SUPPORTING INFORMATION

Multiple Mechanisms Inactivate the LIN-41 RNA-Binding Protein to Ensure A Robust Oocyte-to-Embryo Transition in *Caenorhabditis elegans*

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LEGENDS TO SUPPLEMENTAL FIGURES AND MOVIES

FIGURE S1. P-granule localization of GFP::LIN-41 and GFP::LIN-41[T83A] during the OET. (A–C) The puncta of GFP::LIN-41 (A) that become evident during oocyte meiotic maturation do not appear to be P granules (B, PGL-1::RFP), as these two punctate structures do not generally co-localize (C) in a recently matured oocyte (arrow in A). These confocal images from a time-lapse series show GFP::LIN-41 and PGL-1::RFP in a recently matured and ovulated *lin-41(tn1541[gfp::lin-41]*); *pgl-1(sam37[pgl-1::rfp])* oocyte or very early embryo that has just entered the spermatheca and is likely being fertilized. At this stage, there are many puncta of GFP::LIN-41 but relatively few P granules. GFP::LIN-41 (but not P granules) disappeared soon after this embryo exited from the spermatheca, presumably by the end of the first meiotic division (see Figure 1). (D–G) GFP::LIN-41[T83A] (D), which is not eliminated from early embryos, appears to associate with P granules (E, PGL-1::RFP) in the posterior blastomere of a 2-cell *lin-41(tn1541tn1645[gfp::lin-41[T83A]]); pgl-1(sam37[pgl-1::rfp])* embryo (G, DIC image), as shown in the merged image (F). Images in (D–G) were collected using an optical sectioning apotome attachment (Carl Zeiss) to enhance P granule visualization. (H–K) GFP (H, J) and DIC (I, K) images of embryos approximately 2 hours after the 1-cell stage with the following genotypes: *lin-41(tn1541tn1645)* (H-I) and *lin-41(tn1541); sel-10(ok1632)* (J, K). GFP::LIN-41[T83A] (H) and GFP::LIN-41 (J) appear to localize to perinuclear P granules in the P4 blastomere (arrowhead) of each embryo. 300 ms GFP exposures (D, H, and J); scale bars, 20 μm (A–C) and 10 μm (D–K).

FIGURE S2. GFP::LIN-41 in animals with deletions that remove amino-terminal amino acids and domains of LIN-41. (A–P) GFP (A, C, E, G, I, K , M , and O) and DIC (B, D, F, H, J, L, N, and P) composite images of animals with the indicated *lin-41* genotypes. The arrowheads in panels (E and F) and (O and P) indicate examples of the small, abnormal oocytes seen in certain homozygous mutant strains. 100 ms GFP exposures were used for all homozygous mutants (A, E, I, K, M, O); 250 ms (C) and 300 ms (G) GFP exposures were used for the heterozygotes. We also examined and imaged GFP::LIN-41 in *lin-41(tn1541tn1638)/lin-41(+)* (n=20) and *lin-41(tn1541tn1643)/lin-41(+)* (n=20) animals; in these strains, GFP::LIN-41 was found to persist in young embryos, similar to what is observed in (C) and (G). Scale bar, 50 μm.

FIGURE S3. GFP::LIN-41 in animals with deletions that remove B-box, BBC, Ig/filamin or NHL domains of LIN-41. (A–P) GFP (A, C, E, G, I, K, M, and O) and DIC (B, D, F, H, J, L, N, and P) composite images of animals with the indicated *lin-41* genotypes. The arrowheads in panels (A and B) and (C and D) indicate examples of the small, abnormal oocytes seen in certain homozygous mutant strains. The arrows in (A and C) indicate what appear to be oocytes that have been ovulated without undergoing meiotic maturation. Unlike the embryos that are in the uterus (dotted outlines), these oocytes lack a rigid eggshell and fail to degrade GFP::LIN-41 after ovulation likely because they have not activated CDK-1. The doubled arrowheads in (G) indicate a bright punctum of GFP::LIN-41 fluorescence. Two sets of images are included for the *lin-41(tn1541tn1618)* mutant to show the full range of phenotypes observed (G–J); most *lin-*

41(tn1541tn1618) mutants do not produce embryos and resemble (G–H). 100 ms GFP exposures were used for all of the GFP+ homozygous mutants (A, C, G, I); 300 ms GFP exposures were used for the GFP– *lin-41(tn1541tn1628)* homozygote (M) and all of the heterozygotes (E, K, O). We also examined GFP::LIN-41 in *lin-41(tn1541tn1562)/lin-41(+)* animals; GFP::LIN-41 did not persist in young embryos, similar to what is seen (E) and (K). Scale bar, 50 μm.

FIGURE S4. GFP::LIN-41 in animals with mutations in candidate phosphorylation sites. (A–L) GFP (A, C, E, G, I, and K) and DIC (B, D, F, H, J, and L) composite images of animals with the indicated *lin-41* genotypes and amino acid substitutions. We also examined GFP::LIN-41 in *lin-41(tn1541tn1645)/lin-41(+)* animals (n=20); GFP::LIN-41 was found to persist in young embryos, as in *lin-41(tn1541tn1645)* homozygotes (G). 100 ms GFP exposures; scale bar, 50 μm.

FIGURE S5. Defects in male tail tip retraction and the elimination of GFP::LIN-41 from embryos are genetically separable. (A, B) Male tails of *him-5(e1490)* (A) and *lin-41(tn1541); him-5(e1490)* (B) animals; the arrows indicate the unusually long tail tip of the *lin-41(tn1541)* mutant male. Obviously long tail tips were also observed in most *lin-41(tn1541); fog-2(oz40)* males (n=32/55). Hermaphrodites and mated females of each strain eliminate GFP::LIN-41 normally from embryos (unpublished results). (C–E) GFP::LIN-41 disappears normally from the embryos of *lin-41(tn1541tn1665)* and *lin-41(tn1541tn1668)* mutants (C and D, respectively), which have mutations in a candidate LIN-23/β-TrCP binding motif (E). This motif is near the N-terminus of LIN-41 (amino acids 32–38) and is altered in the *lin-41(bx37*gf*)* mutant, which has a defect in

male tail tip retraction (Del Rio-Albrechtsen *et al.* 2006). *lin-41(bx37*gf*)*, *lin-41(tn1541tn1665)* and *lin-41(tn1541tn1668)* all cause amino acid substitutions (red) in the candidate LIN-23/β-TrCP binding motif. 100 ms GFP exposures; scale bars, 20 μm (A and B) and 50 μm (C and D).

FIGURE S6. Western blots of LIN-41 proteins in *lin-41* and *sel-10* mutants. (A–C) GFP::LIN-41 protein in adult deletion mutants, as recognized by anti-LIN-41(203–420) (A, B) or anti-GFP (C) antibodies. A lower-quality purification of the previously described GP49 anti-LIN-41 antibody (Spike *et al*. 2014a) was used at a 1:4,000 dilution; it shows some cross-reacting bands on western blots (arrowheads), but is otherwise suitable for western blot analysis of LIN-41 protein. The proteins made by most GFP::LIN-41 deletion mutants are predicted to migrate between 121 and 154 kDa (File S1). We note, however, that GFP::LIN-41 (predicted molecular mass of 159 kDa) migrated somewhat slowly on these gels (>160 kDa in (B and C)). Taking this into consideration, appropriately-sized bands were detected for most GFP::LIN-41 deletion proteins (red line and asterisk). The *lin-41(tn1541tn1622)* and *lin-41(tn1541tn1643)* deletions remove many of the amino acids used to generate the anti-LIN-41 antibody (69 and 71%, respectively), and the respective LIN-41 proteins were not detectable in either mutant (A and unpublished results), but were detected with anti-GFP antibodies (C). The *lin-41(tn1541tn1562)* deletion also removes some of the amino acids used to generate the LIN-41 antibody (29%), but the LIN-41 protein made by this mutant was faintly detected (B). All lanes contained 40 (blots A and C and *lin-41(tn1541)* on blot B) or 50 (blot B deletion mutants) hand-picked day 1 adult hermaphrodites of the indicated genotypes. Animals assayed on blot (B) had passed through

the dauer stage (post-dauer, pd), which can suppress somatic phenotypes such as the ill-health and premature death that characterizes strong *lin-41(lf)* mutants (Spike *et al*. 2014a). (D) LIN-41 (red asterisk) can be detected in embryos purified from *sel-10(ok1632)* and *lin-41(tn1767[T83A])*, but not wild-type, parents using the highly purified R214 anti-LIN-41 antibody (Spike *et al*. 2014a; 1:20,000 dilution). Embryos were purified from young adults by bleaching and flotation on a sucrose cushion and appeared to be similar in age to, or slightly older than, the embryos shown in Figure S1, panels H–K. There was very little LIN-41 in these embryos relative to the amount of protein loaded in each lane (Ponceau S stain), although there is a relatively large amount of LIN-41 in gravid adult hermaphrodites (D; 2 adults loaded per lane, as indicated). Arrowheads indicate cross-reacting bands that were only evident in the embryo lysates.

FIGURE S7. The temporal expression patterns of OMA-2 fusion proteins. (A–L) mNeonGreen (A, C, E, G, I, and K) and DIC (B, D, F, H, J, and L) composite images of animals expressing different mNG::OMA-2 fusion proteins. Genotypes are as indicated. (A–D) mNG::OMA-2 (A, C) is brightly expressed in oocytes and young embryos (dashed outlines) until the pronuclear stage (arrowheads). This pattern of expression is not affected by *sel-10(ar41)* or the cis-linked marker *lon-3(e2175)* (C). (E and F) mNG::LIN-41(Deg-A)::OMA-2 (E) shows a similar pattern of expression, although levels may decline slightly in pronuclear-stage embryos (arrowheads) relative to earlier stages. (G–L) mNG::LIN-41(Deg-A, Deg-B)::OMA-2 (G, I, and K) is eliminated prior to the pronuclear stage (arrowheads) in otherwise wild-type (G, H) and *lon-3(e2175)* (I, J)

mutant animals, but persists until the pronuclear stage in *sel-10(ar41)* mutant animals (K, L). GFP exposures were similar, but not identical, as follows: 100 ms (A), 140 ms (C), 180 ms (E, G), 170 ms (I), 200 ms (K). Scale bar, 50 μm.

FIGURE S8. LIN-41 Deg-A and Deg-B appear to destabilize OMA-2. (A) Quantification of mNeonGreen intensity in pronuclear-stage embryos expressing mNG::OMA-2 (*oma-2(cp145); itIs37* strain) and mNG::Deg-A::OMA-2 (*oma-2(tn1760); itIs37* strain) suggests that LIN-41 Deg-A results in a significant decrease (36% decrease, $P<.0001$ is indicated by 4 asterisks) in the amount of mNG::OMA-2 protein at this stage of development. Statistical significance was evaluated using an unpaired *t*-test. (B) Examples of *oma-1(zu405te33); oma-2(tn1764)* 2-cell (left) and 4-cell (right) embryos. In the 2-cell embryo, the anterior and posterior blastomeres are similarly sized and a small, anucleate cell (asterisk) has formed, possibly as the result of an ectopic cleavage furrow. In the 4-cell embryo, the blastomeres are in abnormal positions relative to each other, and both the anterior and posterior cell division events appear to have been relatively symmetric. (C–E) Graphs (left) and mNeonGreen composite images (right) of *emb-30(tn377*ts*)* animals expressing mNG::OMA-2 (C), mNG::Deg-A::OMA-2 (D) and mNG::Deg-A, Deg-B::OMA-2 (E). These animals were upshifted to restrictive temperature (25^{o}C) for 5–7 hours, resulting in the accumulation of meiotic 1-cell embryos that are arrested in the metaphase-to-anaphase transition of the first meiotic division (Furuta *et al*. 2000). Graphs show the position of the most proximal mNeonGreen-positive embryo in multiple animals. These

results are consistent with the interpretation that the LIN-41 sequences destabilize OMA-2 in meiosis I embryos. 150 ms GFP exposures; scale bar, 50 μm.

FIGURE S9. GFP::LIN-41 in animals with impaired kinase or SCF^{LIN-23} E3 ligase activity. (A–N) GFP (A, C, E, G, I, K, and M) and DIC (B, D, F, H, J, L, and N) composite images of *lin-41(tn1541[gfp::lin-41])* animals with impaired kinase (A, B, and E–N) or SCF^{LIN-23} E3 ligase (C, D) activity. (A, B) *rrf-1(pk1417) lin-41(tn1541); cdk-1(RNAi)* day 2 adult (22°C); GFP::LIN-41 persists in 1-cell embryos in the uterus. (C, D) *rrf-1(pk1417) lin-41(tn1541); lin-23(RNAi)* day 2 adult (22°C). (E, F) *lin-41(tn1541); cdk-1(ne2257*ts*)* day 1 adult upshifted from permissive (15°C) to restrictive temperature (25 °C) at the L4 stage. (G, H) *lin-41(tn1541); cks-1(ne549ts)* day 1 adult upshifted as for (E, F). (I–L) *lin-41(tn1541); mpk-1(ga111*ts*)* day 1 adult upshifted as a young adult from permissive (20°C) to restrictive temperature (25 °C) for 6 hours. Examples of animals producing abnormally large oocytes (I, J) or embryos (dashed outlines) are shown. (M, N) *air-2(or207*ts*) lin-41(tn1541)*; *air-2(RNAi)* day 2 adults (n=38; 22°C); similar results were observed for *air-2(or207*ts*) lin-41(tn1541)* (n=14) and *lin-41(tn1541); air-2(RNAi)* (n=40) animals (at 25°C and 22°C, respectively). Other single kinase knock-down experiments that failed to affect the elimination of GFP::LIN-41 from *lin-41(tn1541)* embryos include *gsk-3(RNAi)* (n=32) and *cdk-2(RNAi)* (n=24). A caveat is that RNAi treatments often reduce but do not eliminate gene function. 100 ms GFP exposures, brightened slightly (and equivalently) to better visualize embryonic GFP::LIN-41; scale bar, 50 μm.

FIGURE S10. Alignment of potential CDK-1 phosphorylation sites in the Deg domains of LIN-41 with a SEL-10/FBW7/Cdc4 consensus sequence. Mismatches are underlined, while matches to important residues in the consensus sequence are in red. Serines and threonines in bold were changed to alanines in the *lin-41* alleles indicated on the left; the phenotypic results of each these substitutions are shown in Figure S3 and described in the main text. The last candidate CDK-1 phosphorylation site is very close to the end of Deg-B2. Amino acids in parentheses are not part of Deg-B2; they are removed by the *lin-41(tn1541tn1562)* deletion and were not included in *oma-2(tn1764)* as part of the LIN-41 Deg-B domain.

FIGURE S11. Persisting LIN-41 or LIN-41[T83A] does not strongly inhibit the expression of LIN-41 targets of translational repression in oocytes or young embryos. (A–H) Images of adult germ lines (solid outlines) and young embryos (dashed outlines) show that there are similar levels of SPN-4::GFP (A, B, K, and L), GFP::MEG-1 (C, D, G, and H) and mNG::ORC-1 (E, F) when ectopic LIN-41[T83A] (B, D, and F; *lin-41(tn1767)*), ectopic LIN-41 (H, L; *sel-10(ar41)*) or normal levels of LIN-41 (A, C, E, G, and K) are present in embryos. The worms depicted in (I–L) and (G, H) are also homozygous for *lon-3(e2175)*, which is linked to *sel-10(ar41)* in (J–L) and (H). Exposures were 200 ms for GFP::MEG-1 (C, D, G, and H) and 600 ms for mNG::ORC-1 (E, F) and either 80 ms (A, B) or 150 ms (K, L; images were also brightened slightly) for SPN-4::GFP. Scale bars, 50 μm (A–H) or 20 μM (I–L). (M) Quantification of the intensity of GFP::MEG-1 expression in *meg-1(tn1724)* and *lin-41(tn1767); meg-1(tn1724)* oocytes. No significant differences were seen (n.s.). (N) Quantification of the intensity of GFP::MEG-1 expression in *lon-3(e2175); meg-*

1(tn1724) and *lon-3(e2175) sel-10(ar41); meg-1(tn1724)* oocytes. GFP::MEG-1 levels may be slightly lower in the –1 oocytes of *sel-10(ar41)* mutants ($P<.01$), although this change is not visually apparent (G, H). Statistical significance was evaluated using an unpaired *t*-test.

FIGURE S12. GLD-1 persists at elevated levels in the oocytes of *sel-10(ok1632)* mutants. (A–C) Composite images of GLD-1::GFP in *ozIs2[gld-1::gfp]* (A) hermaphrodites, *sel-10(ok1632); ozIs2[gld-1::gfp]* hermaphrodites (B), and *fog-2(oz40); ozIs2[gld-1::gfp]* females (C). GLD-1::GFP levels remain elevated in the proximal oocytes (e.g.: –5 oocytes, arrowheads) of *sel-10(ok1632)* mutant animals (B) relative to adult hermaphrodites (A) and females (C). 35 ms GFP exposures; scale bar, 50 μm. (D–F) anti-GLD-1 staining patterns in the dissected germlines of wild-type and *sel-10(ok1632)* mutant hermaphrodites (D and E, respectively) and a *fog-2(oz40)* female (F). GLD-1 levels remain elevated in the proximal oocytes of *sel-10(ok1632)* animals (E) relative to the oocytes of hermaphrodites (D) and females (F). A nearby intestine (int.), which is autofluorescent, can also be seen in (E). 15 ms exposures; scale bar, 50 μm. (G) Female oocytes exhibit a pattern of autofluorescent background that is not seen in hermaphrodites. Compare the region indicated with arrowheads in the hermaphrodite animal on the left to two similarly marked regions in the female animal on the right. *fog-2(oz40)* females and wild type hermaphrodites were imaged as for GFP, but at low power (20X objective) to place two adults in the same image. Female oocyte autofluorescence was also evident at higher power (63X objective) and on multiple microscopes; it is not obvious in images taken at lower exposures (e.g.: at the 35 ms exposure used in (C)) but is obvious in higher exposure images of *fog-2(oz40)*

females (≥250 ms, 63X objective). 2000 ms GFP exposure; scale bar, 50 μm. (H) Quantification of the intensity of GFP::MEX-3 in the proximal oocytes of *lon-3(e2175); mex-3(tn1753)* and *lon-3(e2175) sel-10(ar41); mex-3(tn1753)* hermaphrodites at 20°C. There may be a minor increase in GFP::MEX-3 expression in the –1 and –2 oocytes of *sel-10(ar41)* mutants ($P<.05$). This is contrary to expectation, since MEX-3 is a target of GLD-1 translational repression and GLD-1 levels are elevated in *sel-10(ar41)* mutant oocytes. Statistical significance was evaluated using an unpaired *t*-test. (I, J) Specific antibodies (Grant and Hirsh 1999) were used to detect RME-2 expression in dissected gonads. RME-2 is expressed at similar levels in wild-type (I) and *sel-10(ok1632)* (J) oocytes. In animals of both genotypes, RME-2 becomes detectable as oocyte nuclei transition from pachytene to diplotene. 20 ms exposures; scale bar, 50 μm.

Figure S13. GLD-1::GFP persists at elevated levels in *mpk-1(ga111*ts*)* mutant oocytes at restrictive temperature. (A–D) Composite GLD-1::GFP (A, C) and DIC (B, D) images of *ozIs5[gld-1::gfp]* (A, B) and *ozIs5[gld-1::gfp]*; *mpk-1(ga111*ts*)* (C, D) hermaphrodites upshifted as young adults from permissive (20°C) to restrictive temperature (25 °C) for 6–7 hours. GLD-1::GFP was consistently brighter in the loop, or bend, region of the gonad in upshifted *mpk-1(ga111*ts*)* mutants (n=14) relative to controls (n=12). 30 ms exposures, brightened slightly; scale bar, 50 μm.

Movie S1. Rapid elimination of GFP::LIN-41 during meiosis I. The green channel detects GFP::LIN-41 and the red channel shows mCHERRY::HISTONE to detect chromatin (the strain imaged is DG3906). The video shows meiotic maturation and ovulation imaged in two worms. Two ovulation events in a gonad arm were imaged in worm #1 and three in worm #2. Note the rapid degradation of GFP::LIN-41, which commences upon the onset of meiotic maturation. During the degradation process, some GFP::LIN-41 localizes to punctate structures. The identity of these structures is unknown; however, they are not P granules (Figure S1).

Movie S2. GFP::LIN-41[T83A] fails to be rapidly eliminated upon the onset of meiotic maturation. The green channel detects GFP::LIN-41[T83A] and the red channel shows mCHERRY::HISTONE to detect chromatin (the strain imaged is DG4225). The video shows two meiotic maturation and ovulation events in a gonad arm. Note the persistence of GFP::LIN-41[T83A] in cleavage-stage embryos.

Movie S3. Deg-A and Deg-B are sufficient in combination to promote the elimination of mNG::OMA-2 during meiosis. The green channel detects mNG::Deg-A,B::OMA-2 and the red channel shows mCHERRY::HISTONE to detect chromatin (the strain imaged is DG4346).

File S1. Details of genome editing for the generation of the *lin-41* alleles described in this study.

Table S1 *C. elegans* strains used for this study

Strain	Genotype
N2	Wild type, Bristol isolate
BS553	*fog-2(oz40)* V
BS1075	*gld-1(q485)* I*; ozIs2[gld-1::gfp]* II
BS5411	*ozIs5[gld-1::gfp]* I*; mpk-1(ga111*ts*)* III
CB4123	*lon-3(e2175)* V
DR466	*him-5(e1490)* V
GS922	*lon-3(e2175) sel-10(ar41)* V
GS6156	*sel-10(ok1632)* V
JH2060	*unc-119(ed3) III; axIs1498[pie-1p::gfp::gld-1::gld-1 3'UTR, unc-119(+)]*
JK3025	*gld-1(q485)* I*/ hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)
LP393	*oma-2(cp145)* V
TX174	*oma-1(zu405te33)* IV
DG2507	*oma-1(zu405te33)* IV*/nT1[qIs51]* (IV;V)*; oma-2(te51)* V*/nT1[qIs51]* (IV;V)
DG3906	*lin-41(tn1541)* I*; itIs37[pie-1p::mCherry::H2B::pie-1 3'UTR, unc-119(+)]* IV
DG3913	*lin-41(tn1541)* I
DG3784	*lin-41(tn1487*ts*)* I
DG3904	*lin-41(tn1541)* I*; fog-2(oz40)*V
DG3942	*rrf-1(pk1417) lin-41(tn1541)* I
DG3948	*lin-41(tn1541tn1548)/hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)
DG4019	*lin-41(tn1541tn1562)/unc-13(e1091) lin-11(n566)* I
DG4042	*lin-41(tn1541tn1571)/unc-13(e1091) lin-11(n566)* I
DG4043	*lin-41(tn1541tn1618)/unc-13(e1091) lin-11(n566)* I
DG4044	*lin-41(tn1541tn1620)/unc-13(e1091) lin-11(n566)* I
DG4045	*lin-41(tn1541tn1622)/unc-13(e1091) lin-11(n566)* I
DG4046	*lin-41(tn1541tn1628)* I*/hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)
DG4048	*lin-41(tn1541tn1628)/unc-13(e1091) lin-11(n566)* I

DG4071 *lin-41(tn1541tn1641)* I

DG4081 *lin-41(tn1541)* I*; cks-1(ne549*ts*)* IV

DG4082 *lin-41(tn1541)* I*; cdk-1(ne2257*ts*)* III

DG4086 *oma-1(zu405te33) IV; oma-2(cp145)* V

DG4094 *lin-41(tn1541tn1638)/unc-13(e1091) lin-11(n566)* I

DG4095 *lin-41(tn1541tn1643)/unc-13(e1091) lin-11(n566)* I

DG4096 *lin-41(tn1541tn1645)/unc-13(e1091) lin-11(n566)* I

DG4100 *lin-41(tn1541tn1661)* I

DG4109 *lin-41(tn1541tn1663)* I

DG4111 *lin-41(tn1541 tn1665)* I

DG4114 *lin-41(tn1541 tn1668)* I

DG4120 *lin-41(tn1541)* I*; lon-3(e2175) sel-10(ar41)* V

DG4142 *lin-41(tn1541tn1684)* I

DG4147 *lin-41(tn1541)* I*; him-5(e1490)* V

DG4158 *spn-4(tn1699)* V

DG4177 *lin-41(tn1541tn1635)* I

DG4178 *lin-41(tn1541tn1638)* I

DG4179 *lin-41(tn1541tn1645)* I

DG4200 *lin-41(tn1541tn1571)* I*/hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)

DG4201 *lin-41(tn1541tn1618)* I*/hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)

DG4202 *lin-41(tn1541tn1620)* I*/hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)

DG4203 *lin-41(tn1541tn1622)* I*/hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)

DG4204 *lin-41(tn1541tn1643)* I*/hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)

DG4213 *meg-1(tn1724)* X

DG4224 *lin-41(tn1541tn1638)* I; *itIs37[pie-1p::mCherry::H2B::pie-1 3'UTR*, *unc-119(+)]* IV

DG4225 *lin-41(tn1541tn1645)* I; *itIs37[pie-1p::mCherry::H2B::pie-1 3'UTR*, *unc-119(+)]* <u>*IV*</u>

DG4228 *orc-1(tn1732)* III

DG4292 *lin-41(tn1541tn1630)* I

DG4304 *lin-41(tn1541tn1562)* I/*hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)

DG4310 *lin-41(tn1541)* I; *sel-10(ok1632)* V

DG4330 *lin-41(tn1541)* I; *pgl-1(sam37)* IV

DG4331 *lin-41(tn1541tn1645)* I*; pgl-1(sam37)* IV

DG4339 *itIs37[pie-1p::mCherry::H2B::pie-1 3'UTR, unc-119(+)]*

DG4346 *oma-2(tn1764)* V; *itIs37[pie-1p::mCherry::H2B::pie-1 3'UTR, unc-119(+)]* IV

DG4347 *oma-2(tn1764)* V

DG4348 *oma-2(tn1764) lon-3(e2175) sel-10(ar41)* V

DG4350 *lin-41(tn1767)* I*; spn-4(tn1699)* V

DG4351 *lin-41(tn1767)* I*; meg-1(tn1724)* X

DG4352 *lin-41(tn1767)* I*; orc-1(tn1732)* III

DG4360 *emb-30(tn377*ts*)* III*; oma-2(cp145)* V

DG4361 *emb-30(tn377*ts*)* III*; oma-2(tn1760)* V

DG4362 *emb-30(tn377*ts*)* III*; oma-2(tn1764)* V

DG4369 *oma-1(zu405te33)* IV/*nT1* (IV;V); *oma-2(tn1764)* V/*nT1[qIs51]* (IV;V)

DG4373 *oma-2(tn1760)* V

DG4375 *oma-2(cp145)* V; *itIs37[pie-1p::mCherry::H2B::pie-1 3'UTR, unc-119(+)]* IV

DG4376 *oma-2(tn1760)* V; *itIs37[pie-1p::mCherry::H2B::pie-1 3'UTR, unc-119(+)]* IV

DG4378 *oma-1(zu405te33)* IV*; oma-2(tn1760)* V

DG4379 *oma-1(zu405te33)* IV/*nT1* (IV;V)*; oma-2(tn1760)* V/*nT1[qIs51]* (IV;V)

DG4380 *oma-1(zu405te33)* IV*; oma-2(tn1764) lon-3(e2175) sel-10(ar41)* V

DG4381 *oma-1(zu405te33)* IV/*nT1* (IV;V)*; oma-2(tn1764) lon-3(e2175) sel-10(ar41)* V/*nT1[qIs51]* (IV;V)

DG4389 *lin-41(tn1541)* I*; lon-3(e2175)* V

DG4397 *lin-41(tn1767)* I

DG4402 *lin-41(tn1541tn1775)* I

DG4425 *gld-1(q485)* I; *ozIs2[gld-1::gfp]* II; *sel-10(ok1632)* V

DG4444 *spn-4(tn1699) lon-3(e2175) sel-10(ar41)* V

DG4445	*lon-3(e2175) sel-10(ar41)* V; *meg-1(tn1724)* X
DG4448	*lin-41(tn1541)* I*; sel-10(n1077)* V
DG4453	*air-2(or207*ts*) lin-41(tn1541)* I
DG4457	*lon-3(e2175)* V*; meg-1(tn1724)* X
DG4459	*spn-4(tn1699) lon-3(e2175)* V
DG4427	*ozIs2[gld-1::gfp]* II*; sel-10(ok1632)* V
DG4428	*ozIs2[gld-1::gfp]* II
DG4431	*mex-3(tn1753)* I*; lon-3(e2175) sel-10(ar41)* V
DG4432	*mex-3(tn1753)* I*; lon-3(e2175)* V
DG4433	*ozIs2[gld-1::gfp]* II*; lon-3(e2175)* V
DG4436	*ozIs2[gld-1::gfp]* II*; lon-3(e2175) sel-10(ar41)* V
DG4438	*lon-3(e2175)* V; *pwIs116[rme-2p::rme-2::gfp::rme-2 3'UTR, unc-119(+)]*
DG4439	*lon-3(e2175) sel-10(ar41)* V; *pwIs116[rme-2p::rme-2::gfp::rme-2 3'UTR, unc-119(+)]*
DG4455	*ozIs5[gld-1::gfp]* I
DG4456	*lin-41(tn1487ts)* I/*hT2[bli-4(e937) let-?(q782) qIs48]* (I;III)*; sel-10(ok1632)* V
DG4465	*fog-3(q470)* I/*hT2[bli-4(e937) let-?(q782) qIs48]* (I;III); *ozIs2[gld-1::gfp]* II; *lon-3(e2175) sel-10(ar41)* V
DG4471	*fog-3(q470)* I/ *hT2[bli-4(e937) let-?(q782) qIs48]* (I;III); *ozIs2[gld-1::gfp]* II; *lon-3(e2175)* V
DG4475	*fog-3(q470)* I/*hT2[bli-4(e937) let-?(q782) qIs48]* (I;III); *ozIs2[gld-1::gfp]* II
DG4481	*ozIs2[gld-1::gfp]* II; *fog-2(oz40)* V
DG4484	*lin-41(tn1541)* I; *mpk-1(ga111*ts*)* III
DG4490	*oma-2(tn1764) lon-3(e2175)* V
DG4492	*oma-2(cp145) lon-3(e2175) sel-10(ar41)* V
DG4513	*lin-41(tn1541)* I*; cul-2(or209*ts*)* III
DG4519	*oma-2(cp145) lon-3(e2175)* V