

Supplemental Data

S1

Regulation of MBK-2/Dyrk Kinase by Dynamic Cortical Anchoring during the Oocyte-to-Zygote Transition

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Supplemental References

- S1. McCarter, J., Bartlett, B., Dang, T., and Schedl, T. (1999). On the control of oocyte meiotic maturation and ovulation in *Caenorhabditis elegans*. *Dev. Biol.* 205, 111–128.
- S2. Pellettieri, J., Reinke, V., Kim, S.K., and Seydoux, G. (2003). Coordinate activation of maternal protein degradation during the egg-to-embryo transition in *C. elegans*. *Dev. Cell* 5, 451–462.
- S3. Stitzel, M.L., Pellettieri, J., and Seydoux, G. (2006). The *C. elegans* DYRK kinase MBK-2 marks oocyte proteins for degradation in response to meiotic maturation. *Curr. Biol.* 16, 56–62.
- S4. Golden, A., Sadler, P.L., Wallenfang, M.R., Schumacher, J.M., Hamill, D.R., Bates, G., Bowerman, B., Seydoux, G., and Shakes, D.C. (2000). Metaphase to anaphase (*mat*) transition-defective mutants in *Caenorhabditis elegans*. *J. Cell Biol.* 151, 1469–1482.

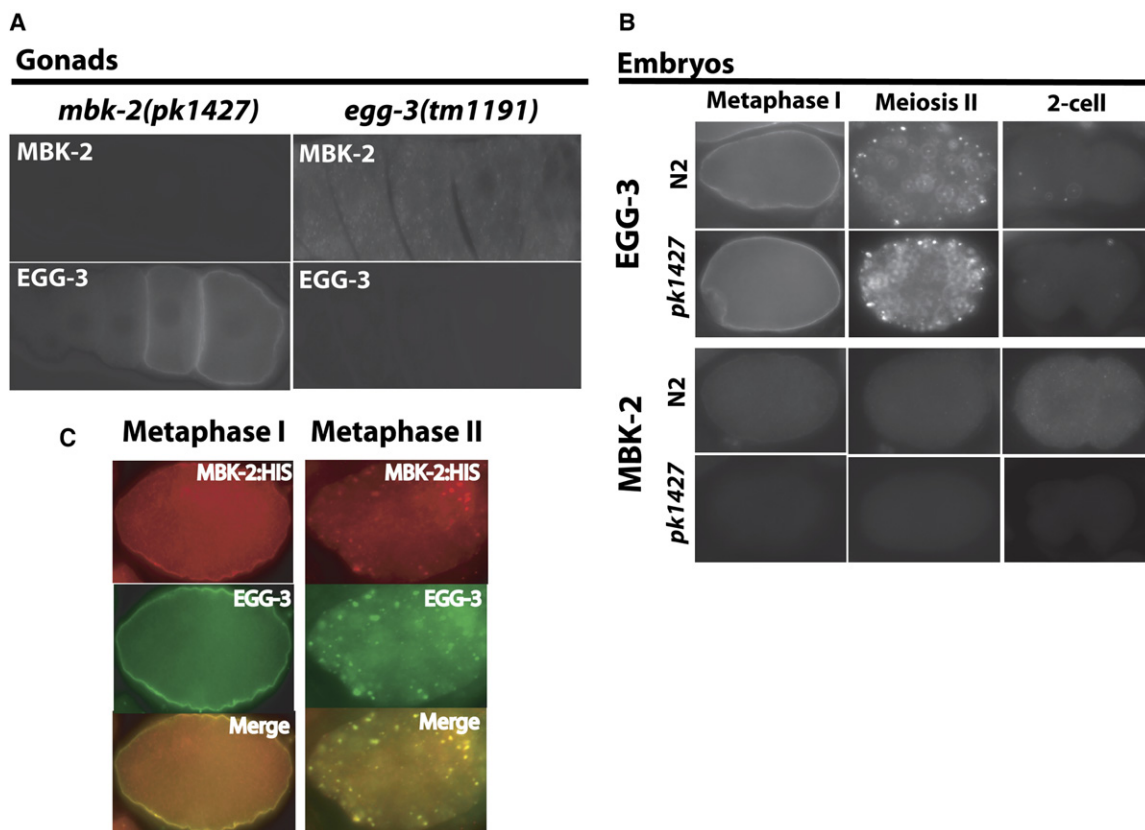


Figure S1. Immunostaining of Endogenous EGG-3 and MBK-2

(A) Fixed gonads from *mbk-2(pk1427)* or *egg-3(tm1191)* mutants immunostained with α -MBK-2 or α -EGG-3.

(B) Fixed wild-type or *mbk-2(pk1427)* embryos immunostained with α -EGG-3 or α -MBK-2 as indicated. α -MBK-2 recognizes MBK-2 only weakly in embryos compared to oocytes (Figure 2).

(C) Fixed embryos expressing MBK-2:6xHis costained with α -His and α -EGG-3 as indicated.

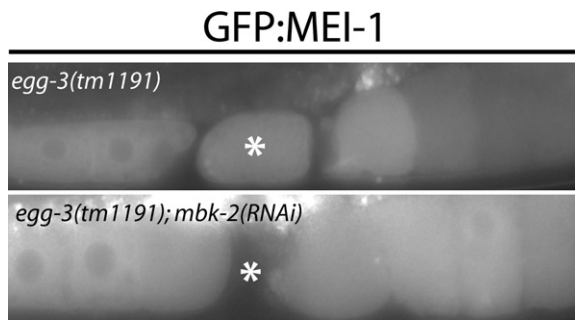


Figure S2. GFP:MEI-1 in *egg-3* Mutants

Live hermaphrodites of indicated genotype expressing GFP:MEI-1. Asterisk denotes spermatheca. Note that MEI-1 degradation in the *egg-3* mutant is dependent on MBK-2, as shown by the fact that GFP:MEI-1 degradation is delayed in *mbk-2(RNAi);egg-3 (tm1191)*.

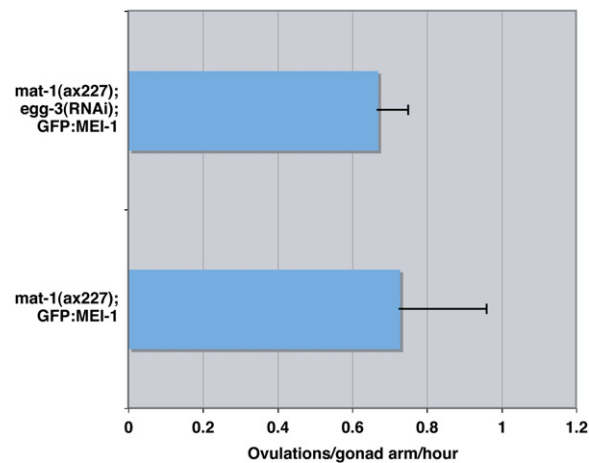


Figure S3. Ovulation Rates in *mat-1(ax227)* and *mat-1(ax227);egg-3(RNAi)* Hermaphrodites

Ovulation rates were determined as in [S1]. Data represent the average rate of ovulation \pm SEM detected in two (*mat-1*) or four [*mat-1;egg-3(RNAi)*] independent measures.

Table S1. Strains Used in This Study

Name	Description	Genotype	Reference
JH 1576	pie-1prom:GFP:MBK-2	<i>unc-119(ed3);axls1140[pJP1.02]</i>	[S2]
JH1714	pie-1prom:GFP:MBK-2(K196R)	<i>unc-119(ed3);axls1227[pJP1.08]</i>	[S3]
JH 1580	<i>mbk-2(null)</i>	<i>unc-24(e1172) mbk-2(pk1427)/nT1</i>	[S2]
JH2386	pie-1prom:GFP:EGG-3	<i>unc-119(ed3);axls1800[pKC2.09]</i>	This study
JH2052	<i>egg-3</i> (deletion) (with Pharynx GFP balancer)	<i>egg-3 (tm1191)/mIn1[dpy-10(e128) mls14]</i>	This study (<i>tm1191</i> was a gift from S. Mitani and National Bioresource Project of Japan)
JH2385	<i>egg-3</i> (deletion)(with Pharynx GFP balancer);pie-1prom:GFP:MEI-1	<i>egg-3 (tm1191)/mIn1[dpy-10(e128) mls14];orls1</i>	This study
JH2387	<i>mbk-2(null)</i> ;pie-1prom:GFP:EGG-3	<i>unc-24(e1172) mbk-2(pk1427)/nT1;unc-119(ed3);axls1800[pKC2.09]</i>	This study
JH1360	<i>mat-1(ts)</i>	<i>mat-1 (ax227)</i>	[S4]
JH2289	<i>mat-1(ts)</i> ;pie-1prom:GFP:MEI-1	<i>mat-1 (ax227);unc-119(ed3);orls1</i>	This study
JH1977	<i>mat-1(ts)</i> ;pie-1prom:GFP:MBK-2	<i>mat-1(ax227);unc-119(ed3);axls1140[pJP1.02]</i>	[S3]
JH1766	pie-1prom:GFP:POS-1	<i>unc-119(ed3);axls1266 [pMS4.03]</i>	This study
JH2285	<i>mat-1(ts)</i> ;pie-1prom:GFP:POS-1	<i>mat-1 (ax227);unc-119(ed3);axls1266 [pMS4.03]</i>	This study
JH2399	pie-1prom:3XFLAG:MBK-2:6XHis	<i>unc-119(ed3);axls1813[pKC2.25]</i>	This study
JH2391	pie-1prom:GFP:EGG-3(D-1)	<i>unc-119(ed3);axls1817[pKC2.18]</i>	This study
JH2392	pie-1prom:GFP:EGG-3(D-2)	<i>unc-119(ed3);axls1818[pKC2.19]</i>	This study
JH2393	pie-1prom:GFP:EGG-3(D-3)	<i>unc-119(ed3);axls1819[pKC2.20]</i>	This study
JH2394	pie-1prom:GFP:EGG-3(D-4)	<i>unc-119(ed3);axls1820[pKC2.21]</i>	This study
JH2395	pie-1prom:GFP:EGG-3(D-5)	<i>unc-119(ed3);axls1821[pKC2.22]</i>	This study
JH2396	pie-1prom:GFP:EGG-3(D-6)	<i>unc-119(ed3);axls1822[pKC2.23]</i>	This study
JH2397	pie-1prom:GFP:EGG-3(D1/D2)	<i>unc-119(ed3);axls1823[pKC2.31]</i>	This study