

Supplementary Materials

Supplemental Table: Strains used in this study

All strains are isogenic to W1588-4C (a *RAD5* derivative of W303: *MATa ade2-1 can1-100 his3-11,15 leu2-3,112 trp1-1 ura3-1*). One strain is listed for each genotype, and two were used in experiments. Strain usage in each figure panel is indicated with “S”, standing for “Supplementary”.

Strain	Genotype	Used in Figures
X3544-4D	<i>MATa HF-Smt3::LEU2</i>	1b
T1834-1	<i>MATa Mcm2-3HA::HIS3 HF-Smt3::LEU2</i>	1b, 1c, 2b, S1a, S1b
T1839-1	<i>MATa P_{ADHI}-3HA-Mcm3::NatNT2 HF-Smt3::LEU2</i>	1b, 1c, 2b, S1a, S1b
T1840-1	<i>MATa Mcm4-3HA::HIS3 HF-Smt3::LEU2</i>	1b, 1c, 2b, S1a, S1b, S7b
T1841-1	<i>MATa Mcm5-3HA::HIS3 HF-Smt3::LEU2</i>	1b, 1c, 2b, S1a, S1b
T1797-1	<i>MATa Mcm6-3HA::HIS3 HF-Smt3::LEU2</i>	1b, 1c, 2a, 2b, 3a, 3c, S1a, S1b, S2b
T1842-1	<i>MATa Mcm7-3HA::HIS3 HF-Smt3::LEU2</i>	1b, 1c, 2b, S1a, S1b
X6525-1c	<i>MATa Mcm2-3HA::HIS3</i>	1b, S1b
X6223-2c	<i>P_{ADHI}-3HA-Mcm3::NatNT2</i>	1b, S7f
X6526-3d	<i>MATa Mcm4-3HA::HIS3</i>	1b, S1b
X6527-3a	<i>Mcm5-3HA::HIS3</i>	1b
X6528-7a	<i>MATa Mcm6-3HA::HIS3</i>	1b, S1b
X6529-10d	<i>Mcm7-3HA::HIS3</i>	1b, S7f
X6629-6c	<i>MATa cdc6Δ::Gal-Cdc6::TRP1 bar1Δ::HphMX3 Mcm2-3HA::HIS3 HF-Smt3::LEU2</i>	1d
X6660-7b	<i>MATa cdc6Δ::Gal-Cdc6::TRP1 bar1Δ::HphMX3 P_{ADHI}-3HA-Mcm3::NatNT2 HF-Smt3::LEU2</i>	1d
X6628-8c	<i>MATa cdc6Δ::Gal-Cdc6::TRP1 bar1Δ::HphMX3 Mcm4-3HA::HIS3 HF-Smt3::LEU2</i>	1d
X6659-14c	<i>MATa cdc6Δ::Gal-Cdc6::TRP1 bar1Δ::HphMX3 Mcm5-Strep::HIS3 HF-Smt3::LEU2</i>	1d
X6630-8b	<i>MATa cdc6Δ::Gal-Cdc6::TRP1 bar1Δ::HphMX3 Mcm6-3HA::HIS3 HF-Smt3::LEU2</i>	1d, S2a
X6631-15d	<i>MATa cdc6Δ::Gal-Cdc6::TRP1 bar1Δ::HphMX3 Mcm7-3HA::HIS3 HF-Smt3::LEU2</i>	1d
X6525-2d	<i>MATa cdc7-4 Mcm2-3HA::HIS3 HF-Smt3::LEU2</i>	3a
X6623-3b	<i>MATa cdc7-4 P_{ADHI}-3HA-Mcm3::NatNT2 HF-Smt3::LEU2</i>	3a
X6526-5,6-6b	<i>MATa cdc7-4 Mcm4-3HA::HIS3 HF-Smt3::LEU2</i>	3a, S2c
X6527-1c	<i>MATa cdc7-4 Mcm5-3HA::HIS3 HF-Smt3::LEU2</i>	3a
X6528-7b	<i>MATa cdc7-4 Mcm6-3HA::HIS3 HF-Smt3::LEU2</i>	3a
X6646-2c	<i>MATa P_{sf2}-3V5-IAA7::KAN GPD1-TIR::LEU2</i>	3b

	<i>Mcm2-3HA::HIS3 HF-Smt3::LEU2</i>	
X6622-9a	<i>MATa Psf2-3V5-IAA7::KAN GPD1-TIR::LEU2</i> <i>P_{ADHI}-3HA-Mcm3::NatNT2 HF-Smt3::LEU2</i>	3b
X6647-2,3-6b	<i>MATa Psf2-3V5-IAA7::KAN GPD1-TIR::LEU2 Mcm4-3HA::HIS3 HF-Smt3::LEU2</i>	3b, S2d, S2e
X6648-11a	<i>MATa Psf2-3V5-IAA7::KAN GPD1-TIR::LEU2 Mcm5-Strep::HIS3 HF-Smt3::LEU2</i>	3b
T1874-1	<i>MATa Psf2-3V5-IAA7::KAN GPD1-TIR::LEU2 Mcm6-3HA::HIS3 HF-Smt3::LEU2</i>	3b, S2f
X6576-15d	<i>MATa GPD1-TIR::LEU2 Mcm6-3HA::HIS3 HF-Smt3::LEU2</i>	3b, S2d, S2f
X6696-1-16d	<i>MATa dbf4-4A::HIS3 sld3-A-10his-13myc::KAN Mcm6-3HA::HIS3 HF-Smt3::LEU2</i>	3c
T1462-1a	<i>MATa Mcm6-3V5-SuOn::KAN</i>	4a, 4b, 7a, S4a, S4d
T1464-7d	<i>MATa Mcm6-3V5-ctrl::KAN</i>	4a, 4b, 7a, S4a
X6661-1d	<i>MATa cdc6Δ::Gal-Cdc6::TRP1 bar1Δ::HphMX3 Mcm6-3V5-SuOn::KAN HF-Smt3::LEU2</i>	4c
X6662-13b	<i>MATa cdc6Δ::Gal-Cdc6::TRP1 bar1Δ::HphMX3 Mcm6-3V5-ctrl::KAN HF-Smt3::LEU2</i>	4c
T1462-2	<i>Mcm6-3V5-SuOn::KAN/+</i>	4d
T1464-2	<i>Mcm6-3V5-ctrl::KAN/+</i>	4d
X6714	<i>Mcm6-3V5-SuOn::KAN/+ ubc9-10::NAT/+</i>	4e
X6898-i1	<i>cdc7-4/cdc7-4 Mcm6-3V5-SuOn::KAN/Mcm6-IAA17-3flag::HIS3 ADH1-TIR-9myc::URA3/+</i>	5a, 5b, 5c, 5d, 5e, 6a
X6899-i3	<i>cdc7-4/cdc7-4 Mcm6-3V5-ctrl::KAN/Mcm6-IAA17-3flag::HIS3 ADH1-TIR-9myc::URA3/+</i>	5a, 5b, 5c, 5d, 5e, 6a
X6636-9c	<i>MATa Mcm6-3V5-ctrl::KAN Mcm4-3HA::HIS3</i>	6b, S3e, S6d
X6637-4d	<i>MATa Mcm6-3V5-SuOn::KAN Mcm4-3HA::HIS3</i>	6b, S3e, S4d
X6619-12d	<i>MATa Mcm6-3V5-SuOn ::KAN Mcm4-3HA::HIS3 rif1Δ::URA3</i>	6b
X6617	<i>Mcm6-3V5-SuOn::KAN/+ rif1Δ::URA3/+</i>	7a
X3186-10b	<i>MATa rif1Δ::URA3</i>	7a
X6617_2-3,4-2c	<i>rif1Δ::URA3 Mcm6-3V5-SuOn::KAN</i>	7a, S4d
X6618-8b	<i>rif1Δ::URA3 Mcm6-3V5-ctrl::KAN</i>	7a
X6779-1-5b	<i>MATa Glc7-13myc::HIS3 Rif1-Flag::KAN</i>	7b, S6e, S6f
X6780-2-15a	<i>MATa Glc7-13myc::HIS3 Rif1-Flag::KAN Mcm6-3V5-ctrl::KAN</i>	7b, S6e
X6779-1-7b	<i>MATa Glc7-13myc::HIS3 Rif1-Flag::KAN Mcm6-3V5-SuOn::KAN</i>	7b, S6e, S6f
X7028-1a	<i>Mcm2-3HA::HIS3 8his-Smt3::TRP1</i>	S1a
X7029-4c	<i>MATa P_{ADHI}-3HA-Mcm3::NatNT2 8his-Smt3::TRP1</i>	S1a
X7030-9d	<i>Mcm4-3HA::HIS3 8his-Smt3::TRP1</i>	S1a
X7031-2c	<i>Mcm5-3HA::HIS3 8his-Smt3::TRP1</i>	S1a
X7032-2c	<i>Mcm6-3HA::HIS3 8his-Smt3::TRP1</i>	S1a
X7033-1c	<i>Mcm7-3HA::HIS3 8his-Smt3::TRP1</i>	S1a
X7069-1a	<i>MATa P_{ADHI}-3HA-Mcm3::NatNT2</i>	S1b
X6527-5a	<i>MATa Mcm5-3HA::HIS3</i>	S1b
X6529-12d	<i>MATa Mcm7-3HA::HIS3</i>	S1b
X5752-9c	<i>Mcm6-3V5-SuOn::KAN</i>	S3b, S3c
X5752-9a	<i>Mcm6-3V5-SuOn::KAN HF-Smt3::LEU2</i>	S3b, S3c
X6334-1c	<i>MATa Mcm2-3HA::HIS3 HF-Smt3::LEU2 Mcm6-3V5-ctrl::KAN</i>	S3d

X6327-3b	<i>MATa Mcm2-3HA::HIS3 HF-Smt3::LEU2 Mcm6-3V5-SuOn::KAN</i>	<i>S3d</i>
X6969-17a	<i>MATa P_{ADHI}-3HA-Mcm3::NatNT2 HF-Smt3::LEU2 Mcm6-3V5-ctrl::KAN</i>	<i>S3d</i>
X6968-8b	<i>MATa P_{ADHI}-3HA-Mcm3::NatNT2 HF-Smt3::LEU2 Mcm6-3V5-SuOn::KAN</i>	<i>S3d</i>
X6970-2a	<i>MATa Mcm4-3HA::HIS3 HF-Smt3::LEU2 Mcm6-3V5-ctrl::KAN</i>	<i>S3d</i>
X6329-19a	<i>MATa Mcm4-3HA::HIS3 HF-Smt3::LEU2 Mcm6-3V5-SuOn::KAN</i>	<i>S3d</i>
X6974-1a	<i>MATa Mcm7-3HA::HIS3 HF-Smt3::LEU2 Mcm6-3V5-ctrl::KAN</i>	<i>S3d</i>
X6973-5c	<i>MATa Mcm7-3HA::HIS3 HF-Smt3::LEU2 Mcm6-3V5-SuOn::KAN</i>	<i>S3d</i>
X6258-6a	<i>Pol12-TAP::HIS3 HF-Smt3::LEU2</i>	<i>S3f</i>
X6258-10b	<i>Pol12-TAP::HIS3 Mcm6-3V5-SuOn::KAN HF-Smt3::LEU2</i>	<i>S3f</i>
X6259-10b	<i>Pol32-TAP::HIS3 HF-Smt3::LEU2</i>	<i>S3f</i>
X6259-12d	<i>Pol32-TAP::HIS3 Mcm6-3V5-SuOn::KAN HF-Smt3::LEU2</i>	<i>S3f</i>
X6260-10b	<i>Rfc1-TAP::HIS3 HF-Smt3::LEU2</i>	<i>S3f</i>
X6260-10a	<i>Rfc1-TAP::HIS3 Mcm6-3V5-SuOn::KAN HF-Smt3::LEU2</i>	<i>S3f</i>
X6262-10b	<i>Rfc3-TAP::HIS3 HF-Smt3::LEU2</i>	<i>S3f</i>
X6262-7d	<i>Rfc3-TAP::HIS3 Mcm6-3V5-SuOn::KAN HF-Smt3::LEU2</i>	<i>S3f</i>
X6263-1c	<i>Pri1-TAP::HIS3 HF-Smt3::LEU2</i>	<i>S3f</i>
X6263-1d	<i>Pri1-TAP::HIS3 Mcm6-3V5-SuOn::KAN HF-Smt3::LEU2</i>	<i>S3f</i>
X6999	<i>mcm4Δ2-174/+ Mcm6-3V5-ctrl::KAN/+</i>	<i>S4b</i>
G957	<i>MATa mcm5-bob1</i>	<i>S4c, S4d</i>
X6100-1b	<i>MATa cdc7-4</i>	<i>S4c</i>
X6977-4a	<i>cdc7-4 rif1Δ::URA3</i>	<i>S4c</i>
X6815-4b	<i>cdc7-4 mcm5-bob1</i>	<i>S4c</i>
X6978-15b	<i>mcm5-bob1 Mcm6-3V5-SuOn::KAN</i>	<i>S4d</i>
X6528-18b	<i>MATa Mcm6-3HA::HIS3</i>	<i>S6a, S6b, S6c</i>
T1679-4-17b	<i>MATa Mcm6-SUMO-3HA::KAN</i>	<i>S6a, S6b, S6c</i>
X6966-2d	<i>MATa Mcm4-3HA::HIS3 Mcm6-3V5-ctrl::KAN rif1Δ::URA3</i>	<i>S6d</i>
X6967-3d	<i>MATa Glc7-13myc::HIS3 rif1Δ::URA3</i>	<i>S6f</i>
X6804-12d	<i>MATa Glc7-13myc::HIS3 rif1Δ::URA3 Mcm6-3V5-SuOn::KAN</i>	<i>S6f</i>
X6975-10b	<i>MATa Mcm2-3HA::HIS3 HF-Smt3::LEU2</i>	<i>S7a</i>
X6975-2b	<i>MATa rif1Δ::URA3 Mcm2-3HA::HIS3 HF-Smt3::LEU2</i>	<i>S7a</i>
X6976-1a	<i>MATa Mcm6-3HA::HIS3 HF-Smt3::LEU2</i>	<i>S7a</i>
X6976-8b	<i>MATa rif1Δ::URA3 Mcm6-3HA::HIS3 HF-Smt3::LEU2</i>	<i>S7a</i>
X6811-18d	<i>MATa Ulp2-3V5-IAA7::KAN GPD1-TIR::LEU2 Mcm4-3HA::HIS3 8his-Smt3::TRP1</i>	<i>S7c, S7e</i>
X6812-2b	<i>MATa Ulp2-3V5-IAA7::KAN GPD1-TIR::LEU2 Mcm6-3HA::HIS3 8his-Smt3::TRP1</i>	<i>S7c, S7e</i>
X6814-2b	<i>MATa Ulp1-3V5-IAA7::KAN GPD1-TIR::LEU2 Mcm6-3HA::HIS3 8his-Smt3::TRP1</i>	<i>S7d</i>