**Table S4:** PCR primers used to construct non-sgRNA plasmids in this study.

|  |  |  |  |
| --- | --- | --- | --- |
| **pSG260 (*hsp-16.41p::SV40\_NLS::Cre::tbb-2 3*′*UTR*, pCFJ151)** | | | |
| PCR Fragment | Primer | Sequence | Template |
| Amp + Ori | 151 vector F | GGTACCCTCTAGTCAAGGCC | pCFJ151 |
| 151 vector R | ATCTGCCCACTAGTGAGTCG |
| *hsp-16.41* promoter | *hsp-16.41p* F | CGACTCACTAGTGGGCAGATGATCACCAAAAACGGAACGTTG | N2 genomic DNA |
| *hsp-16.41p* R | CATGAGCATTTTCGAAGTTTTT |
| Cre CDS 1 | *Cre* 1F | AAACTTCGAAAATGCTCATGCCCAAGAAGAAGAGGAAGGT | pDD104 |
| *Cre* 1R | AGCTTATTCTTAGCTAATATGTTGTTTAAACTTACCTTTAACCCTGATCCTGGCA |
| Cre CDS 2 | *Cre* 2F | ATATTAGCTAAGAATAAGCTGAAAATAAATTTTCAGATATCTCACGTACTGACGGTG | pDD104 |
| *Cre* 2R | GGCCTTGACTAGAGGGTACCCTTCGAATGCATCGCGCGC |
| **pSG261 (*unc-1p::unc-1(e1598)::unc-1 3'UTR*)** | | | |
| PCR Fragment | Primer | Sequence | Template DNA |
| Amp + Ori | AMPORI F1 | TCGCTTATAGAGCAGTCGGCGTGAAATTGTTATCCGCTGGTA | pCFJ151 |
| AMPORI R1 | AATATGCTGCTGTCCGAGAACAGCTGGCGTAATAGCGAAG |
| *unc-1* CDS 1 | *unc-1* F1 | GCCGACTGCTCTATAAGCGAGTTG | N2 genomic DNA |
| *unc-1* R1 | GGTCGACTTAATGAGAATCGTTTTACA |
| *unc-1* CDS 2 | *unc-1* F2 | CGATTCTCATTAAGTCGACCAAATCAAAA | N2 genomic DNA |
| *unc-1* R2 | GCGGCCTCGACTTCGGCGGCCATGGCAC |
| *unc-1* CDS 3 | *unc-1* F3 | GCCGCCGAAGTCGAGGCCGCGCGTGAAGC | N2 genomic DNA |
| *unc-1* R3 | TTCTCGGACAGCAGCATATTGC |
| **pSG264 (*myo-2p::LoxP::mCherry::unc-54 3'UTR*)** | | | |
| PCR Fragment | Primer | Sequence | Template DNA |
| Amp + Ori + *myo-2p::LoxP::mCherry::unc-54 3'UTR* | LoxP mCherry F1 | GTATAGCATACATTATACGAAGTTATCTATGGTCTCAAAGGGTGAAGAAG | pCFJ90 |
| LoxP universal R | TCGTATAATGTATGCTATACGAAGTTATTAAGCCTGCTTTTTTGTACAAAC |
| **pSG265 (*myo-2p::LoxP::gfp::unc-54 3'UTR*)** | | | |
| PCR Fragment | Primer | Sequence | Template DNA |
| Amp + Ori + *LoxP::GFP::unc-54 3'UTR* | LoxP gfp F | GTATAGCATACATTATACGAAGTTATCTATGAGTAAAGGAGAAGAACTTTTC | pSG259 |
| LoxP universal R | TCGTATAATGTATGCTATACGAAGTTATTAAGCCTGCTTTTTTGTACAAAC |
| **pSG266 (*myo-2p::loxP::mCherry::unc-54 3'UTR* + *rps-11p::HygR::unc-54 3'UTR*)** | | | |
| PCR Fragment | Primer | Sequence | Template DNA |
| Amp + Ori + *myo-2p::LoxP:: mCherry::*  *unc-54 3'UTR* | LoxP mcherry F2 | ACAGATTTCACGTGTTCATGATCGTTTTACAACGTCGTGAC | pSG264 |
| LoxP mcherry R | CGATGAGCATGATTTGACGTC |
| *rps-11* promoter | *rps-11p* F | ACGTCAAATCATGCTCATCGGTGAGTTCCAATTGATAATTGTG | N2 genomic DNA |
| *rps-11p* R | CCTTTCTGTCTGTTCAGACAT |
| *rps-11p::HygR::unc-54 3'UTR* | *HygR* F | TGTCTGAACAGACAGAAAGGATGAAAAAACCCGAGTTGAC | pCZGY2728 |
| *HygR* R | CATGAACACGTGAAATCTGTCGCGGTCATAAACTGAAACGTA |
| **pSG267/269/271 (*mCherry* repair plasmids)** | | | |
| PCR Fragment | Primer | Sequence | Template DNA |
| Amp + Ori | AMPORI universal F | CCGCTGGTATCAGCTCAC | pCFJ151 |
| AMPORI universal R | CAGCTGGCGTAATAGCGAA |
| *myo-2p::loxP::mCherry::*  *unc-54 3'UTR* + *rps-11p::*  *HygR::unc-54 3'UTR* | *mCherryHygR* F | CATTTTATATCTGAGTAGTATCCTTTG | pSG266 |
| *mCherryHygR* R | TCATGAACACGTGAAATCTGTC |
| LG II (-8.47 cM) left recombination arm | pSG267 LF | CTTCGCTATTACGCCAGCTGCACCTTCCATCGAAATAGTAGT | N2 genomic DNA |
| pSG267 LR | TTGTCATTTCTGTGTCTGACGAACACTTTGGTCCATCGATT |
| LG II (-8.47 cM) right recombination arm | pSG267 RF | CAGATTTCACGTGTTCATGAGCAGACAGTTATCTCTACGTT | N2 genomic DNA |
| pSG267 RR | GAGTGAGCTGATACCAGCGGGAGCAGCATGAAAAGCCTGT |
| LG IV (-1.65 cM) left recombination arm | pSG269 LF | CTTCGCTATTACGCCAGCTGCTGCCAAATCGCTATAATTCA | N2 genomic DNA |
| pSG269 LR | TTGTCATTTCTGTGTCTGACGTCTCGATCTACGTACATCTAC |
| LG IV (-1.65 cM) right recombination arm | pSG269 RF | CAGATTTCACGTGTTCATGACGTGTGTGTGCCGCTTATTA | N2 genomic DNA |
| pSG269 RR | GAGTGAGCTGATACCAGCGGCGTTCCGATAAGGTAAAGGTAAAT |
| LG X (-6.16 cM) left recombination arm | pSG271 LF | CTTCGCTATTACGCCAGCTGAGAGCTGAGCTTTCATTTAGGT | N2 genomic DNA |
| pSG271 LR | TTGTCATTTCTGTGTCTGACTTCGTCTGCGTTGAATAGGTT |
| LG X (-6.16 cM) right recombination arm | pSG271 RF | CAGATTTCACGTGTTCATGAATCGAGGCAGAAGACGAGTG | N2 genomic DNA |
| pSG271 RR | GAGTGAGCTGATACCAGCGGGTCATGAATACGAGTAGAAGCAC |
| **pSG268/270/272 (*gfp* repair plasmids)** | | | |
| PCR Fragment | Primer | Sequence | Template DNA |
| Amp + Ori | AMPORI universal F | CCGCTGGTATCAGCTCAC | pCFJ151 |
| AMPORI universal R | CAGCTGGCGTAATAGCGAA |
| *loxP::gfp:: unc-54 3'UTR* | LoxP::gfp F | GTCAGACACAGAAATGACAAG | pSG265 |
| LoxP::gfp R | CGATGAGCATGATTTGACGT |
| *rps-11p::HygR::unc-54 3'UTR* | *rps-11* F | ACGTCAAATCATGCTCATCGGTGAGTTCCAATTGATAATTGTG | pSG266 |
| *mCherryHyg* R | TCATGAACACGTGAAATCTGTC |
| LG II (-18.01 cM) left recombination arm | pSG268 LF | CTTCGCTATTACGCCAGCTGCCACAGCTTCAACACAACAAT | N2 genomic DNA |
| pSG268 LR | TACTACTCAGATATAAAATGGGCTTGCAATATTAACATTGGAAG |
| LG II (-18.01 cM) right recombination arm | pSG268 RF | CAGATTTCACGTGTTCATGAGACTTGTGCTCCTCAATGCA | N2 genomic DNA |
| pSG268 RR | GAGTGAGCTGATACCAGCGGGAGTTGAGAGATTGCATACCAG |
| LG IV (-27.20 cM) left recombination arm | pSG270 LF | CTTCGCTATTACGCCAGCTGCTACACGAACACTGATGTTGAA | N2 genomic DNA |
| pSG270 LR | TACTACTCAGATATAAAATGGATTACATCCAGCACATCACT |
| LG IV (-27.20 cM) right recombination arm | pSG270 RF | CAGATTTCACGTGTTCATGAGCACACAGACTCGAGTGCTC | N2 genomic DNA |
| pSG270 RR | GAGTGAGCTGATACCAGCGGCAACTGTGCCTATTACAATCAC |
| LG X (-21.60 cM) left recombination arm | pSG272 LF | CTTCGCTATTACGCCAGCTGTACGTGAGAAAGCTCGCAGTGT | N2 genomic DNA |
| pSG272 LR | TACTACTCAGATATAAAATGCGTACTCCTCGAGATTTCTTC |
| LG X (-21.60 cM) right recombination arm | pSG272 RF | CAGATTTCACGTGTTCATGACAGATGATAATTCATTTTCTGTATG | N2 genomic DNA |
| pSG272 RR | GAGTGAGCTGATACCAGCGGCCTGCCTTTTCCAAAACTTTGA |
| **pSG273 (*dpy-8p::dpy-8::dpy-8 3'UTR*)** | | | |
| PCR Fragment | Primer | Sequence | Template DNA |
| Amp + Ori | AMPORI universal F | CCGCTGGTATCAGCTCAC | pCFJ151 |
| AMPORI universal R | CAGCTGGCGTAATAGCGAA |
| *dpy-8* CDS 1 | *dpy-8* F1 | TTCGCTATTACGCCAGCTGCAGAAATCTCAATGACACCACTCC | N2 genomic DNA |
| *dpy-8* R1 | CTCAGTGCCAATGCTCTTCC |
| *dpy-8* CDS 2 | *dpy-8* F2 | GGAAGAGCATTGGCACTGAG | N2 genomic DNA |
| *dpy-8* R2 | GAGTGAGCTGATACCAGCGGCAGCAGCGATAGCTCTCCGAA |