**Table S1. Strains used in this study**

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| **Strain Name** | **Genotype** |
| **20°C** |  |
| N2 | wild-type Bristol isolate |
| CB4856 | wild-type Hawaiian isolate |
| SP419 | *unc-4(e120) rol-1(e91)* II |
| VC1474 | *top-2(ok1930Δ)/mIn1* [*mIs14* *(myo-2::gfp;pes-10::gfp) dpy-10(e1280)*] II |
|  |  |
| **15°C** |  |
| KK381 | *unc-4(e120) top-2(it7ts)* II |
| AG259 | *top-2(it7ts)* II*; him-8(e1489)* IV |
| AJL2 | *unc-4(e120) top-2(it7ts)* II*; tdpt-1(ude2)* I |
| AJL3 | *unc-4(e120) top-2(it7ts)* II*; tdpt-1(ude3)* I |
| AJL4 | *unc-4(e120) top-2(it7ts)* II*; tdpt-1(ude4)* I |
| AJL5 | *unc-4(e120) top-2(it7ts)* II*; tdpt-1(ude5)* I |
| AJL6 | *unc-4(e120) top-2(it7ude6)* II |
| AJL7 | *unc-4(e120) top-2(it7ts)* II*; tdpt-1(ude7)* I |
| AJL18 | *unc-4(e120) top-2(it7ts)* II*; tdpt-1(ude13)* I |
| AJL19 | *unc-4(e120) top-2(it7ts*) *nurf-1(ude23)* II; *mep-1(ude14)* IV |
| AJL20 | *unc-4(e120) top-2(it7ts)* II; *(ude15)* |
| AJL21 | *unc-4(e120) top-2(it7ts)* II; *(ude16)* |
| AJL25 | *unc-4(e120) top-2(it7ude20) dpy-10(ude21)* (CRISPR recreate of *ude6* in KK381) II |
| AJL26 | *unc-4(e120) top-2(it7ude20)* (CRISPR recreate of *ude6* in KK381) II |
| AJL27 | *unc-4(e120) top-2(it7ts); tdpt-1(ude22)* (CRISPR recreate of *ude5* in KK381) II |
| AJL28 | *unc-4(e120) top-2(it7ts)* II*; tdpt-1(ude24)* I |