

## Supplemental Materials and Methods

### Strains and transgenes

#### Mutants

*unc-36(e251)* III (Brenner 1974)

*unc-43(n1186lf)* IV (Troemel et al. 1999)

*unc-62(s472)* (Van Auken et al. 2002)

*unc-62(e644)* V (Brenner 1974)

*unc-62(e917)* V (Van Auken et al. 2002)

*unc-62(mu232)* V (Yang et al. 2005)

*ceh-36(ky640)* X (Lanjuin et al. 2003)

*mls-2(cc615)* X (Jiang et al. 2005)

*mls-2(ns156)* X (Yoshimura et al. 2008)

*mls-2(ns158)* X (Yoshimura et al. 2008)

*mls-2(tm252)* X (Consortium 2012)

#### Integrated transgenes

Integrated transgenes	Figures
<i>vyIs56 [odr-1p::TagRFP]</i> III (Alqadah et al. 2016)	1, 4
<i>oyIs44 [odr-1p::DsRed; lin-15(+)]</i> V (Lanjuin et al. 2003)	1, 4
<i>otIs185 [ceh-36p::GFP::cog-1 3'; rol-6(su1006)]</i> (Sarin et al. 2007)	1
<i>wgIs600 [unc-62::GFP fosmid (WRM061dC01); unc-119(+)]</i> (Van Nostrand et al. 2013)	1, 2
<i>galIs285 [unc-62(7a)::GFP fosmid; unc-119(+)]</i> (Van Nostrand et al. 2013)	1, 2

<i>galIs286</i> [ <i>unc-62(7b)::GFP fosmid; unc-119(+)</i> ] (Van Nostrand et al. 2013)	1, 2
<i>vyIs68</i> [ <i>str-2p::TagRFP; srsx-3p::GFP</i> ] III (Cochella et al. 2014)	2
<i>kyIs140</i> [ <i>str-2p::GFP; lin-15(+)</i> ] I (Troemel et al. 1999)	2, 3, S3
<i>kyIs136</i> [ <i>str-2p::GFP; lin-15(+)</i> ] X (Troemel et al. 1999)	2

### Extrachromosomal arrays

Extrachromosomal arrays	Figures
<i>vyEx574</i> [ <i>mls-2p::mls-2</i> (10 ng); <i>ofm-1p::DsRed</i> (30 ng/μl)]	1, 2
<i>vyEx751, 747</i> [ <i>nsy-5p::mls-2</i> (10 ng/μl); <i>ofm-1p::DsRed</i> (30 ng/μl)]	1, 2, 4, S3
<i>vyEx1308</i> [ <i>nsy-5p::unc62a</i> (10 ng); <i>ofm-1p::DsRed</i> (30 ng/μl)]	1
<i>vyEx1284, 1310</i> [ <i>nsy-5p::unc62a</i> (10 ng); <i>odr-1p::DsRed</i> (15 ng/μl); <i>ofm-1p::DsRed</i> (30 ng/μl)]	2
<i>vyEx 1299, 1300, 1302</i> [ <i>nsy-5p::unc-62b</i> (10 ng/μl); <i>ofm-1p::DsRed</i> (30 ng/μl)]	1, 2
<i>vyEx 1431, 1490</i> [ <i>nsy-5p::unc-62b</i> (10 ng/μl); <i>odr-1p::DsRed</i> (15 ng/μl); <i>ofm-1p::DsRed</i> (30 ng/μl)]	2, 3
<i>vyEx1451, 1452, 1453</i> [ <i>ceh-36p::ceh-36</i> (Lanjuin et al. 2003) (2 ng/μl); <i>odr-1p::DsRed</i> (15 ng/μl); <i>ofm-1p::DsRed</i> (30 ng/μl)]	3
<i>vyEx1421, 1424</i> [ <i>mls-2p::mls-2</i> (10 ng/μl); <i>odr-1p::DsRed</i> (15 ng/μl); <i>ofm-1p::DsRed</i> (30 ng/μl)]	3
<i>vyEx1427</i> [ <i>nsy-5p::mls-2</i> (10 ng/μl); <i>odr-1p::DsRed</i> (15 ng/μl); <i>ofm-1p::DsRed</i> (30 ng/μl)]	3

<i>kyEx1127</i> [ <i>odr-3::nsy-4</i> (72 ng/μl); <i>myo-3p::DsRed</i> (5 ng/μl)] (Chuang et al. 2007)	S3
<i>kyEx996</i> [ <i>nsy-5(genomic)</i> ; <i>odr-1p::DsRed</i> ; <i>ofm-1p::GFP</i> ] (Chuang et al. 2007)	S3

## Plasmid construction

### *mls-2p::mls-2*

A 4773 bp fragment of *mls-2g::mls-2* 3' UTR was digested from *hsp-2p::mls-2g::mls-2* 3' UTR (Jiang et al. 2005) and subcloned into a vector containing 5.5 kb of *mls-2* promoter (Jiang et al. 2005).

### *nsy-5p::mls-2*

A 4705 bp fragment of *mls-2g::mls-2* 3' UTR was digested from *hsp-2p::mls-2g::mls-2* 3' UTR (Jiang et al. 2005) and subcloned into a vector containing 5556 bp of *nsy-5* promoter (Chuang et al. 2007).

### *nsy-5p::unc-62a*

A 1721 bp of *unc-62a* isoform coding region was amplified from worm cDNA using PCR and subcloned into a vector containing 5556 bp of *nsy-5* promoter (Chuang et al. 2007).

### *nsy-5p::unc-62b*

A 1607 bp of *unc-62b* isoform coding region was amplified from worm cDNA using PCR and subcloned into a vector containing 5556 bp of *nsy-5* promoter (Chuang et al. 2007).

## Supplemental References

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