

**Table S1 Yeast strains used in this study<sup>a</sup>**

Strain	Genotype	Reference
W303	<i>ade2-1oc can1-100 his3-11,15 leu2-3,112 trp1-1 ura3-1</i>	
CRY1	MATa	GEISER <i>et al.</i> (1993)
JTY14	MATa <i>ade3Δ-100 lys2Δ::HIS3 ndc80(Y465C)</i>	This study
JTY23	MATa <i>ade3Δ-100 lys2Δ::HIS3 ndc80(I469Q)</i>	This study
JTY8	MATa <i>ade3Δ-100 lys2Δ::HIS3 ndc80-121</i>	This study
JTY13	MATa <i>ade3Δ-100 lys2Δ::HIS3 ndc80(S467A S468A)</i>	This study
JTY17	MATa <i>ade3Δ-100 lys2Δ::HIS3 ndc80(S467D S468D)</i>	This study
JTY18	MATa <i>ade3Δ-100 lys2Δ::HIS3 ndc80(D466G)</i>	This study
JTY30-4A	MATa <i>ade3Δ-100 NUF2-TAP::KanMX NDC80</i>	This study
JTY30-1A	MATa <i>ade3Δ-100 NUF2-TAP::KanMX ndc80-121</i>	This study
JTY58-2D	MATa <i>ade3Δ-100 lys2Δ::HIS3 SPC110-mCherry::hphMX NDC80</i>	This study
JTY59-8D	MATa <i>ade3Δ-100 cyh2' lys2Δ::HIS3 SPC110-mCherry::hphMX ndc80-121</i>	This study
JTY96-14C	MATa <i>ade3Δ-100 lys2Δ::HIS3 SPC110-mCherry::hphMX ndc80-121 mad1Δ::URA3</i>	This study
JTY98-4B	MATa <i>ade3Δ-100 SPC110-mCherry::hphMX ndc80-121 ipl1-321</i>	This study
JTY9-4A	MATa <i>ade3Δ-100 URA3::TUB1-GFP SPC110-mCherry::hphMX NDC80</i>	This study
JTY9-10D	MATa <i>ade3Δ-100 lys2Δ::HIS3 URA3::TUB1-GFP SPC110-mCherry::hphMX ndc80-121</i>	This study
JTY59-12D	MATa <i>ade3Δ-100 lys2Δ::HIS3 STU2-GFP::NatMX SPC110-mCherry::hphMX NDC80</i>	This study
JTY59-7A	MATa <i>ade3Δ-100 lys2Δ::HIS3 STU2-GFP::NatMX SPC110-mCherry::hphMX ndc80-121</i>	This study
JTY73-17C	MATa <i>ade3Δ-100 lys2Δ::HIS3 STU2-GFP::NatMX SPC110-mCherry::hphMX CDC20-AID::KanMX ura3::pADH1-OsTIR1-9myc::URA3 NDC80</i>	This study
JTY73-2A	MATa <i>ADE3 STU2-GFP::NatMX SPC110-mCherry::hphMX CDC20-AID::KanMX ura3::pADH1-OsTIR1-9myc::URA3 ndc80-121</i>	This study
MMWY61#2	MATa <i>ade3Δ-100 pCUP1-GFP12LacI12::HIS3 CEN3-LacO33array::KanMX SPC110-mCherry::hphMX NDC80</i>	WARGACKI <i>et al.</i> (2010)
JTY65-16B	MATa <i>ade3Δ-100 pCUP1-GFP12LacI12::HIS3 CEN3-LacO33array::KanMX SPC110-mCherry::hphMX ndc80-121</i>	This study
JTY112-58A	MATa <i>ade3Δ-100 lys2Δ::HIS3 pCUP1-GFP12-LacI12::HIS3 CEN3::33LacO::KanMX SPC110-mCherry::hphMX CDC20-AID::KanMX ura3::pADH1-OsTIR1-9myc::URA3 NDC80</i>	This study
JTY112-20B	MATa <i>ADE3 lys2Δ::HIS3 pCUP1-GFP12-LacI12::HIS3 CEN3::33LacO::KanMX SPC110-mCherry::hphMX CDC20-AID::KanMX ura3::pADH1-OsTIR1-9myc::URA3 ndc80-121</i>	This study
JTY11-5A	MATa <i>ade3Δ-100 NUF2-GFP::HIS3 SPC110-mCherry::hphMX NDC80</i>	This study
JTY11-16A	MATa <i>ade3Δ-100 NUF2-GFP::HIS3 SPC110-mCherry::hphMX ndc80-121</i>	This study
MSY284-8D	MATa <i>ade3Δ-100 NUF2-GFP::HIS3 SPC110-mCherry::hphMX ipl1-321</i>	Michelle M. Shimogawa
JTY98-13D	MATa <i>ade3Δ-100 NUF2-GFP::HIS3 SPC110-mCherry::hphMX ndc80-121 ipl1-321</i>	This study
KGY315	MATa/MATa <i>ADE3/ade3Δ-100 cyh2'/CYH2<sup>s</sup></i>	GREENLAND <i>et al.</i> (2010)
JTY82	MATa/MATa <i>ade3Δ-100/ade3Δ-100 cyh2'/cyh2' lys2Δ::HIS3/lys2Δ::HIS3 ndc80-121/ndc80-121</i>	This study
JTY74	MATa/MATa <i>ade3Δ-100/ADE3 cyh2'/CYH2<sup>s</sup> lys2Δ::HIS3/LYS2 ndc80-121/NDC80</i>	This study
JTY83	MATa <i>ade3Δ-100 lys2Δ::HIS3 ndc80-125</i>	This study
JTY81	MATa/MATa <i>ade3Δ-100/ade3Δ-100 cyh2'/cyh2' lys2Δ::HIS3/lys2Δ::HIS3 ndc80-121/ndc80-125</i>	This study

Strain	Genotype	Reference
JTY102	MATa/MATα <i>ade3Δ-100/ade3Δ-100 cyh2<sup>r</sup>/cyh2<sup>r</sup> lys2Δ::HIS3/lys2Δ::HIS3 ndc80-125/ndc80-125</i>	This study
JTY79	MATa/MATα <i>ade3Δ-100/ADE3 cyh2<sup>r</sup>/CYH2<sup>s</sup> lys2Δ::HIS3/LYS2 ndc80-125/NDC80</i>	This study
JTY114	MATa <i>ade3Δ-100 cyh2<sup>r</sup> lys2Δ::HIS3 ndc80-126</i>	This study
JTY116	MATa/MATα <i>ade3Δ-100/ade3Δ-100 cyh2<sup>r</sup>/cyh2<sup>r</sup> lys2Δ::HIS3/lys2Δ::HIS3 ndc80-126/ndc80-121</i>	This study
JTY84	MATa <i>ade3Δ-100 lys2Δ::HIS3 ndc80-121 nuf2-101</i>	This study
JTY86-5C	MATa <i>ade3Δ-100 cyh2<sup>r</sup> lys2Δ::HIS3 NDC80 nuf2-101</i>	This study
JTY88	MATa/MATα <i>ade3Δ-100/ade3Δ-100 cyh2<sup>r</sup>/cyh2<sup>r</sup> lys2Δ::HIS3/lys2Δ::HIS3 ndc80-121/ndc80-121 nuf2-101/NUF2</i>	This study
JTY101-6B	MATa <i>ade3Δ-100 cyh2<sup>r</sup> lys2Δ::HIS3 ndc80-125 nuf2-101</i>	This study
JTY101	MATa/MATα <i>ade3Δ-100/ade3Δ-100 cyh2<sup>r</sup>/cyh2<sup>r</sup> lys2Δ::HIS3/lys2Δ::HIS3 ndc80-121/ndc80-125 nuf2-101/NUF2</i>	This study

<sup>a</sup>All strains have the same markers as W303 except as noted