pink-1(tm1779);daf-2(RNAi)</i>	26.00 ±1.50	46.60 ±0.81	255/320 (2)	<0.0001 ‡
<i>N2;Ex[pdct-1DCT-1::GFP]</i>	19.00 ±1.50	24.30 ±0.36	280/300 (2)	ns §
<i>pink-1(tm1779);Ex[pdct-1DCT-1::GFP]</i>	20.00 ±1.00	24.90 ±0.27	235/284 (2)	ns §
<i>daf-2(RNAi);Ex[pdct-1DCT-1::GFP]</i>	37.00 ±1.50	64.20 ±0.82	300/330 (2)	<0.0001 ‡‡
<i>pink-1(tm1779);daf-2(RNAi);Ex[pdct-1DCT-1::GFP]</i>	26.00 ±0.50	50.50 ±0.71	289/345 (2)	ns ∇∇
N2**	15.67 ±0.33	22.09 ±0.39	400/450 (4)	ns
<i>dct-1(tm376)**</i>	14.33 ±0.33	22.63 ±0.37	348/380 (4)	ns §
<i>pink-1(tm1779)**</i>	15.67 ±0.33	23.00 ±0.36	295/387 (4)	ns §

<i>pdr-1(gk448)**</i>	15.78 ±0.33	22.40 ±0.44	386/435 (4)	ns §
<i>daf-2(e1370)</i>	44.67 ±1.45	55.50 ±0.95	387/450 (4)	
<i>daf-2(e1370);dct-1(RNAi)</i>	35.83 ±2.16	46.50 ±0.95	430/480 (4)	<0.0015 ‡
<i>pink-1(RNAi);daf-2(e1370)</i>	34.00 ±0.57	46.10 ±0.67	400/450 (4)	<0.002 ‡
<i>daf-2(e1370);pdr-1(RNAi)</i>	32.50 ±0.50	45.30 ±0.86	290/355 (2)	<0.007 ‡
<i>lgg-1(RNAi);daf-2(e1370)</i>	32.00 ±1.50	45.50 ±0.95	267/300 (2)	<0.0003 ‡
<i>lgg-1(RNAi);daf-2(e1370);dct-1(RNAi)</i>	32.00 ±0.50	46.50 ±0.95	255/345 (2)	<0.004 ‡
<i>pink-1(RNAi); lgg-1(RNAi);daf-2(e1370)</i>	29.00 ±1.50	42.90 ±0.79	244/300 (2)	<0.0001 ‡
<i>lgg-1(RNAi);daf-2(e1370);pdr-1(RNAi)</i>	30.00 ±2.50	44.50 ±0.95	268/335 (2)	<0.0012 ‡
<i>isp-1(qm130)</i>	26.67 ±0.88	36.00 ±0.70	295/335 (3)	
<i>isp-1(qm130);dct-1(RNAi)</i>	21.00 ±0.57	31.63 ±0.49	292/300 (3)	<0.0003 ‡
<i>pink-1(RNAi);isp-1(qm130)</i>	21.67 ±0.66	30.83 ±0.47	305/354 (3)	<0.0005 ‡
<i>clk-1(e2519)</i>	23.00 ±0.57	29.86 ±0.34	233/260 (2)	
<i>clk-1(e2519);dct-1(RNAi)</i>	16.67 ±0.88	28.00 ±0.44	273/311 (2)	<0.0002 ‡
<i>eat-2(ad465)</i>	24.67 ±0.33	34.20 ±0.37	435/488 (4)	
<i>eat-2(ad465);dct-1(RNAi)</i>	22.33 ±0.33	31.43 ±0.36	425/470 (4)	<0.0002 ‡
N2++	19.50 ±0.28	25.57 ±0.44	398/455 (4)	ns #
<i>dct-1(RNAi)++</i>	19.50 ±0.28	24.67 ±0.38	380/400 (4)	ns
<i>pink-1(RNAi)++</i>	20.50 ±0.28	25.20 ±0.29	386/423 (4)	ns
<i>pdr-1(RNAi)++</i>	19.00 ±1.50	25.90 ±0.31	383/400 (4)	ns
N2+++	20.00 ±1.50	24.00 ±0.21	190/225 (2)	ns #
<i>dct-1(tm376)+++</i>	18.00 ±0.50	24.20 ±0.24	200/243 (2)	ns
<i>pink-1(tm1779)+++</i>	17.00 ±0.50	23.90 ±0.27	223/270 (2)	ns
<i>pdr-1(gk448)+++</i>	17.00 ±1.00	23.80 ±0.32	200/255 (2)	ns
<i>skn-1(RNAi)</i>	16.50 ±0.28	22.67 ±0.18	240/260 (2)	<0.0001 #
<i>skn-1(RNAi);dct-1(tm376)</i>	13.00 ±0.41	19.26 ±0.56	262/282 (2)	<0.0001 ▽
<i>pink-1(tm1779);skn-1(RNAi)</i>	12.75 ±0.47	18.32 ±0.17	241/281 (2)	<0.0001 ▽
N2***	18.00 ±1.00	27.40 ±0.26	174/186 (2)	ns #
<i>dct-1(RNAi)***</i>	12.50 ±0.50	22.70 ±0.30	169/180 (2)	<0.0001 ##
<i>pink-1(RNAi)***</i>	12.00 ±1.00	22.50 ±0.34	176/188 (2)	<0.0001 ##
<i>pdr-1(RNAi)***</i>	11.50 ±0.50	22.90 ±0.31	164/176 (2)	<0.0001 ##

*Maximum lifespan shown is the median lifespan of the longest-lived 10% of the animals assayed.

†The number of confirmed death events, divided by the total number of animals included in lifespan assays is shown. Total equals the number of animals that died plus the number of animals that were censored (see Methods). The number of independent lifespan assays for each strain is shown in parentheses. The least number of animals followed for any strain tested was 140.

**Ageing experiments were performed on plates seeded with OP50 *E. coli* bacteria.

++Ageing experiments were performed on plates containing NAC.

+++Ageing experiments were performed on plates containing BHA.

***Ageing experiments were performed on plates containing EGTA.

#Compared with wild type animals subjected to control RNAi (empty vector, pL4440), assayed at the same temperature.

∇Compared with the corresponding mutant subjected to control RNAi (empty vector, pL4440).

‡Compared with the corresponding mutant subjected to control RNAi (empty vector, pL4440).

##Compared with the corresponding mutant subjected to control RNAi (empty vector, pL4440).

‡‡Compared with the overexpressing animals subjected to control RNAi (empty vector, pL4440).

∇∇Compared with the overexpressing mutant subjected to *daf-2* RNAi.

§Compared with wild type animals, assayed at the same temperature.

ns: no significant difference compared to control ($P > 0.05$).