**Table S1. List of nematode strains used in this study**

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| Strain name | Genotype |
| EZ412/N2 [S] | Wild-type CGC (Zetka Lab) single clone origin |
| EZ413/N2 [R] | Wild-type CGC (Andersen Lab) single clone origin |
| RB873 | *lig-4(ok716)* III |
| EZ436 | *lig-4(vv134)* III [R] |
| EZ443 | *lig-4(vv141)* III [S] |
| EZ454 | *nhj-1(vv144)* V [R] |
| FX01203 | *cku-80(tm1203)* III |
| HBR1099 | *unc-119(ed3)* III; *goeEx386 [WRM0635D\_B04(pRedFlp-Hgr) (H19N07.3[21364]::S0001\_pR6K\_Amp\_2xTY1ce\_EGFP\_FRT\_rpsl\_neo\_FRT\_3xFlag) dFRT::unc-119-Nat]* |
| EZ477 | *unc-119(ed3)* III; *nhj-1(vv144)* V*; goeEx386* |
| EZ463 | *cku-80(tm1203)* III; *nhj-1(vv144)* V |
| EZ459 | *nhj-1(vv147[nhj-1::OLLAS])* V [R] |
| EZ461 | *cku-80(tm1203)* III; *nhj-1(vv147[nhj-1::OLLAS])* V |
| EZ460 | *lig-4 (vv134)* III; *nhj-1(vv147[nhj-1::OLLAS])* V |
| EZ457 | *lig-4(vv145[lig-4::OLLAS])* III [R] |
| EZ464 | *cku-80(tm1203) lig-4(vv145[lig-4::OLLAS])* III |
| EZ465 | *lig-4(vv145[lig-4::OLLAS])* III; *nhj-1(vv144)* V |
| MR156 | *unc-119(ed3)* III*; rrIs01* [*elt-2::GFP unc-119(+)*] X |
| EZ466 | *unc-119(ed3)* III*; nhj-1(vv144)* V; *rrIs01* [*elt-2::GFP unc-119(+)*] X |
| GE4132 | *unc-32(e189) com-1(t1626)/*qC1[*dpy-19(e1259) glp-1(q339)*] III |
| EZ467 | *unc-32(e189) com-1(t1626)/*qC1[*dpy-19(e1259) glp-1(q339)*] III; *nhj-1(vv144)* V |
| EZ476 | *unc-32(e189) com-1(t1626) lig-4(vv134)/*qC1[*dpy-19(e1259) glp-1(q339)*] III |