**Table S1. Lifespan analysis**

**A.** Effects of mutations in *daf-12* on the lifespan of *daf-10* and *daf-16; daf-10* mutants.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Strain/treatment** | **Mean lifespan ±s.e.m. (days)** | **75th percentile** | **%****change** | **Number of animals that died/total** | ***P* value vs. control** | **Figure in text** |
| Wild type | 23.0±0.9 | 28 |  | 32/237 |  | Fig. 2B |
|  | 17.9±0.6 | 22 |  | 58/115 |  |  |
| *$* | 9.9±0.2 | 12 |  | 171/180 |  | Fig. 2C |
| *$* | 9.9±0.2 | 12 |  | 163/180 |  |  |
| *daf-10(m79)* | 36.9±0.5 | 39 | +60% | 99/181 | <0.0001 | Fig. 2B |
|  | 30.3±0.6 | 34 | -3% | 106/176 | <0.0001 |  |
| *$* | 14.8±0.3 | 19 | +49.6% | 162/180 | <0.0001 | Fig. 2C |
| *$* | 13.0±0.3 | 14 | +31.7% | 165/180 | <0.0001 |  |
| *daf-12(rh61rh411)* | 23.2±1.3 | 28 | +1% | 35/181 | 0.9508 | Fig. 2B |
|  | 17.3±0.8 | 20 | +69.1% | 64/125 | 0.7716 |  |
| *$* | 10.2±0.2 | 12 | +2.8% | 174/180 | 0.3509 | Fig. 2C |
| *$* | 9.9±0.2 | 12 | +0.3% | 137/180 | 0.8813 |  |
| *daf-10(m79); daf-12(rh61rh411)* | 35.1±0.9 | 39 | +51.3% | 45/173 | <0.0001 (0.0847 *daf-10*) | Fig. 2B |
|  | 30.2±1.0 | 36 | +74% | 72/181 | <0.0001(0.274 *daf-10*) |  |
| *$* | 15.3±0.3 | 19 | +50.5% | 144/150 | <0.0001(0.6099 *daf-10*) | Fig. 2C |
| *$* | 13.2±0.3 | 16 | +33.6% | 165/180 | <0.0001(0.8614 *daf-10*) |  |
| *daf-16(mu86); daf-12(rh61rh411)* | 13.1±0.4 | 15 |  | 86/130 |  | Fig. 2D |
| *daf-16(mu86); daf-10(m79); daf-12(rh61rh411)* | 16.3±0.7 | 22 | +24.4% | 56/129 | <0.001 | Fig. 2D |

**B.** Effects of RNAi targeting genes up-regulated in *daf-10* mutants on the lifespan of various long-lived mutants including *daf-10* mutants.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Strain/treatment** | **Mean lifespan ±s.e.m. (days)** | **75th percentile** | **%** **change** | **Number of animals that died/total** | ***P* value vs. control** | **Figure in text** |
| *rrf-3(pk1426); daf-10(m79)* | 23.5±1.1 | 30 |  | 60/84 |  | Fig. 5A |
| *daf-16*(*RNAi*);*rrf-3(pk1426); daf-10(m79)*  | 18.7±0.6 | 21 | -20.4% | 47/72 | <0.001 | Fig. 5A |
| *rrf-3(pk1426); daf-10(m79);**mct-1/2(RNAi)* | 16.5±0.4 | 19 | -29.8% | 49/80 | <0.0001 | Fig. 5A |
| *rrf-3(pk1426); daf-10(m79); W02D7.8(RNAi)* | 25.7±1.1 | 33 | +9.4% | 39/85 | 0.367 | Fig. 5A |
| *rrf-3(pk1426); daf-10(m79);* *F14D7.7(RNAi)* | 26.0±1.1 | 30 | +10.6% | 39/83 | 0.354 | Fig. 5A |
| *rrf-3(pk1426); daf-10(m79);*  *K12G11.3(RNAi)* | 24.9±1.4 | 33 | +6% | 46/103 | 0.225 | Fig. 5A |
| *rrf-3(pk1426);* *ZC84.3(RNAi); daf-10(m79)* | 24.2±1.2 | 30 | +3% | 43/97 | 0.8509 | Fig. 5A |
| *rrf-3(pk1426);* *F53A3.1(RNAi); daf-10(m79)* | 25.3±1.3 | 33 | +7.7% | 46/82 | 0.2519 | Fig. 5A |
| *rrf-3(pk1426); daf-10(m79); C09H5.2a(RNAi)* | 23.1±1.1 | 28 | -1.7% | 46/82 | 0.5914 | Fig. 5A |
| *rrf-3(pk1426); daf-10(m79); F53B2.2(RNAi)* | 24.9±1.2 | 30 | +6% | 44/80 | 0.3885 | Fig. 5A |
| *rrf-3(pk1426); daf-10(m79); R08E5.4(RNAi)* | 24.1±1.1 | 30 | +2.6% | 40/80 | 0.8662 | Fig. 5A |
| Wild type | 23.0±0.5 | 28 |  | 125/210 |  | Fig. 5C |
|  | 20.3±0.5 | 24 |  | 73/180 |  | Fig. 6A |
|  | 18.8±0.4 | 24 |  | 88/210 |  | Fig. 6B |
|  | 17.5±0.5 | 21 |  | 75/180 |  | Fig. 6D |
|  | 18.3±0.4 | 20 |  | 80/180 |  |  |
|  | 19.4±0.4 | 22 |  | 110/240 |  | Fig. 6E |
|  | 17.1±0.5 | 20 |  | 56/150 |  |  |
|  | 16.2±0.5 | 21 |  | 77/111 |  |  |
| *mct-1/2(RNAi)* | 21.0±0.5 | 24 | -9% | 102/210 | <0.0001 | Fig. 5C |
|  | 22.4±0.6 | 26 | +10% | 64/182 | <0.01 | Fig. 6A |
|  | 19.5±0.4 | 24 | +4% | 88/210 | 0.2645 | Fig. 6B |
|  | 18.6±0.6 | 21 | +6.3% | 64/150 | 0.2091 | Fig. 6D |
|  | 19.4±0.5 | 22 | +6% | 66/180 | 0.0621 |  |
|  | 19.8±0.4 | 22 | +2% | 114/240 | 0.3861 | Fig. 6E |
|  | 19.3±0.5 | 22 | +13% | 69/150 | <0.01 |  |
|  | 14.9±0.4 | 18 | -8% | 74/113 | <0.05 |  |
| *daf-10(m79)* | 29.4±0.7 | 35 | +28% | 86/175 | <0.0001 | Fig. 5C |
|  | 36.7±0.7 | 41 | +32% | 98/180 | <0.0001 |  |
|  | 25.1±0.4 | 28 | +37% | 139/180 | <0.0001 |  |
| *daf-10(m79); mct-1/2(RNAi)*  | 22.9±0.5 | 24 | -22% | 134/210 | <0.0001(<0.01 *mct-1/2(RNAi)*) | Fig. 5C |
|  | 34.1±0.7 | 41 | -7% | 102/180 | <0.05(<0.0001 *mct-1/2(RNAi)*) |  |
|  | 21.9±0.4 | 26 | -13% | 158/180 | <0.0001(<0.0001 *mct-1/2(RNAi)*) |  |
| *daf-2(e1370)* | 35.2±0.8 | 44 | +87% | 162/180 | <0.0001 | Fig. 6B |
|  | 47.9±0.9 | 55 | +136% | 122/150 | <0.0001 |  |
| *daf-2(e1370); mct-1/2(RNAi)* | 35.8±0.7 | 41 | +2% | 139/179 | 0.7385 | Fig. 6B |
|  | 47.5±0.9 | 55 | -1% | 119/150 | 0.599 |  |
| *osm-5(p813)* | 28.1±0.6 | 32 | +55% | 58/180 | <0.0001 |  |
|  | 29.2±1.0 | 37 | +44% | 62/150 | <0.0001 | Fig. 6A |
|  | 21.9±0.7 | 27 | +13% | 48/150 | <0.001 |  |
|  | 25.1±0.8 | 31 | +47% | 66/150 | <0.05 |  |
| *mct-1/2(RNAi); osm-5(p813)*  | 24.5±0.6 | 27 | -13% | 64/178 | <0.0001 |  |
|  | 29.2±0.9 | 35 | 0% | 72/180 | 0.8057 | Fig. 6A |
|  | 25.1±0.7 | 29 | +15% | 61/180 | <0.01 |  |
|  | 25.1±0.7 | 31 | 0% | 99/180 | 0.6856 |  |
| *eat-2(ad1116)* | 24.3±0.5 | 29 | +39% | 94/150 | <0.0001 | Fig. 6D |
|  | 21.0±0.4 | 23 | +8% | 110/181 | <0.0001 |  |
| *eat-2(ad1116); mct-1/2(RNAi)* | 22.6±0.5 | 26 | -7% | 105/180 | <0.05 | Fig. 6D |
|  | 20.6±0.4 | 23 | -2% | 97/180 | 0.4826 |  |
| *isp-1(qm150)* | 29.9±0.8 | 36 | +54% | 86/108 | <0.0001 | Fig. 6E |
|  | 28.6±0.9 | 35 | +67% | 102/136 | <0.0001 |  |
| *isp-1(qm150); mct-1/2(RNAi)* | 29.9±0.7 | 36 | 0% | 110/135 | 0.8308 | Fig. 6E |
|  | 26.0±0.9 | 31 | -9% | 87/125 | <0.05 |  |
| *rrf-3(pk1426)* | 23.2±0.4 | 27 |  | 123/149 |  | Fig. 5B |
|  | 22.5±0.4 | 25 |  | 108/125 |  |  |
|  | 21.0±0.5 | 25 |  | 88/150 |  |  |
|  | 21.8±0.5 | 26 |  | 97/150 |  | Fig. 6C |
|  | 17.7±0.8 | 23 |  | 81/121 |  |  |
| *rrf-3(pk1426); mct-1/2(RNAi)* | 20.6±0.4 | 25 | -11% | 139/150 | <0.0001 | Fig. 5B |
|  | 20.0±0.4 | 23 | -11% | 134/150 | <0.0001 |  |
|  | 20.1±0.4 | 23 | -4% | 75/150 | <0.05 |  |
|  | 20.5±0.4 | 23 | -6% | 88/150 | <0.05 | Fig. 6C |
|  | 15.0±0.4 | 18 | -15% | 95/120 | <0.001 |  |
| *rrf-3(pk1426); daf-10(m79)* | 34.7±0.7 | 41 | +50% | 125/150 | <0.0001 | Fig. 5B |
|  | 30.8±0.6 | 36 | +37% | 119/150 | <0.0001 |  |
|  | 22.4±0.9 | 29 | +21% | 84/121 | <0.0001 |  |
| *rrf-3(pk1426); daf-10(m79); mct-1/2(RNAi)* | 23.9±0.6 | 28 | -31% | 128/150 | <0.0001(<0.0001 *rrf-3;* *mct-1/2(RNAi)*) | Fig. 5B |
|  | 23.2±0.5 | 26 | -33% | 125/150 | <0.0001(<0.0001 *rrf-3;* *mct-1/2(RNAi)*) |  |
|  | 16.8±0.4 | 21 | -25% | 72/121 | <0.0001(<0.01 *rrf-3;* *mct-1/2(RNAi)*) |  |
| *rrf-3(pk1426); daf-2(e1370)* | 43.4±0.8 | 50 | +106% | 103/150 | <0.0001 |  |
|  | 47.0±0.7 | 51 | +116% | 104/150 | <0.0001 | Fig. 6C |
| *rrf-3(pk1426); daf-2(e1370); mct-1/2(RNAi)* | 39.3±0.8 | 45 | -9% | 100/150 | <0.001 |  |
|  | 47.0±0.8 | 51 | 0% | 101/150 | 0.9169 | Fig. 6C |
| Wild type | 19.0±0.3 | 22 |  | 123/180 |  | Fig. 7K |
|  | 20.6±0.3 | 23 |  | 93/118 |  |  |
| *yhEx64[mct-1::GFP]* | 21.2±0.4 | 24 | +12% | 117/160 | <0.0001 | Fig. 7K |
|  | 21.8±0.3 | 25 | +6% | 108/128 | <0.01 |  |
| *yhEx65[mct-1::GFP]* | 20.1±0.5 | 24 | +6% | 91/150 | <0.01 | Fig. 7K |
|  | 22.2±0.4 | 25 | +8% | 86/134 | <0.01 |  |
| *yhEx66[mct-1::GFP]* | 20.5±0.5 | 24 | +8% | 102/149 | <0.01 | Fig. 7K |
|  | 22.1±0.4 | 25 | +7% | 70/96 | <0.001 |  |