Supplemental Figure Legends

Supplemental Figure 1: Msc1 associates with components of the Swr1 complex, but does not co-precipitate with either Ino80 or Mst1. A: Silver stained gel of tandem affinity purification of Msc1. NW1562 and NW2630, with HA-tagged and TAP-tagged (respectively) Msc1 at the endogenous *msc1* locus, were processed to purify the Msc1-containing protein complex. Swr1 complex proteins that co-purified with Msc1 are noted. B: Cells of strain NW 2653 with integrated tagged alleles of Msc1 (HA) and Ino80 (Flag) were grown to mid-log phase, lysed and subjected to immunoprecipitation with antibody to either HA or Flag. The precipitates were separated by SDS-PAGE, transferred to nitrocellulose and incubated with antibodies to either HA (upper panel) or Flag (lower panel). C: As for B, but with NW2654, a strain with integrated HA-tagged Msc1 and Flag-tagged Mst1.

Supplemental figure 2: Msc1 protein level is reduced in cells lacking *swr1*. A: This panel is repeated from Figure 1C for clarity. B: Ponceau S stained filter used for the Western blot shown in panel A, representing serial dilutions of whole cell extracts from the indicated strains, NW1562 (*msc1-HA*) and NW2633 (*msc1-HA swr1Δ*). C: The mRNA level for Msc1 is the same in cells with (SP6) and without (NW2631) Swr1. RNA prepared from cell lysates was subject to reverse transcriptase followed by PCR to detect the mRNA for the *swr1*, *msc1* and *fbp1* genes. D: Quantitation of the image shown in C.

Supplemental figure 3: The absence of Swr1 or Msc1 compromises survival of kinetochore function mutants, but not the growth of *cnp1-1*. A: The absence of Msc1 or Swr1 lowers the restrictive temperature of cells with a temperature-sensitive allele of *mis12*. The indicated strains (SP6, NW1580, NW1617, NW2634, and NW2635 from top to bottom) were grown at 25°C to mid-log phase and serial dilutions prepared for spotting on YEA plates and incubation at the indicated temperatures. B: The absence of Msc1 or Swr1 compromises viability of cells with a temperature-sensitive allele of *mis6*. The indicated strains (SP6, NW1702, NW1703, NW2636, and NW2637 from top to bottom) were prepared as in A. C. The indicated strains SP6 (wild-type), NW1525 (*cnp1-1*), NW1736 (*msc1Δ cnp1-1*, and NW2641 (*msc1Δ cnp1-1*) were grown to mid-log phase, serially diluted and spotted on YEA plates at the indicated temperatures.

Supplemental figure 4: Comparison of protein level of plasmid-expressed Msc1:HA relative to single copy, chromosomally-expressed Msc1:HA. Lysates were prepared from a wild-type strain with no HA tag on the *msc1* gene (no tag, lane 1), a strain with an integrated HA-tagged wild-type *msc1* gene (genomic *msc1:HA*, lane 2) and an *msc1* deletion strain with the indicated *msc1* alleles expressed from the pSP1 vector (lanes 3 to 8). The strains shown in lanes 1 and 2 carried an empty pSP1 vector so that all strains could be grown in the same type of minimal media. Lysates were separated by SDS-PAGE, transferred to nitrocellulose, stained with Ponceau S to confirm equal protein loading (image on the left), then processed for immunoblotting with anti-HA antibody (right).

Supplementary Figure 1
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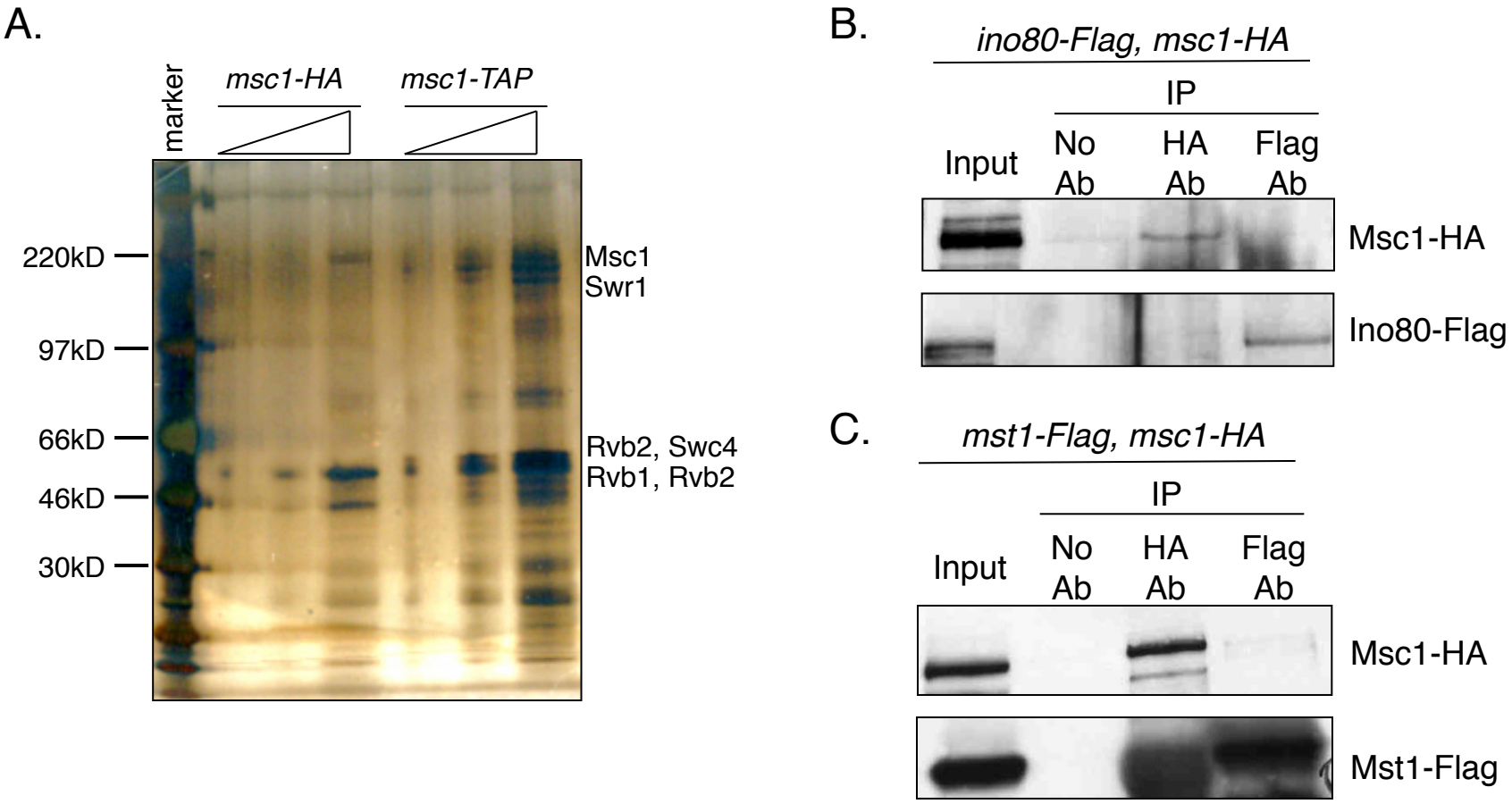

Supplementary Figure 2
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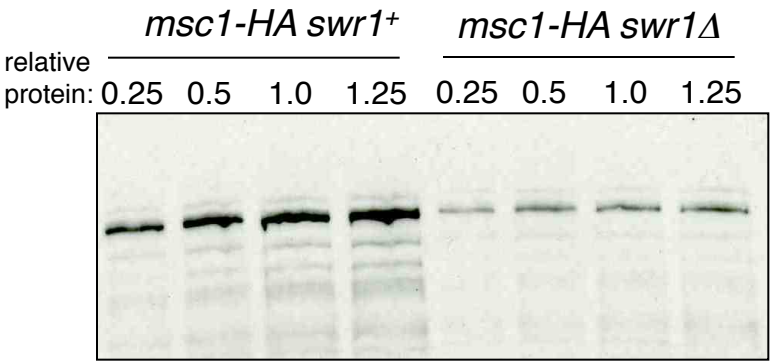
A.



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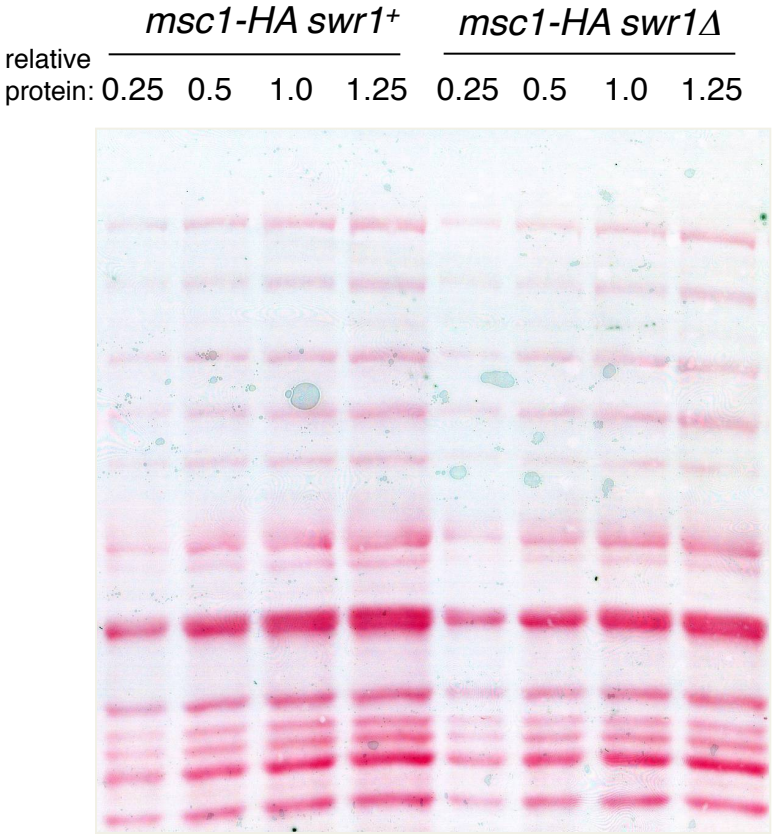
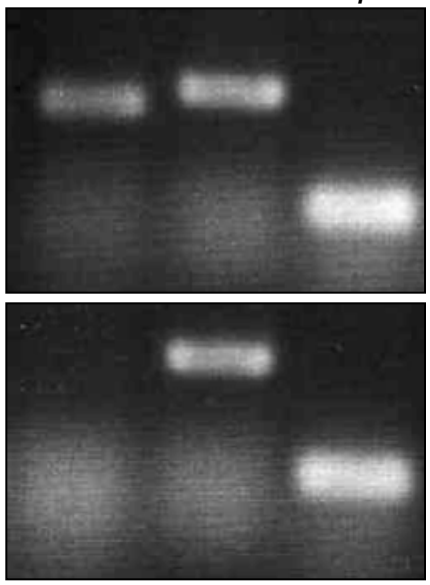


C.



D.

	swr1 / *fbp1*	*msc1* / *fbp1*
WT	0.37	0.60
swr1Δ	0.0037	0.56

Supplementary Figure 3
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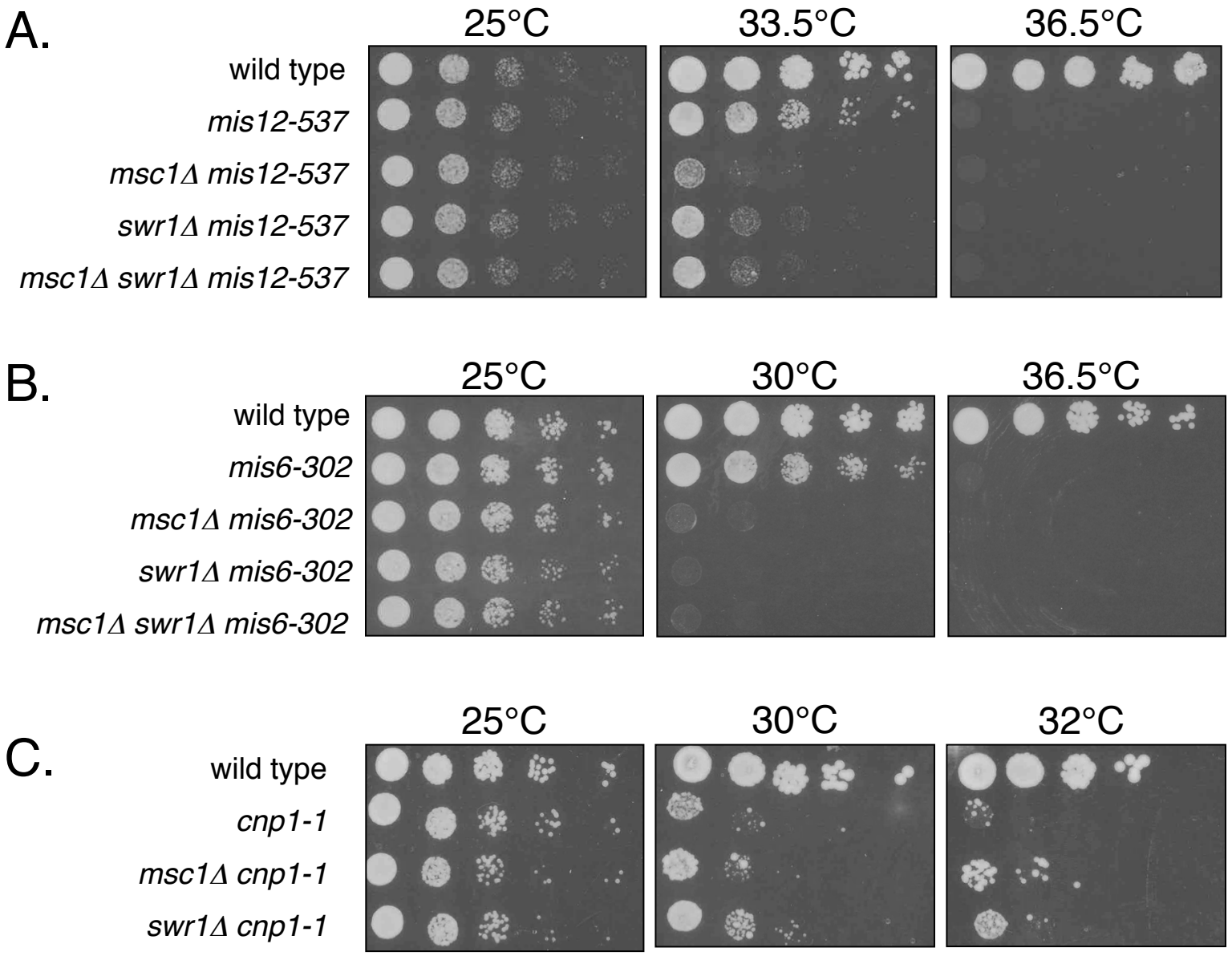

Supplementary Figure 4
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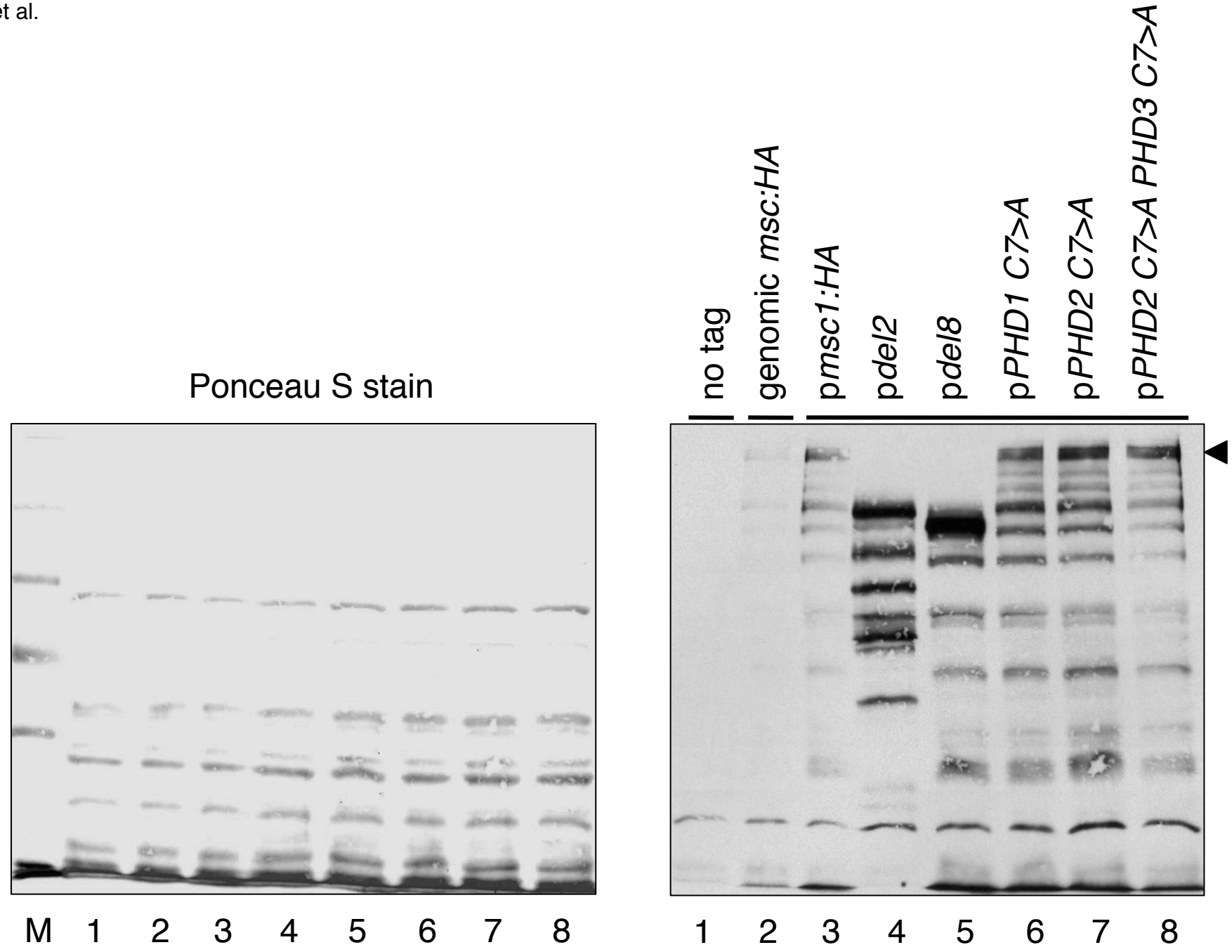

Supplemental Table 1: Strains used

Strain	Genotype	Source
SP6	*h⁻ leu1-32*	Lab collection
NW1562	*h⁻ leu1-32 msc1-HA-kan^R*	Lab collection
NW1580	*h⁻ leu1-32 mis12-537*	M. Yanagida
NW1584	*h⁺ leu1-32 ade6-210 ura4-DS/E imr1L-NcoI::ura4⁺ msc1::kan^R*	This study
NW1585	*h⁺ leu1-32 ade6-210 ura4-DS/E otr1R-SphI::ura4⁺ msc1::kan^R*	This study
NW1586	*h⁺ leu1-32 ura4-DS/E ade6-210 cnt1(TM1)::ura4⁺ msc1::kan^R*	This study
NW1617	*h⁺ leu1-32 mis12-537 msc1::kan^R*	Lab collection
NW1624	*h⁻ leu1-32 dis1-288*	Lab collection
NW1702	*h⁻ leu1-32 mis6-302*	M. Yanagida
NW1703	*h⁺ leu1-32 mis6-302 msc1::kan^R ade6-210*	Lab collection
NW1764	*h⁻ leu1-32 ura4-DS/E ade6-210 cnt1(TM1)::ura4⁺*	R. Allshire
NW1767	*h⁺ leu1-32 ura4-DS/E ade6-210 imr1L(dg-glu)NcoI::ura4⁺*	R. Allshire
NW1768	*h⁺ leu1-32 ura4-DS/E ade6-210 otr1R(dg-gluBamHi-SpeI)SphI::ura4*	R. Allshire
NW1776	*h⁻ pht1-3XHA::hphMX6*	D. Allis
NW1960	*h⁻ pht1-3XHA::hphMX6 msc1::kan^R leu1-32*	This study
NW2048	*h? pht1-3XHA::hphMX6 swr1::hphMX6 leu1-32*	This study
NW2630	*h⁻ leu1-32 msc1-TAP-HA-kan^R*	This study
NW2632	*h⁺ leu1-32 swr1-Flag-kan^R msc1-HA-kan^R*	This study
NW2633	*h⁻ leu1-32 msc1-HA-kan^R swr1::hphMX6*	This study
NW2634	*h⁻ leu1-32 mis12-537 swr1::hphMX6*	This study
NW2635	*h⁺ leu1-32 mis12-537 msc1::kan^R swr1::hphMX6*	This study
NW2636	*h⁺ leu1-32 mis6-302 swr1::hphMX6*	This study
NW2637	*h⁺leu1-32 mis6-302 msc1::kan^R swr1::hphMX6*	This study
NW2638	*h⁺ leu1-32 dis1-288 msc1::kan^R*	This study
NW2639	*h⁺ leu1-32 dis1-288 swr1::hphMX6*	This study
NW2640	*h⁺ leu1-32 dis1-288 msc1::kan^R swr1::hphMX6*	This study
NW2643	*h⁻ leu1-32 ade6-210 ura4-DS/E swr1::hphMX6 cnt1(TM1)::ura4⁺*	This study
NW2644	*h⁻ leu1-32 ade6-210 ura4-DS/E swr1::hph MX6 imr1L-NcoI::ura4⁺*	This study
NW2645	*h⁻ leu1-32 ade6-210 ura4-DS/E swr1::hph MX6 otr1R-SphI::ura4⁺*	This study
NW2646	*h⁻ leu1-32 msc1::hph MX6 swr1-Flag-kan^R*	This study
NW2647	*h⁺ leu1-32 ade6-210 ura4-DS/E tRNAPhe-otr1L(NruI-HpaI fragment)XhoI::ura4⁺*	R. Allshire
NW2648	*h⁺ leu1-32 ade6-210 ura4-DS/E tRNAPhe-otr1(dh)Bgl2::ura4⁺ oriII*	R. Allshire

NW2649	*h$^{?}$ leu1-32 ade6-210 ura4-DS/E tRNAPhe-otr1L(NruI-HpaI fragment)XhoI::ura4 swr1::hphMX6*	This study
NW2650	*h$^{?}$ leu1-32 ade6-210 ura4-DS/E tRNAPhe-otr1(dh)Bgl2::ura4 oriII swr1::hphMX6*	This study
NW2651	*h$^{?}$ leu1-32 ade6-210 ura4-DS/E tRNAPhe-otr1L(NruI-HpaI fragment)XhoI::ura4 msc1::kan^{R}*	This study
NW2652	*h$^{?}$ leu1-32 ade6-210 ura4-DS/E tRNAPhe-otr1(dh)Bgl2::ura4^{+} oriII msc1::kan^{R}*	This study