

Table S1. Plasmids

Plasmid name	Relevant yeast genotype	Source
pACTII	2μ <i>LEU2</i> <i>GAD</i>	(Durfee et al., 1993)
pBTM116	2μ <i>lexA</i> <i>TRP1</i>	(Hollenberg et al., 1995)
pSTT91	2μ <i>lexA</i> <i>TRP1</i> <i>ADE2</i>	(Woltering et al., 2000)
pRS306	<i>URA3</i>	(Sikorski and Hieter, 1989)
pRS316	<i>CEN ARS1 URA3</i>	(Sikorski and Hieter, 1989)
pRS316-DMC1	<i>DMC1 CEN ARS1 URA3</i>	(Niu et al., 2005)
pLW1	2μ <i>URA3</i> <i>P_{MEK1}-GST-MEK1</i>	(Wan et al., 2004)
pTS3	2μ <i>TRP1</i> <i>ADE2</i> <i>P_{ADH1}-lexA-MEK1</i>	This work
pTS3-R51A	2μ <i>TRP1</i> <i>ADE2</i> <i>P_{ADH1}-lexA-mek1-R51A</i>	This work

pXC13	$2\mu LEU2 P_{ADH1}\text{-}GAD\text{-}ndt80^{284\text{-}627} = GAD\text{-}ndt80$	This work
pXC13-KR>AA	$2\mu LEU2 P_{ADH1}\text{-}GAD\text{-}ndt80\text{-}K374A R375A$	This work
pXC13-KR>DD	$2\mu LEU2 P_{ADH1}\text{-}GAD\text{-}ndt80\text{-}K374D R375D$	This work
pXC14	$2\mu LEU2 P_{ADH1}\text{-}GAD\text{-}ndt80\text{-}\Delta bc$	This work
pXC18	$2\mu LEU2 P_{ADH1}\text{-}GAD\text{-}ndt80^{346\text{-}402} = GAD\text{-}bc$	This work
pNH318	$2\mu LEU2 P_{ADH1}\text{-}GAD\text{-}ndt80\text{-}\Delta RPSKR$	This work
pDW14	$2\mu LEU2 P_{MEK1}$	(de los Santos and Hollingsworth, 1999)
pLB1	$2\mu LEU2 P_{MEK1}\text{-}GAD\text{-}bc$	This work
pHL8	$URA3 NDT80$	(Lo et al., 2012)
pHL8-R177A	$URA3 ndt80\text{-}R177A$	(Lo et al., 2012)
pHL8-KR>AA	$URA3 NDT80\text{-}K374A R375A$	This work
pHL8-KR>DD	$URA3 ndt80\text{-}K374D R375D$	This work
pHL8-\Delta bc	$URA3 NDT80\text{-}\Delta bc = ndt80^{\Delta 346\text{-}402}$	This work

pNH317	<i>URA3 NDT80-ΔRPSKR</i>	This work
pHL8-2A	<i>URA3 ndt80-2A = ndt80-T399A T420A</i>	This work
pHL8-4AMS	<i>URA3 ndt80-4AMS = ndt80-S386A S391A T399A T420A</i>	This work
pHL8-5AMS	<i>URA3 ndt80-5AMS = ndt80-S343A S386A S391A T399A T420A</i>	This work
pHL8-7AMS	<i>URA3 ndt80-7AMS = ndt80-S327A S329A S343A S386A S391A T399A T420A</i>	This work
pHL8-9AMS	<i>URA3 ndt80-9AMS = ndt80-S205A T211A S327A S329A S343A S386A S391A T399A T420A</i>	This work
pHL8-10AMS	<i>URA3 ndt80-10AMS = ndt80-S24A S205A T211A S327A S329A S343A S386A S391A T399A T420A</i>	This work
pHL8-10DMS	<i>URA3 ndt80-10DMS = ndt80-S24D S205D T211D S327D S329D S343D S386D S391D T399D T420D</i>	This work
pNH400	<i>URA3 ndt80-6A = ndt80-S24A S205A T211A S327A S329A S343A</i>	This work
pNH405	<i>URA3 ndt80-8A = ndt80-S24A S205A T211A S327A S329A S343A T399A T420A</i>	This work
pNH401	<i>URA3 ndt80-6D = ndt80-S24D S205D T211D S327D S329D S343D</i>	This work
pHL8-6N	<i>URA3 ndt80-6N = ndt80-S24N S205N T211N S327N S329N S343N</i>	This work
pHL8-S24D	<i>URA3 ndt80-S24D</i>	This work
pHL8-S343D	<i>URA3 ndt80-S343D</i>	This work
pHL8-S205D T211D	<i>URA3 ndt80-S205D T211D</i>	This work
pHL8-S327D S329D	<i>URA3 ndt80-S327D S329D</i>	This work

pBG4	<i>URA3 P_{GAL1}-NDT80</i>	This work
pXC11	<i>URA3 P_{GAL1}-ndt80-6A</i>	This work
pXC12	<i>URA3 P_{GAL1}-ndt80-6D</i>	This work
pNH407-WT	<i>6HIS-ndt80¹⁻³⁴⁰</i>	This work
pNH407-5A	<i>6HIS-ndt80¹⁻³⁴⁰-5A = S24A S205A T211A S327A S329A</i>	This work
pNH407-5D	<i>6HIS-ndt80¹⁻³⁴⁰-5D = S24D S205D T211D S327D S329D</i>	This work
pEP105	<i>P_{GPD}-GAL4.ER TRP1</i>	(Prugar et al., 2017)
pFA6a-HIS3MX6-PGAL1-GFP	<i>HIS3MX6-P_{GAL1}-GFP</i>	(Longtine et al., 1998)
pJR2	<i>URA3 mek1-as</i>	(Callender et al., 2016)
pET-28a	<i>6His kan^R</i>	Ed Luk (Novagen)

- Callender, T.L., Laureau, R., Wan, L., Chen, X., Sandhu, R., Laljee, S., Zhou, S., Suhandynata, R.T., Prugar, E., Gaines, W.A., et al. (2016). Mek1 down regulates Rad51 activity during yeast meiosis by phosphorylation of Hed1. PLoS Genet 12, e1006226.
- de los Santos, T., and Hollingsworth, N.M. (1999). Red1p, a *MEK1*-dependent phosphoprotein that physically interacts with Hop1p during meiosis in yeast. J Biol Chem 274, 1783-1790.
- Durfee, T., Becherer, K., Chen, P.L., Yeh, S.H., Yang, Y., Kilburn, A.E., Lee, W.H., and Elledge, S.J. (1993). The retinoblastoma protein associates with the protein phosphatase type 1 catalytic subunit. Genes Dev 7, 555-569.
- Hollenberg, S.M., Sternglanz, R., Cheng, P.F., and Weintraub, H. (1995). Identification of a new family of tissue-specific basic helix-loop-helix proteins with a two-hybrid system. Mol Cell Biol 15, 3813-3822.
- Lo, H.-C., Kunz, R.C., Marullo, A., Gygi, S.P., and Hollingsworth, N.M. (2012). Cdc7-Dbf4 is a gene-specific regulator of meiotic transcription in yeast. Mol Cell Bio 32, 541-557.
- Longtine, M.S., McKenzie, A., 3rd, Demarini, D.J., Shah, N.G., Wach, A., Brachat, A., Philippsen, P., and Pringle, J.R. (1998). Additional modules for versatile and economical PCR-based gene deletion and modification in *Saccharomyces cerevisiae*. Yeast 14, 953-961.
- Niu, H., Wan, L., Baumgartner, B., Schaefer, D., Loidl, J., and Hollingsworth, N.M. (2005). Partner choice during meiosis is regulated by Hop1-promoted dimerization of Mek1. Mol Biol Cell 16, 5804-5818.
- Prugar, E., Burnett, C., Chen, X., and Hollingsworth, N.M. (2017). Coordination of Double Strand Break Repair and Meiotic Progression in Yeast by a Mek1-Ndt80 Negative Feedback Loop. Genetics 206, 497-512.
- Sikorski, R.S., and Hieter, P. (1989). A system of shuttle vectors and yeast host strains designed for efficient manipulation of DNA in *Saccharomyces cerevisiae*. Genetics 122, 19-27.
- Wan, L., de los Santos, T., Zhang, C., Shokat, K., and Hollingsworth, N.M. (2004). Mek1 kinase activity functions downstream of *RED1* in the regulation of meiotic double strand break repair in budding yeast. Mol Biol Cell 15, 11-23.
- Woltering, D., Baumgartner, B., Bagchi, S., Larkin, B., Loidl, J., de los Santos, T., and Hollingsworth, N.M. (2000). Meiotic segregation, synapsis, and recombination checkpoint functions require physical interaction between the chromosomal proteins Red1p and Hop1p. Mol Cell Biol 20, 6646-6658.