

Supplementary Table S1

Strain	Transgene	Phenotype
N2	-	Wild type
CB4088	<i>him-5(e1490)</i>	Male worms
CL4176	<i>myo-3p::A<math>\beta</math><sub>1-42</sub>:: + rol-6(su1006)</i>	Rapid paralysis at 23°C [1]
CL2355	<i>snb-1::A<math>\beta</math><sub>1-42</sub> + mtl-2::GFP</i>	Deficits in chemotaxis, associative learning, and thrashing in liquid [2, 3]
CL2122	<i>unc54(vector) + mtl-2::GFP</i>	Phenotype apparently WT. Control strain for CL2355 in the study [4]
CL802	<i>smg-1(cc546) + rol-6(su1006)</i>	Control strain for CL4176 [5]
CL2166	<i>gst-4p::GFP</i>	Expression of GFP by improve <i>gst-4</i> function [6]
EG1285	<i>unc-47p::GFP</i>	Expression of GFP in all GABAergic neurons [7]
BL5717	<i>ida-1p::GFP</i>	Expression of GFP in 4 motor neurons in ventral nerve cord [8]
UA57	<i>dat-1p::GFP + dat-1p::CAT-2</i>	GFP expression in cephalic (CEP), and anterior deirid (ADE) dopaminergic neurons [9]
NC571	<i>unc-4p::snb-1::GFP</i>	Punctate GFP expression observed in ventral nerve cord, VC4 and VC5 [8]
NUCM0001	<i>snb-1::A<math>\beta</math><sub>1-42</sub> + mtl-2::GFP + unc-47p::GFP</i>	Expression of GFP in all GABAergic neurons of A $\beta$ -induced AD nematodes in the study
NUCM0002	<i>snb-1::A<math>\beta</math><sub>1-42</sub> + mtl-2::GFP + ida-1p::GFP</i>	Expression of GFP in 4 motor neurons in ventral nerve cord, of A $\beta$ -induced AD nematodes in the study
NUCM0003	<i>snb-1::A<math>\beta</math><sub>1-42</sub> + mtl-2::GFP + dat-1p::GFP + dat-1p::CAT-2</i>	GFP expression in CEP, and ADE neurons of A $\beta$ -induced AD nematodes in the study
NUCM0004	<i>snb-1::A<math>\beta</math><sub>1-42</sub> + mtl-2::GFP + unc-4p::snb-1::GFP</i>	Punctate GFP expression observed in ventral nerve cord,, VC4 and VC5 of A $\beta$ -induced AD nematodes in the study

Note: NUCM0001, NUCM0002, NUCM0003, NUCM0004 are generated by crossing in the study, other strains are obtained from the *Caenorhabditis* Genetics Center (<https://cgc.umn.edu/>).

## References:

- [1] Link CD, "Expression of human beta-amyloid peptide in transgenic *Caenorhabditis elegans*," Proc Natl Acad Sci U S A, vol. 92, no. 20, pp. 9368-72, 1995.
- [2] Wu Y, Wu Z, Butko P et al, "Amyloid-beta-induced pathological behaviors are suppressed by Ginkgo biloba extract EGb 761 and ginkgolides in transgenic *Caenorhabditis elegans*," J Neurosci, vol. 26, no. 50, pp. 13102-13, 2006.
- [3] Dosanjh LE, Brown MK, Rao G, Link CD, Luo Y, "Behavioral phenotyping of a transgenic *Caenorhabditis elegans* expressing neuronal amyloid-beta," J Alzheimers Dis, vol. 19, no. 2, pp. 681-90, 2010.
- [4] Chen XY, Liao DC, Sun ML, Cui XH, Wang HB, "Essential Oil of *Acorus tatarinowii* Schott Ameliorates A $\beta$ -Induced Toxicity in *Caenorhabditis elegans* through an Autophagy Pathway," Oxid Med Cell Longev, vol. 2020, p. 3515609, 2020 Dec 22.

- [5] Fonte V, Dostal V, Roberts CM, "A glycine zipper motif mediates the formation of toxic  $\beta$ -amyloid oligomers in vitro and in vivo," *Mol Neurodegener*, vol. 6, no. 1, pp. 61, 2011.
- [6] Wang X, Li H, Liu Y et al, "Velvet antler methanol extracts (MEs) protects against oxidative stress in *Caenorhabditis elegans* by SKN-1," *Biomed Pharmacother*, pp. 121:109668, 2020.
- [7] Ruan Q, Qiao Y, Zhao Y et al, "Beneficial effects of *Glycyrrhizae radix* extract in preventing oxidative damage and extending the lifespan of *Caenorhabditis elegans*," *J Ethnopharmacol*, vol. 177, pp. 101-10, 2016.
- [8] Estevez AO, Mueller CL, Morgan KL et al, "Selenium induces cholinergic motor neuron degeneration in *Caenorhabditis elegans*," *Neurotoxicology*, vol 33, no. 5, pp. 1021-32, 2012.
- [9] Wang C, Saar V, Leung KL, Chen L, Wong G, "Human amyloid  $\beta$  peptide and tau co-expression impairs behavior and causes specific gene expression changes in *Caenorhabditis elegans*," *Neurobiol Dis*, vol. 109, no. Pt A, pp. 88-101, 2018.