File S1

Supplemental Experimental Procedures

RNA interference

Feeding RNAi experiments were performed at 20ºC as described in [2]. The entire coding sequence of *gei-17* cloned into the pL4440 feeding vector was used for RNAi experiments. HT115 bacteria carrying the empty pL4440 vector were used as the control RNAi.

cDNA was produced from single-worm RNA extracts using the One step RT-PCR kit (USB). The effectiveness of RNAi was examined by assaying the expression of the transcript being depleted in four individual animals subjected to RNAi by feeding. Expression of the *gpd-1(T09F3.3)* transcript was used as a control.

Quantitative analysis for RAD-51 Foci

Quantitative analysis of RAD-51 foci was performed as in [3]. Five to nine germlines were scored for each genotype. The average number of nuclei scored per zone for a given genotype was as follows, ± standard deviation: zone 1, n=151.3 ± 32.3, zone 2, n=148.0 ± 30.0 and zone 5=132.0 ± 37.3. Statistical comparisons between genotypes were performed using the two-tailed Mann-Whitney test, 95% confidence interval (C.I.).

Immunoprecipitation of mass spectrometry (LC-MS)

ZTF-8::GFP::FLAG transgenic *rj22* and control worms expressing only GFP under the *unc-17* promoter (*vsIS48[Punc-17::gfp]*) were lysed and prepared as described in the *In vivo* SUMOylation assay section. After incubating worm lysates with anti-GFP agarose beads (MBL International) over 12 hours at 4°C, binding proteins were immunoprecipitated and eluted as described in manufacturer's protocol and submitted for LC-MS/MS analysis at the Taplin MS Facility, Harvard Medical School (Dr. S. Gygi).

Supplemental References

1. Vidal, M., Brachmann, R.K., Fattaey, A., Harlow, E., and Boeke, J.D. (1996). Reverse two-hybrid and one-hybrid systems to detect dissociation of protein-protein and DNA-protein interactions. Proceedings of the National Academy of Sciences of the United States of America *93*, 10315-10320.
2. Timmons, L., Court, D.L., and Fire, A. (2001). Ingestion of bacterially expressed dsRNAs can produce specific and potent genetic interference in *Caenorhabditis elegans*. Gene *263*, 103-112.
3. Colaiacovo, M.P., MacQueen, A.J., Martinez-Perez, E., McDonald, K., Adamo, A., La Volpe, A., and Villeneuve, A.M. (2003). Synaptonemal complex assembly in *C. elegans* is dispensable for loading strand-exchange proteins but critical for proper completion of recombination. Dev Cell *5*, 463-474.