

Table S4. Genes affected by MGE according to RNA-seq data that are related to other aging-linked neuron-linked genes

WormBase ID	Gene	Regulation	Genes/Pathways/Diseases implicated
WBGene00045265	<i>K10C2.8</i>	-0.91397 (Down)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>daf-12</i> based on microarray and RNA-seq studies. Is also affected by eleven chemicals including Ethanol; Tunicamycin; and D-glucose based on RNA-seq and microarray studies.
WBGene00045458	<i>F17B5.8</i>	-0.76619 (Down)	Affected by several genes including <i>daf-2</i> ; <i>skn-1</i> ; and <i>hsf-1</i> based on proteomic; tiling array; RNA-seq; and microarray studies. Is also affected by seventeen chemicals including tryptophan; Tunicamycin; and sodium arsenite based on microarray and RNA-seq studies.
WBGene00011171	<i>R09E10.1</i>	0.618172 (up)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>age-1</i> based on microarray and RNA-seq studies. Is affected by thirteen chemicals including methylmercuric chloride; rotenone; and manganese chloride based on microarray and RNA-seq studies.
WBGene00023477	<i>nspc-1</i>	-0.63117 (Down)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>eat-2</i> based on RNA-seq and microarray studies. Is affected by fifteen chemicals including Ethanol; rotenone; and mianserin based on RNA-seq and microarray studies
WBGene00022431	<i>set-33</i> pseudogene	-0.67921 (Down)	Affected by several genes including <i>daf-16</i> ; <i>daf-12</i> ; and <i>eat-2</i> based on RNA-seq and microarray studies. Is affected by five chemicals including

			Rifampin; Psoralens; and Sirolimus based on RNA-seq and microarray studies.
WBGene00022445	Y110A2AL.9	-0.64154 (Down)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>rrf-3</i> based on microarray; RNA-seq; and tiling array studies. Is affected by eighteen chemicals including hydrogen sulfide; rotenone; and stavudine based on microarray and RNA-seq studies.
WBGene00009685	F44D12.8	0.62185 (up)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>let-60</i> based on microarray; RNA-seq; and tiling array studies. Is affected by seventeen chemicals including methylmercury hydroxide; nicotinic acid; and methylmercuric chloride based on RNA-seq and microarray studies.
WBGene00016329	osr-1	-0.81116 (Down)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>daf-12</i> based on microarray and RNA-seq studies. Is affected by twenty chemicals including Ethanol; methylmercury hydroxide; and 1-methylnicotinamide based on RNA-seq and microarray studies.
WBGene00007866	C32H11.3	-0.73217 (Down)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>skn-1</i> based on microarray and RNA-seq studies. Is affected by twenty-three chemicals including tryptophan; 1-methylnicotinamide; and Tunicamycin based on microarray and RNA-seq studies.
WBGene00005092	srd-14 pseudogene	-0.67193 (Down)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>skn-1</i> based on RNA-seq and microarray

			studies. Is affected by ten chemicals including 1-methylnicotinamide; rotenone; and Zidovudine based on RNA-seq studies.
WBGene00003879	<i>ora-1</i>	-0.75883 (Down)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>glp-1</i> based on microarray; tiling array; and RNA-seq studies. Is affected by twenty-seven chemicals including methylmercury hydroxide; 1-methylnicotinamide; and rotenone based on RNA-seq and microarray studies.
WBGene00021625	<i>Y47D7A.13</i>	-0.7359 (Down)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>glp-1</i> based on microarray; tiling array; and RNA-seq studies. Is affected by thirty-three chemicals including hydrogen sulfide; Nitric Oxide; and 1-methylnicotinamide based on microarray and RNA-seq studies.
WBGene00017287	<i>F09E5.9</i> pseudogene	-1.00054 (Down)	Affected by several genes including <i>daf-16</i> ; <i>pgl-1</i> ; and <i>glh-1</i> based on microarray and RNA-seq studies. Is affected by Rifampin and Diazinon based on RNA-seq and microarray studies
WBGene00007916	<i>C34C6.3</i>	-0.69039 (Down)	Affected by several genes including <i>daf-2</i> ; <i>skn-1</i> ; and <i>rrf-3</i> based on microarray and RNA-seq studies. Is affected by thirteen chemicals including aldicarb; Ethanol; and D-glucose based on microarray and RNA-seq studies
WBGene00012123	<i>T28D6.3</i>	0.744222 (up)	Affected by several genes including <i>daf-16</i> ; <i>daf-2</i> ; and <i>glp-1</i> based on microarray; RNA-seq; proteomic; and studies. Is affected by twenty chemicals including methylmercuric chloride;

			Mercuric Chloride; and rotenone based on microarray and RNA-seq studies
WBGene00016037	dop-6	1.318727 (up)	Predicted to enable G protein-coupled serotonin receptor activity and neurotransmitter receptor activity. Predicted to be involved in G protein-coupled receptor signaling pathway, coupled to cyclic nucleotide second messenger; chemical synaptic transmission; and dopamine receptor signaling pathway. Predicted to be located in dendrite. Predicted to be integral component of plasma membrane. Expressed in several structures, including AVF; SMDVL; head neurons; intestine; and lumbar neurons. Human ortholog(s) of this gene implicated in several diseases, including Alzheimer's disease; Gilles de la Tourette syndrome; antisocial personality disorder; and attention deficit hyperactivity disorder. Is an ortholog of human DRD4 (dopamine receptor D4).
WBGene00020635	ztf-31	1.456247 (up)	Expressed in head neurons. Is predicted to encode a protein with the following domain: Zinc finger C2H2-type.
WBGene00009468	F36D1.9	0.836778 (up)	Enriched in neurons based on RNA-seq studies. Is affected by several genes including <i>rrf-3</i> ; <i>pgl-1</i> ; and <i>isp-1</i> based on microarray and RNA-seq studies. Is affected by rotenone and Doxycycline based on RNA-seq studies.
WBGene00022951	C30E1.9	0.919972 (up)	Enriched in neurons and retrovesicular ganglion

			based on RNA-seq; single-cell RNA-seq; and microarray studies. Is affected by several genes including <i>daf-2</i> ; <i>daf-12</i> ; and <i>sek-1</i> based on tiling array; RNA-seq; and microarray studies. Is affected by eleven chemicals including 1-methylnicotinamide; rotenone; and paraquat based on RNA-seq and microarray studies.
--	--	--	---