

**Table S1. Genes screened for ectopic membrane extensions (EMEs), muscle arm extension defects (MADs) and axon guidance defects (AGDs)**

Number	Sequence	CGC name	Genetic background*	Closest mammalian ortholog/description	EMEs†	MADs‡	AGDs§
Screen of known guidance genes							
1	F10E9.6	<i>mig-10</i>	RNAi	Grb7/Grb10 adaptor	-	-	-
2	C35C5.4	<i>mig-2</i>	RNAi	Rho-family GTPases, Rac sub-family	-	-	-
3	K12F2.2	<i>vab-8</i>	RNAi	Novel kinesin-like protein	-	-	-
4	C08C3.3	<i>mab-5</i>	RNAi	Hox-B7 transcription factor	-	-	-
5	B0350.2	<i>unc-44</i>	RNAi, e362	Ankyrin	-	-	+
6	Y37E11C.1	<i>unc-33</i>	RNAi, e204	Collapsin response mediator protein-2	-	-	-
7	C01G6.8	<i>cam-1</i>	RNAi, gm122, ks52	ROR-family RTK	-	-	-
8	F09B9.2	<i>unc-115</i>	RNAi, mn481, e2225	abLIM-1 actin binding protein	-	nd	nd
9	F40E10.4	<i>slt-1</i>	RNAi	Slit ligand	-	-	-
10	B0273.4	<i>unc-5</i>	RNAi, e53	Unc-5 netrin receptor	††	††	+++
11	C53D6.2	<i>unc-129</i>	RNAi	TGF-β ligand	-	-	-
12	C14F5.5	<i>sem-5</i>	RNAi, n1779, n2019	Grb2 adapter protein	+++	+	-
13	Y60A3A.1	<i>unc-51</i>	RNAi	ULK1 S/T-kinase	-	-	+
14	C01G10.11	<i>unc-76</i>	RNAi	Fasciculation and elongation protein zeta 2	-	-	-
15	F55C7.7	<i>unc-73</i>	RNAi, e936	Trio GEF	-	-	+
16	C52E12.2	<i>unc-104</i>	RNAi, rh43	Kinesin 1B	+**	-	-
17	R05D3.7	<i>unc-116</i>	RNAi	Kinesin heavy chain 5C	-	-	-
18	F41C6.1	<i>unc-6</i>	RNAi, ev400	Netrin-1 ligand	††	††	+++
19	T27E9.3	<i>cdk-5</i>	RNAi	Cell division kinase-5	-	-	-
20	ZC504.4	<i>mig-15</i>	RNAi	Nck-interacting kinase	-	-	-
21	ZK377.2	<i>sax-3</i>	RNAi, ky123	Robo receptor	-	-	++
22	M03A1.1	<i>vab-1</i>	RNAi, e2027	Eph receptor	-	-	-
23	F45E10.1	<i>unc-53</i>	RNAi	NAV1	-	-	-
24	F56A11.3	<i>efn-4</i>	RNAi	Ephrin	-	-	-
Receptor tyrosine kinase screen							
1	ZK1067.1	<i>let-23</i>	RNAi	EGFR	-	-	-
2	F58A3.2	<i>egl-15</i>	RNAi, n1477, n1783, n484	FGFR	+++	-	+
3	Y55D5A.5	<i>daf-2</i>	RNAi	Insulin receptor	-	-	-
4	F59F3.1	<i>ver-3</i>	RNAi	VEGFR	-	-	-
5	M03A1.1	<i>vab-1</i>	RNAi	Eph receptor	-	-	-
6	M176.6	<i>kin-15</i>	RNAi	c-Kit	-	-	-
7	F59F5.3	<i>F59F5.3</i>	RNAi		-	-	-
8	F54F7.5	<i>mes-1</i>	RNAi		-	-	-
9	T17A3.8	<i>ver-2</i>	RNAi	VEGFR	-	-	-
10	F08F1.1	<i>kin-9</i>	RNAi		-	-	-
11	F09A5.2	<i>F09A5.2</i>	RNAi	Met	-	-	-
12	R09D1.12	<i>R09D1.12</i>	RNAi	PDGFR	-	-	-
13	T14E8.1	<i>T14E8.1</i>	RNAi	Met	-	-	-
14	T22B11.3	<i>T22B11.3</i>	RNAi		-	-	-

\*We used RNAi to examine the consequences of gene disruption on muscle membrane extension. For some genes we also examined previously described loss of function alleles (*italicized*).

†,‡,§ We scored EMEs, MADs, and axon guidance defects (AGDs) as weak (+), moderate (++)+, strong (+++), no defect (-), not determined (nd) or with axon guidance defects that prevent us from accurately scoring muscle arm phenotypes (††).

\*\*A weak EME phenotype is observed in *unc-104* loss-of-function worms due to the accumulation of synaptic vesicles in the cell bodies of ventral cord motor neurons and the consequent projection of dorsal muscle arms to the source of muscle arm chemoattractant (Dixon and Roy, 2005; Hall and Hedgecock, 1991).

## References

Dixon, S. J. and Roy, P. J. (2005). Muscle arm development in *Caenorhabditis elegans*. *Development* **132**, 3079-3092.

Hall, D. H. and Hedgecock, E. M. (1991). Kinesin-related gene *unc-104* is required for axonal transport of synaptic vesicles in *C. elegans*. *Cell* **65**, 837-847.

**Table S2A. RNAi constructs**

Construct name	Description
<i>pPRSD52.2</i>	<i>T7::sem-5 (dsRNA)</i>
<i>pPRSD54.2</i>	<i>T7::unc-73 (dsRNA)</i>
<i>pPRSD57.2</i>	<i>T7::unc-115 (dsRNA)</i>
<i>pPRSD58.2</i>	<i>T7::unc-129 (dsRNA)</i>
<i>pPRZL55.2</i>	<i>T7::kin-8 (cam-1)(dsRNA)</i>
<i>pPRZL56.2</i>	<i>T7::unc-104 (dsRNA)</i>
<i>pPRZL64.2</i>	<i>T7::mig-15 (dsRNA)</i>
<i>pPRZL68.2</i>	<i>T7::mab-5 (dsRNA)</i>
<i>pPRZL69.2</i>	<i>T7::mig-2 (dsRNA)</i>
<i>pPRZL70.2</i>	<i>T7::mig-10 (dsRNA)</i>
<i>pPRZL71.2</i>	<i>T7::sax-3 (dsRNA)</i>
<i>pPRZL72.2</i>	<i>T7::slt-1 (dsRNA)</i>
<i>pPRZL73.2</i>	<i>T7::unc-116 (dsRNA)</i>
<i>pPRZL74.2</i>	<i>T7::unc-44 (dsRNA)</i>
<i>pPRZL75.2</i>	<i>T7::unc-53 (dsRNA)</i>
<i>pPRZL76.2</i>	<i>T7::unc-76 (dsRNA)</i>
<i>pPRZL78.2</i>	<i>T7::vab-8 (dsRNA)</i>
<i>pPRZL79.2</i>	<i>T7::mab-26(efn-4)(dsRNA)</i>
<i>pPRZL80.2</i>	<i>T7::vab-1 (dsRNA)</i>
<i>pPRZL81.2</i>	<i>T7::unc-5 (dsRNA)</i>
<i>pPRZL82.2</i>	<i>T7::unc-33 (dsRNA)</i>
<i>pPRZL83.2</i>	<i>T7::unc-51 (dsRNA)</i>
<i>pPRSD85.2</i>	<i>T7::unc-6 (dsRNA)</i>

The RNAi constructs were built in our laboratory using the same primer sequences used in the construction of Stuart Kim's microarrays (Reinke et al., 2000) and Julie Ahringer's RNAi library (Kamath et al., 2003). All sequences were cloned into *pPD129.36* (L4440) from A. Fire's 1999 vector kit (Timmons et al., 2001). Details of plasmid construction are available upon request. All RNAi constructs were transformed into HT115 bacteria.

**Table S2B. Other constructs used**

Construct name	Description*	Cells in which promoter drives expression	Notes/Reference
Commercial vectors and Fire lab vector kit reporters			
<i>pBS KS(+)</i>	<i>pBluescript</i>	-	Co-injection control plasmid
<i>pPD95.86</i>	<i>myo-3p</i>	BWMS, sex muscles, enteric muscles	From Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPD133.51</i>	<i>myo-3p::Mb::CFP</i>	BWMS, sex muscles, enteric muscles	From Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPD136.61</i>	<i>myo-3p::CFP</i>	BWMS, sex muscles, enteric muscles	From Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPD133.58</i>	<i>myo-3p::Mb::YFP</i>	BWMS, sex muscles, enteric muscles	From Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPD132.102</i>	<i>myo-2p::YFP</i>	Pharynx	From Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
Roy Lab Reporter Constructs <sup>†,‡</sup>			
<i>pPR1.1</i>	<i>unc-25p::DsRed</i>	GABAergic neurons (including 19 DD and DV inhibitory motorneurons)	Promoter identified from (McIntire et al., 1993).
<i>pPR2.1</i>	<i>unc-129nsp::DsRed2</i>	DA and DB excitatory motorneurons, hypodermal seam cells	The unc-129 promoter was a gift from Dr Joe Culotti (Colavita et al., 1998).
<i>pPR17</i>	<i>unc-129nsp::CFP</i>	DA and DB excitatory motorneurons, hypodermal seam cells	The unc-129 promoter was a gift from Dr Joe Culotti (Colavita et al., 1998).
<i>pPR32</i>	<i>ceh-23p::HcRed</i>	Canal-associated neurons (CANs) and AIY BAG ASI ADL AWC, etc.	The ceh-23 promoter was a gift from Dr Gian Garriga. (Forrester and Garriga, 1997).
<i>pPRRT34</i>	<i>B0285.6::Mb::YFP</i>	Excretory canal	Punctuate staining in excretory canal
<i>pPRZL44</i>	<i>hmr-1bp::DsRed2</i>	DD, DV and AS commissural motorneurons	Promoter identified from (Broadbent and Pettitt, 2002).
<i>pPRZL47</i>	<i>F25B3.3p::DsRed</i>	~all neurons, beginning very late in embryogenesis	Promoter suggested to us by Dave Pilgrim (Altun-Gultekin et al., 2001).
<i>pPRZL50</i>	<i>C26G2.1p::DsRed2</i>	Body wall muscles	Our observations; the C26G2.1 promoter was brought to our attention by Dr Sue Quaggan.
<i>pPRRF138.2</i>	<i>him-4p::MB::YFP</i>	Select BWMS that are furthest from the cords (distal BWMS)	Promoter brought to our attention by J. L. Bessereau (Vogel and Hedgecock, 2001).
<i>pPRRF150.2</i>	<i>dpy-7p::NLS::CFP::lacZ</i>	Hypodermis	Promoter identified from (Gilleard et al., 1997).
<i>pPRRF162</i>	<i>myo-3p::NLS::DsRed</i>	BWMS, sex muscles, enteric muscles	From Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPRRF186</i>	<i>let-756p::YFP</i>	BWMS, CANs, pharynx, G1 and G2 gl腺ular cells, intestine	Our observations
<i>pPRRF191</i>	<i>let-756p::DsRed</i>	BWMS, CANs, pharynx, G1 and G2 gl腺ular cells, intestine	Our observations
<i>pPRRF193</i>	<i>unc-129nsp::Mb::YFP</i>	DA and DB excitatory motorneurons, hypodermal seam cells	The unc-129 promoter was a gift from Dr Joe Culotti (Colavita et al., 1998).
<i>pPRRF195</i>	<i>sem-5p::YFP</i>	~Ubiquitous	Our observations
Cell specific rescue constructs <sup>†</sup>			
<i>pPRRF159</i>	<i>myo-3p::sem-5</i>	BWMS, sex muscles, enteric muscles	From Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPRRF161</i>	<i>F25B3.3p::sem-5</i>	~All neurons, beginning very late in embryogenesis	Promoter suggested to us by Dave Pilgrim (Altun-Gultekin et al., 2001).
<i>pPRRF187</i>	<i>let-756p::LET-756</i>	BWMS, CANs, pharynx, G1 and G2 gl腺ular cells, intestine	Our observations
<i>pPRRF194</i>	<i>let-756p::LET-756::YFP</i>	BWMS, CANs, pharynx, G1 and G2 gl腺ular cells, intestine	Our observations
<i>pPRRF154</i>	<i>dpy-7p::LET-756</i>	Hypodermis	Promoter identified from (Gilleard et al., 1997).
<i>pPRRF156</i>	<i>F25B3.3p::LET-756</i>	~All neurons, beginning very late in embryogenesis	Promoter suggested to us by Dave Pilgrim (Altun-Gultekin et al., 2001).
<i>pPRNR240</i>	<i>myo-3p::egl-15(5A)<sup>cDNA</sup></i>	BWMS, sex muscles, enteric muscles	<i>egl-15(5A)<sup>cDNA</sup></i> courtesy of O. Hobert (Bulow et al., 2004)

Cell-specific RNAi constructs<sup>†</sup>

<i>pPRSD102</i>	<i>myo3p</i>	BWMs, sex muscles, enteric muscles	Derivative of <i>pPD95.86</i> with additional cloning sites from the MCS of <i>pBS+KS</i> inserted 3' to <i>myo-3p</i>
<i>pPRSD113.1</i>	<i>myo3p::sem5(fRNA)</i>	BWMs, sex muscles, enteric muscles	Promoter from Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPRSD113.2</i>	<i>myo3p::sem5(rRNA)</i>	BWMs, sex muscles, enteric muscles	Promoter from Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPRSD114.1</i>	<i>myo-3p::unc-115(fRNA)</i>	BWMs, sex muscles, enteric muscles	Promoter from Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPRSD114.2</i>	<i>myo-3p::unc-115(rRNA)</i>	BWMs, sex muscles, enteric muscles	Promoter from Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPRSD115.1</i>	<i>myo-3p::gfp(fRNA)</i>	BWMs, sex muscles, enteric muscles	Promoter from Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)
<i>pPRSD115.2</i>	<i>myo-3p::gfp(rRNA)</i>	BWMs, sex muscles, enteric muscles	Promoter from Dr Andrew Fire's 1999 Vector Kit (Okkema et al., 1993)

\*The YFP, CFP, lacZ, and the membrane anchore (Mb) sequences downstream of the promoters were derived from Dr Andrew Fire's 1999 vector kit. DsRed2 and HcRed are from Clonetech. The membrane anchor sequence (Mb) was obtained from Dr A. Fire's 1999 vector kit and is from the *pat-3* membrane-localization domain (Gettner et al., 1995). *egl-15(5A)<sup>CDNA</sup>* sequence was obtained from Dr O. Hobert and is described elsewhere (Bulow et al., 2004). Other sequences were obtained by PCR from *C. elegans* N2 genomic DNA.

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**Table S3. Strains used**

Fig*	Table*	Strain	Genotype
Reporter strains			
1D-E	1, 3	RP1	<i>trls10[pPD133.58(myo-3p::Mb::YFP) (10 ng/ml); pPD132.102 (myo-2p::YFP) (5 ng/ml); pPR32(ceh-23::HcRed) (75 ng/μl); pPR1.1(unc-25::DsRed) (20 ng/μl); pPR17(unc-129nsp::CFP) (50ng/μl)]I</i> <sup>f</sup>
1C	-	RP168	<i>Ex[pPRZL50(C26G2.1p::DsRed2) (40 ng/μl); pPRRT34(B0285.6::Mb::YFP) (60 ng/μl)<sup>f</sup></i>
Not shown (pan-neuronal marker)	RP56		<i>trls24[pPD133.58(myo-3p::Mb::YFP) (10 ng/μl); pPRZL47 (F25B3.3p::DsRed2) (75 ng/μl); pPRZL45 (hmr-1bp::CFP) (50 ng/μl); pPRZL17 (unc-129nsp::CFP) (75 ng/μl)]</i>
-	2	RP247	<i>trls30[pPRRF138.2(him-4p::MB::YFP) (10 ng/μl); pPRZL44(hmr-1b::DsRed2) (80 ng/μl); pPR2.1(unc-129nsp::DsRed2) (40 ng/μl)] I</i>
3I	2	RP275	<i>Ex[[pPRRF138.2(him-4p::MB::YFP) (10 ng/μl); pPRZL44(hmr-1b::DsRed2) (10 ng/μl); pBS+KS (80 ng/μl)]</i>
S1	-	RP191	<i>Ex[pPRRF193(unc-129nsp::Mb::YFP) (20ng/μl); pPD133.51(myo-3p::MB::CFP) (25ng/μl); pKS(50ng/μl)]</i>
S2	-	RP224	<i>Ex[pPRRF195(sem-5p::YFP) (40ng/μl); pKS (60ng/μl)]</i>
S3	-	RP164	<i>Ex[pPRRF186 (let-756p::YFP) (50 ng/μl); pPRRF187(let-756p::LET-756) (50 ng/μl)]; let-756(s2613) unc-32(e189) III<sup>f</sup></i>
FGF pathway strains			
1C	-	RP35	<i>trls10 l; sem-5(n1779) X</i>
1C	-	RP50	<i>trls10 l; sem-5(n2019) X</i>
1F,G	-	RP170	<i>trls10 l; unc-5(e53) IV</i>
3A	1	RP34	<i>trls10 l; egl-15(n484) X</i>
3B	1	RP88	<i>trls10 l; egl-15(n1477) X</i>
-	1	RP86	<i>trls10 l; egl-15(n1783) X</i>
3C	1	RP222	<i>trls10 l; let-756(2617) III</i>
-	1	RP61	<i>trls10 l; egl-17(n1377) X</i>
-	1	RP348	<i>trls10 l; soc-1(n1789) V</i>
-	1	RP33	<i>trls10 l; sos-1(cs41) V</i>
-	1	RP37	<i>trls10 l; let-60 (n2021) IV</i>
3G,H	1	RP37	<i>trls10 l; let-60(n1046) IV</i>
3E,F, 6E-H	1	RP353	<i>trls10 l; clr-1(e1745) II</i>
sem-5 rescuing strains			
-	1	RP140	<i>Ex[pPD133.61(myo-3p::CFP) (50 ng/μl); pKS(50ng/μl)]; trls10 l; sem-5(n1779) X control line</i>
-	1	RP132	<i>Ex[pPRRF159(myo-3p::sem-5) (50 ng/μl); pPD136.61(myo-3p::CFP) (50 ng/μl)]; trls10 l; sem-5(n1779) X line#1</i>
-	1	RP133	<i>Ex[pPRRF159(myo-3p::sem-5) (50 ng/μl); pPD136.61(myo-3p::CFP) (50 ng/μl)]; trls10 l; sem-5(n1779) X line#2</i>
-	1	RP134	<i>Ex[pPRRF159(myo-3p::sem-5) (50 ng/μl); pPD136.61(myo-3p::CFP) (50 ng/μl)]; trls10 l; sem-5(n1779) X line#3</i>
-	1	RP142	<i>Ex[pPRZL47(F25B3.3p::DsRed) (25 ng/μl); pKS(50ng/μλ)]; trls10 l; sem-5(n1779) X control line</i>
-	1	RP137	<i>Ex[pPRRF161(F25B3.3p::sem-5) (20 ng/μl); pPRZL47(F25B3.3p::DsRed) (25 ng/μl)]; trls10 l; sem-5(n1779) X line#1</i>
-	1	RP138	<i>Ex[pPRRF161(F25B3.3p::sem-5) (20 ng/μl); pPRZL47(F25B3.3p::DsRed) (25 ng/μl)]; trls10 l; sem-5(n1779) X line#2</i>
-	1	RP139	<i>Ex[pPRRF161(F25B3.3p::sem-5) (20 ng/μl); pPRZL47(F25B3.3p::DsRed) (25 ng/μl)]; trls10 l; sem-5(n1779) X line#3</i>
egl-15 rescuing strains			
-	1	RP504	<i>Ex[pPD136.61(myo3p::cfp) (25 ng/μl)]; trls10 l; egl-15(n484) X control line</i>
-	1	RP505	<i>Ex[pPRNR240(myo3P::egl-15(5A)<sup>cDNA</sup>) (25 ng/μl); pPD136.61(myo3p::cfp) (25 ng/μl)]; trls10 l; egl-15(n484) .line #1</i>
-	1	RP506	<i>Ex[pPRNR240(myo3P::egl-15(5A)<sup>cDNA</sup>) (25 ng/μl); pPD136.61(myo3p::cfp) (25 ng/μl)]; trls10 l; egl-15(n484) .line #2</i>
-	1	RP507	<i>Ex[pPRNR240(myo3P::egl-15(5A)<sup>cDNA</sup>) (25 ng/μl); pPD136.61(myo3p::cfp) (25 ng/μl)]; trls10 l; egl-15(n484) .line #3</i>
-	1	RP508	<i>Ex[pPRNR240(myo3P::egl-15(5A)<sup>cDNA</sup>) (25 ng/μl); pPD136.61(myo3p::cfp) (25 ng/μl)]; trls10 l; egl-15(n484) .line #3</i>
-	1	RP523	<i>otEx1270(dpy-7::egl-15(5A)<sup>cDNA</sup>; ceh-22p::gfp (50 ng/μl)); trEx(pPD133.58(myo-3p::Mb::YFP) (10 ng/μl)); oxls14(sra-6::gfp); egl-15(n484) X</i>
-	1	RP494	<i>otEx1269(dpy-7::egl-15(5A)<sup>cDNA</sup>; ceh-22p::gfp (50 ng/μl)); trEx(pPD133.58(myo-3p::Mb::YFP) (10 ng/μl)); oxls14(sra-6::gfp); egl-15(n484) X</i>

## Muscle arm analysis strains

3J	2	RP435	<i>trls30</i> I; <i>clr-1(e1745)</i> II
3M	2	RP439	<i>clr-1(e1745)</i> ; <i>egl-15(n1783)</i> ; <i>Ex[pPRRF138.2(him-4p::MB::YFP) (10 ng/μl); pPRZL44(hmr-1b::DsRed2) (10 ng/μl)]</i>
6I	2	RP466	<i>trls30</i> I; <i>lam-1(rh219)</i> IV
6K	2	RP397	<i>trls30</i> I; <i>unc-52(e998)</i> IV

## Muscle-specific RNAi strains

2A-D	-	RP75	<i>trls10</i> I; <i>sid-1(qt9)</i> V
2A,B	-	RP178	<i>Ex[pPRSD115.1(myo-3p::gfp(fRNA)) (45ng/μl); pPRSD115.2 (myo-3p::gfp(rRNA)) (45ng/μl); pPRRF162 (myo-3p::NLS::DsRed) (10ng/μl)]; trls10 I; sid-1(qt9) V line#1</i>
2D	-	RP204	<i>Ex[pPRSD114.1(myo-3p::unc-115(fRNA)) (45ng/μl); pPRSD114.2 (myo-3p::unc-115(rRNA)) (45ng/μl); pPRRF162(myo-3p::NLS::DsRed) (10ng/μl)]; trls10 I; sid-1(qt9) V line#1</i>
2D	-	RP205	<i>Ex[pPRSD114.1(myo-3p::unc-115(fRNA)) (45ng/μl); pPRSD114.2 (myo-3p::unc-115(rRNA)) (45ng/μl); pPRRF162(myo-3p::NLS::DsRed) (10ng/μl)]; trls10 I; sid-1(qt9) V line#2</i>
2D	-	RP206	<i>Ex[pPRSD114.1(myo-3p::unc-115(fRNA)) (45ng/μl); pPRSD114.2 (myo-3p::unc-115(rRNA)) (45ng/μl); pPRRF162(myo-3p::NLS::DsRed) (10ng/μl)]; trls10 I; sid-1(qt9) V line#3</i>
2D	-	RP207	<i>Ex[pPRSD114.1(myo-3p::unc-115(fRNA)) (45ng/μl); pPRSD114.2 (myo-3p::unc-115(rRNA)) (45ng/μl); pPRRF162(myo-3p::NLS::DsRed) (10ng/μl)]; trls10 I; sid-1(qt9) V line#4</i>
2C,D	-	RP156	<i>Ex[pPRSD113.1(myo3p::sem5(fRNA)); pPRSD113.2 (myo3p::sem5(rRNA)); pPRRF162(myo-3p::NLS::DsRed)]; trls10 I; sid-1(qt9) V line #1</i>
2D	-	RP157	<i>Ex[pPRSD113.1(myo3p::sem5(fRNA)); pPRSD113.2 (myo3p::sem5(rRNA)); pPRRF162(myo-3p::NLS::DsRed)]; trls10 I; sid-1(qt9) V line #2</i>
2D	-	RP158	<i>Ex[pPRSD113.1(myo3p::sem5(fRNA)); pPRSD113.2 (myo3p::sem5(rRNA)); pPRRF162(myo-3p::NLS::DsRed)]; trls10 I; sid-1(qt9) V line #3</i>
2D	-	RP159	<i>Ex[pPRSD113.1(myo3p::sem5(fRNA)); pPRSD113.2 (myo3p::sem5(rRNA)); pPRRF162(myo-3p::NLS::DsRed)]; trls10 I; sid-1(qt9) V line #4</i>

## LET-756 analysis strains

5G	-	RP131	<i>trls10</i> I; <i>unc-32(e189)</i> III
5A-D	-	RP195	<i>Ex[pPRRF194(let-756p::LET-756::YFP) (40 ng/μl); pPRRF191 (let-756p::DsRed) (40 ng/μl)]; let-756(s2887) unc-32(e189) III line #1<sup>†</sup></i>
5E-G	-	RP175	<i>Ex[pPRRF186 (let-756p::YFP) (42 ng/μl); pPRRF187(let-756p::LET-756) (7.5 ng/μl); pKS (50 ng/μl)]; let-756(s2887) unc-32(e189) III line #1</i>
5G	-	RP176	<i>Ex[pPRRF186 (let-756p::YFP) (42 ng/μl); pPRRF187(let-756p::LET-756) (7.5 ng/μl); pKS (50 ng/μl)]; let-756(s2887) unc-32(e189) III line #2</i>
5G	-	RP169	<i>Ex[pPD138.58 (myo-3p::Mb::YFP) (8 ng/μl); pKS (92 ng/μl); pKS]; +/nT2 I; let-756(s2887) unc-32(e189)/nT2(GFP+) III line #1<sup>†,‡</sup></i>
5G	-	RP168	<i>Ex[pPD138.58 (myo-3p::Mb::YFP) (8 ng/μl); pKS (92 ng/μl); pKS]; +/nT2 I; let-756(s2887) unc-32(e189)/nT2(GFP+) III line #2<sup>†,‡</sup></i>
5G	-	RP239	<i>Ex[pPRRF156(F25B3.3p::LET-756) (20 ng/μl); pPRZL47(F25B3.3p::DsRed) (20 ng/μl); pPD133.58(myo-3p::Mb::YFP) (8 ng/μl); pKS(50 ng/μl)]; let-756(s2887) unc-32(e189) III line #1<sup>†</sup></i>
5G	-	RP240	<i>Ex[pPRRF156(F25B3.3p::LET-756) (20 ng/μl); pPRZL47(F25B3.3p::DsRed) (20 ng/μl); pPD133.58(myo-3p::Mb::YFP) (8 ng/μl); pKS(50 ng/μl)]; let-756(s2887) unc-32(e189) III line #2<sup>†</sup></i>
5G	-	RP241	<i>Ex[pPRRF154(dpy-7p::LET-756) (25 ng/μl); pPRRF150.2(dpy-7::NLS::CFP::lacZ) (25 ng/μl); pPD133.58(myo-3p::Mb::YFP) (8 ng/μl)]; let-756(s2887) unc-32(e189) III<sup>†</sup></i>

\*The strains are shown with respect to the relevant figures and/or tables.

<sup>†</sup>Derived by injecting NH3151+/nT2 I; let-756(s2887) unc-32(e189)/nT2(GFP+) III. NH3151 was a gift from Dr Michael Stern.

<sup>‡</sup>Animals that escaped lethality were scored for EMEs in Fig. 5G.