**Table S2.** Presence of *C. elegans* B4GALT-genes in published studies on lifespan regulation.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Published study** | | | | | | | **B4GALTs** | | |
|  | **Supplementary reference** | | **Experimental details** | | | **Number of regulated genes** | | ***bre-4*** | ***sqv-3*** | ***W02B12.11*** |
|  | **Authors** | **Nr. .** | **age of worms** | **temperature** | **comparison** | **induced** | **repressed** | WBGene00000269 | WBGene00005021 | WBGene00012206 |
| **Longevity-promoting mutations/interventions** | | |  |  |  |  |  |  |  |  |
| **Reduced Insulin/IGF1-like signaling** | Seo et al., 2015 | [1] | day 1 adults | 20 °C | daf-2(e1370) vs wt | 1914 | 243 |  |  |  |
| Senchuk et al., 2018 | [2] | pre-fertile young adults | 20 °C | daf-2(e1370) vs wt | 2594 | 2155 |  | repressed |  |
| **Germline-deficiency** | Steinbaugh et al., 2016 | [3] | day 1 adults | 25 °C | glp-1(bn18ts) + vector/wt + vector | 1306 | n.d. |  |  |  |
| **Impaired mitochondrial function** | Senchuk et al., 2018 | [2] | pre-fertile young adults | 20 °C | clk-1(qm30) vs wt | 838 | 337 |  |  |  |
| isp-1(qm150) vs wt | 1411 | 1551 |  |  |  |
| nuo-6(qm200) vs wt | 3311 | 1995 |  |  |  |
| sod-2(ok1030) vs wt | 369 | 92 |  |  |  |
| Wu et al., 2018 | [4] | pre-fertile young adults | 20 °C | nuo-6(qm200) vs wt | 3175 | 2374 |  |  | repressed |
| **Dietary restriction** | Heestand et al., 2013 | [5] | pre-fertile young adults | 20 °C | eat-2(ad465) vs wt | 2372 | 584 |  |  |  |
| **Time courses** | Mansfeld et al., 2015 | [6] | wt at various ages | 20 °C | day 10 vs day 1 | 2125 | 1481 | induced | induced |  |
| day 20 vs day 1 | 2305 | 1303 | induced | induced |  |
| day 20 vs day 10 | 2248 | 1358 | repressed | repressed |  |
| Heintz et al., 2013 | [7] | wt on contr. RNAi-bacteria | 20 °C | day 15 vs day 3 | 2767 | 4565 |  |  |  |
| eat-2(ad1116) on RNAi-bacteria | 20 °C | day 15 vs day 3 | 1684 | 4702 |  |  |  |
| **Longevity-associated transcription factors** | | |  |  |  |  |  |  |  |  |
| **ATFS-1** | Wu et al., 2018 | [4] | pre-fertile young adults | 20 °C | atfs-1(e15) [gf] vs wt | 2911 | 3326 | repressed |  | repressed |
| atfs-1(e17) [gf] vs wt | 544 | 414 |  |  |  |
| wt vs atfs-1(gk3094) [lf] | 64 | 126 |  |  |  |

**Table S2.** continued.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Published study** | | | | | | | **B4GALTs** | | |
|  | **Supplementary reference** | | **Experimental details** | | | **Number of regulated genes** | | ***bre-4*** | ***sqv-3*** | ***W02B12.11*** |
|  | **Authors** | **Nr. .** | **age of worms** | **temperature** | **comparison** | **induced** | **repressed** | WBGene00000269 | WBGene00005021 | WBGene00012206 |
| **DAF-12** | Fisher and Lithgow, 2006 | [8] | adults | 25 °C | daf-12(rh273) [gf] vs wt or wt vs daf-12(rh61rh411) [lf]; , spe-9(hc88); fer-15 (b26)-background | 82 | 1358 |  |  |  |
| **DAF-16** | Murphy et al., 2003 | [9] | day 1 adults | 20 or 25 °C | various IIS-pathway mutants/rescue strains/RNAi-treatments vs corresponding controls | 264 | 251 |  |  |  |
| Tepper et al., 2013 | [10] | metaanalysis |  | typically daf-2(-) vs daf-2(-); daf-16(-) | 1663 | 1733 |  |  |  |
| Chen et al., 2015 | [11] | day 1 adults | 15 °C until L4, then 20 °C | DAF-16A/F targets, regulated in daf-2(e1370) vs wt AND in opposite direction in daf-16(mu86);daf-2(e1370) vs daf-2(e1370) and daf-16a/f(mg54);daf-2(e1370) vs daf-2(e1370) | 244 | 155 |  |  |  |
| Kaletsky et al., 2016 | [12] | day 1 adults | 20 °C | daf-16; daf-2; zIs365 from TJ365 (zIs356 [daf-16p::daf-16a/b::GFP + rol-6(su1006)] vs daf-16(mu86); daf-2(e1370) | 312 | 234 |  |  |  |
| Amrit et al., 2016 | [13] | day 2 adults | 25 °C until day 1, then 20 °C | glp-1(e2141ts) vs daf-16(mu86); glp-1(e2141ts) | 509 | 292 |  |  |  |
| McCormick et al., 2012 | [14] | early adults | 25 °C during L2-L4, then 20 °C | glp-1(e2141ts) vs daf-16(mu86); glp-1(e2141ts) | 230 | |  |  |  |
| **HIF-1** | Angeles-Albores et al., 2018 | [15] | young adults | 20 °C, normoxia | wt vs hif-1(ia4) [lf] | 509 | 569 | induced |  |  |
| Wu et al., 2018 | [4] | young adults | 20 °C, normoxia | wt vs hif-1(ia4) [lf] | 31 | 89 |  |  |  |
| Pender and Horvitz, 2018 | [16] | very young adults | 22,5 °C, | egl-9(sa307) [lf] vs egl-9(sa307); hif-1; egl-1(lf): genes regulated under hif-stabilizing conditions | 366 | 1322 |  |  |  |
| **HSF-1** | Brunquell et al., 2016 | [17] | L4 | 23 °C, RNAi from L1 | genes regulated by hsf-1 only under non-heatshock conditions | 1629 | 1594 | repressed |  |  |
| 23 °C, RNAi from L1 | genes regulated by hsf-1 independently of heat shock | 1353 | 1083 |  |  |  |
| 23 °C, RNAi from L1 | genes regulated by hsf-1 only upon heat shock | 654 | 288 |  |  |  |
| Sural et al., 2019 | [18] | young adults | 20 °C, no heatshock | iqIs37[pAH76(hsf-1p::myc-hsf-1) + pRF4(rol-6p::rol-6(su1006))] [overexpr] vs wt | 1586 | 76 |  |  |  |
| 20 °C, no heatshock | wt vs hsb-1(cg116)[lf]; hsf-1 activation by hsb-1 inhibition | 370 | 107 |  |  |  |

**Table S2.** continued.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Published study** | | | | | | | **B4GALTs** | | |
|  | **Supplementary reference** | | **Experimental details** | | | **Number of regulated genes** | | ***bre-4*** | ***sqv-3*** | ***W02B12.11*** |
|  | **Authors** | **Nr. .** | **age of worms** | **temperature** | **comparison** | **induced** | **repressed** | WBGene00000269 | WBGene00005021 | WBGene00012206 |
| **SKN-1** | Oliveira et al., 2009 | [19] | L4 | 20 °C, RNAi from L1 | control RNAi vs skn-1 RNAi | 233 | 63 |  |  |  |
| Steinbaugh et al., 2015 | [3] | day 1 adults | RNAi from L1 | N2 + skn-1 RNAi / N2 + vector | 295 |  |  |  |  |
| glp-1(ts) + skn-1 RNAi / glp-1(ts) + vector | 529 |  |  |  |  |
| **UNC-62** | Van Nostrand et al., 2013 | [20] | day 4 adults | 25 °C during development then 20 °C; RNAi from day 1 | control RNAi vs unc-62 RNAi; (spe-9(hc88); fer-15(bn26)-background) | 115 | 67 |  |  |  |
| **XBP-1** | Imanikia et al., 2019 | [21] | day 1 adults | 20 °C | rab-3p::xbp-1s vs wt; , FACS sorted intestinal cells, neuron-specific xbp-1 overexpression | 1358 | 839 |  |  |  |

All studies listed in this table used RNA-seq or microarray technology. Age, culture conditions, genotypes and, where applicable RNAi-treatments, of the worms analysed, as well as total numbers of genes found to be induced or repressed in the long-lived strain or by the transcription factor of interest are indicated. *C. elegans* B4GALTs were detected in the lists of genes induced or repressed in the long-lived strain or by the transcription factor of interest as indicated.