**Table S1. Summary of lifespan analysis on 23 dFOXO target genes via RNAi**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Gene name** | **Driver** | **RNAi line** | **Mean lifespan (E0, d)** | **E0 dif.** | **Prob.****(Log-rank)** | **Sample size** |
| **Control** | **RNAi** | **(%)** |  | **(No. flies)** |
| Activator | GlyP | 3Tub-GS-dicer2 | 1BL33634 | 70 | 82 | 17.1 | <.0001 | 640 |
| cv-2 | Tub-GS-dicer2 | 2VDRC109915 | 59 | 67 | 13.6 | <.0001 | 602 |
| puc | Tub-GS | BL31557 | 65.6 | 65.4 | -0.3 | 0.0255 | 675 |
| sca | Tub-GS-dicer2 | BL28675 | 69 | 67 | -2.9 | 0.0006 | 663 |
| RhoGAP18B | Tub-GS | BL31165 | 62 | 69 | 11.3 | 0.0017 | 173 |
| Su(z)2 | Tub-GS-dicer2 | BL33403 | 66.4 | 65.9 | -0.75 | 0.0843 | 265 |
| vri | Tub-GS | BL25989 | 84 | 82 | -2.4 | 0.8626 | 735 |
| wg | Tub-GS | BL32994 | 74 | 70 | -5.4 | <.0001 | 665 |
| wit | Tub-GS | BL25949 | 64 | 60 | -6.3 | 0.0017 | 636 |
| h | Tub-GS | BL27738 | 76 | 64 | -15.8 | <.0001 | 715 |
| tara | Tub-GS | BL31634 | 66 | 54 | -18.2 | <.0001 | 650 |
| 4ebp | Not tested |
| Repressor | daw | Tub-GS | BL34974 | 34 | 46 | 35.3 | <.0001 | 524 |
| tlk | Tub-GS | BL33983 | 73 | 75 | 2.7 | 0.9239 | 692 |
| Spec2 | Tub-GS-dicer2 | VDRC101359 | 72 | 70 | -2.8 | <.0001 | 656 |
| esg | Tub-GS | BL28514 | 76 | 72 | -5.3 | <.0001 | 711 |
| CG10731 | Tub-GS-dicer2 | VDRC109949 | 74 | 68 | -8.1 | <.0001 | 680 |
| Taspase1 | Tub-GS-dicer2 | VDRC110147 | 66 | 46 | -30.3 | <.0001 | 720 |
| par-1 | Tub-GS | BL32410 | 36 | 14 | -61.1 | <.0001 | 681 |
| Others | Tsp42Ef | Tub-GS-dicer2 | VDRC8712 | 55 | 65 | 18.2 | <.0001 | 699 |
| kermit | Tub-GS | VDRC109297 | 63 | 61 | -3.2 | <.0001 | 680 |
| Oda | Tub-GS | BL35436 | 70 | 66 | -5.7 | <.0001 | 161 |
| PK61C | Tub-GS-dicer2 | BL27725 | 60 | 44 | -26.7 | <.0001 | 670 |

1. BL lines are from Bloomington Drosophila Stock Center.

2. VDRC lines are from Vienna Drosophila RNAi Center.

3. Tub-GS-dicer2: Ubiquitous tubulin GeneSwitch (GS)-Gal4 driver contains UAS-dicer2 to enhance the knockdown.

4. Probability is based on the log-rank test for net differences in mortality rate. Note that when survivorship curves ‘cross-over’ it is possible to have find cohorts with similar median life expectancy but significant differences in mortality because the relative mortality benefit at ages before the median are balanced by a mortality deficit at later ages.