

**Supplementary Table S1.** *Saccharomyces cerevisiae* strains used in this study.

Strain	Relevant genotype	Source
W303	<i>MATa/α ade2-1 can1-100 his3-11,15 leu2-3,112 trp1-1 ura3-1 rad5-535</i>	1
DMP2818/1D	W303 <i>MATa sml1Δ::KANMX</i>	2
DMP4243/15A	W303 <i>MATa sae2Δ::KANMX sml1Δ::KANMX</i>	This study
YLL490	W303 <i>MATa mec1Δ::HIS3 sml1Δ::KANMX</i>	2
DMP4243/4C	W303 <i>MATa mec1Δ::HIS3 sae2Δ::KANMX sml1Δ::KANMX</i>	This study
YLL3939	W303 <i>MATa mec1Δ::HIS3 sae2-ms::LEU2 sml1Δ::KANMX</i>	This study
YLL1070	W303 <i>MATa sae2Δ::HIS3</i>	3
YLL3942	W303 <i>MATa sae2-ms::LEU2</i>	This study
YLL254	W303 <i>MATa rad27Δ::KANMX</i>	4
DMP5671/4C	W303 <i>MATa sae2Δ::KANMX</i>	This study
DMP6398/2A	W303 <i>MATa sae2-ms::LEU2</i>	This study
YLL2415	W303 <i>MATa sgs1Δ::URA3</i>	This study
DMP6715/7B	W303 <i>MATa sae2-ms::LEU2 rad27Δ::KANMX</i>	This study
DMP6716/1D	W303 <i>MATa sae2-ms::LEU2 sgs1Δ::URA3</i>	This study
DMP6725/11D	W303 <i>MATa sae2-ms::LEU2 exo1Δ::LEU2</i>	This study
YLL2402	W303 <i>MATa exo1Δ::LEU2</i>	1
YLL2403	W303 <i>MATa sae2Δ::KANMX exo1Δ::LEU2</i>	1
DMP6727/20B	W303 <i>MATa tel1Δ::HIS mec1Δ::HIS3 sae2-ms::LEU2 sml1Δ::KANMX</i>	This study
DMP6727/15B	W303 <i>MATa tel1Δ::HIS mec1Δ::HIS3 sml1Δ::KANMX</i>	This study
DMP3335/1A	W303 <i>MATa tel1Δ::HIS sml1Δ::KANMX</i>	This study
DMP6719/10C	W303 <i>MATa rad9Δ::URA3 mec1Δ::HIS3 sae2-ms::LEU2 sml1Δ::KANMX</i>	This study
DMP4726/6C	W303 <i>MATa rad9Δ::URA3 mec1Δ::HIS3 sml1Δ::KANMX</i>	5
DMP6719/7B	W303 <i>MATa rad9Δ::URA3 sae2-ms::LEU2 sml1Δ::KANMX</i>	This study
DMP4726/15A	W303 <i>MATa rad9Δ::URA3 sml1Δ::KANMX</i>	This study
DMP6713/4D	W303 <i>MATa sae2-ms::LEU2 sml1Δ::KANMX</i>	This study
DMP6721/20C	W303 <i>MATa rad53-K227A::KANMX mec1Δ::HIS3 sae2-ms::LEU2 sml1Δ::KANMX</i>	This study
DMP6721/20B	W303 <i>MATa rad53-K227A::KANMX mec1Δ::HIS3 sml1Δ::KANMX</i>	This study
DMP6721/14C	W303 <i>MATa rad53-K227A::KANMX sae2-ms::LEU2 sml1Δ::KANMX</i>	This study
YLL590	W303 <i>MATa rad53-K227A::KANMX sml1Δ::KANMX</i>	2
DMP6724/32D	W303 <i>MATa ddc1Δ::KANMX mec1Δ::HIS3 sae2-ms::LEU2 sml1Δ::KANMX</i>	This study
DMP6724/33D	W303 <i>MATa ddc1Δ::KANMX mec1Δ::HIS3 sml1Δ::KANMX</i>	This study
DMP6724/29C	W303 <i>MATa ddc1Δ::KANMX sae2-ms::LEU2 sml1Δ::KANMX</i>	This study
DMP6724/14B	W303 <i>MATa ddc1Δ::KANMX sml1Δ::KANMX</i>	This study
DMP6732/20C	W303 <i>MATa mec1Δ::HIS3 sae2-P217T,A230V::LEU2 sml1Δ::KANMX</i>	This study
DMP6731/7A	W303 <i>MATa mec1Δ::HIS3 sae2-S134L::LEU2 sml1Δ::KANMX</i>	This study

DMP6730/11D	W303 <i>MATa mec1Δ::HIS3 sae2Δ::KANMX::sae2-S134D::LEU2 sml1Δ::KANMX</i>	This study
DMP6729/2D	W303 <i>MATa mec1Δ::HIS3 sae2Δ::KANMX::sae2-S134A::LEU2 sml1Δ::KANMX</i>	This study
DMP6731/15A	W303 <i>MATa sae2-S134L::LEU2</i>	This study
DMP6730/4D	W303 <i>MATa sae2Δ::KANMX::sae2-S134D::LEU2</i>	This study
DMP6729/9D	W303 <i>MATa sae2Δ::KANMX::sae2-S134A::LEU2</i>	This study
DMP6732/19B	W303 <i>MATa sae2-P217T,A230V::LEU2</i>	This study
DMP6922	W303 <i>MATa/α SAE2-3HA::URA3/SAE2-18MYC::TRP1</i>	This study
DMP6935	W303 <i>MATa/α sae2-ms-3HA::TRP1::LEU2/SAE2-18MYC::HIS3</i>	This study
DMP6934	W303 <i>MATa/α sae2-ms-3HA::TRP1::LEU2/sae2-ms-18MYC::URA3 ::LEU2</i>	This study
DMP6923	W303 <i>MATa/α SAE2/SAE2-18MYC::TRP1</i>	This study
YMV45	<i>ho hml::ADE1 mata::hisG hmr::ADE1 leu2::leu2(Asp718-SalI)- URA3-pBR332-MATa ade3::GAL::HO ade1 lys5 ura3-52 trp1::hisG</i>	6
YLL1621	YMV45 <i>sae2Δ::KANMX</i>	7
YLL3956	YMV45 <i>sae2-ms::HPHMX</i>	This study
YJK40.6	<i>MATΔ hmlΔ hmrΔ can1 lys5 ade2 leu2 trp1 ura3 his3 ade3::GAL-HO VII::TRP1-HO LacI-GFP::URA3 LacO::LYS5 LacO::KanR</i>	8
YLL1709	YJK40.6 <i>sae2Δ::NATMX</i>	9
YLL3945	YJK40.6 <i>sae2-ms::LEU2</i>	This study
JKM139	<i>MATa ho hmlΔ::ADE1 hmrΔ::ADE1 ade1-100 leu2-3,112 lys5 trp1::hisG ura3-52 ade3::GAL-HO</i>	10
YLL1523	JKM139 <i>MATa sae2Δ::KANMX</i>	7
YLL3941	JKM139 <i>MATa sae2-ms::LEU2</i>	This study
YLL3421	JKM139 <i>MATa RAD9-3HA::TRP1</i>	11
DMP6911/4B	JKM139 <i>MATa sae2Δ::KANMX RAD9-3HA::TRP1</i>	This study
DMP6911/1C	JKM139 <i>MATa sae2-ms::LEU2 RAD9-3HA::TRP1</i>	This study
YLL1854	JKM139 <i>MATa MRE11-18MYC::TRP1</i>	12
DMP6859/1C	JKM139 <i>MATa MRE11-18MYC::TRP1 sae2Δ::KANMX</i>	This study
DMP6878/5B	JKM139 <i>MATa MRE11-18MYC::TRP1 sae2-ms::LEU2</i>	This study
DMP6879/1B	JKM139 <i>MATa MRE11-18MYC::TRP1 sae2-S134L::LEU2</i>	This study
YLL4104	JKM139 <i>MATa MRE11-H125N-18MYC::TRP1</i>	This study
YLL3222	JKM139 <i>MATa TEL1-3HA::NAT</i>	11
DMP6860/2B	JKM139 <i>MATa TEL1-3HA::NAT sae2Δ::KANMX</i>	This study
DMP6874/9D	JKM139 <i>MATa TEL1-3HA::NAT sae2-ms::LEU2</i>	This study
DMP6875/5C	JKM139 <i>MATa TEL1-3HA::NAT sae2-S134L::LEU2</i>	This study
DMP6870/8B	JKM139 <i>MATa TEL1-3HA::NAT mre11Δ::NAT::mre11-H125N::URA3</i>	This study
YLL2841	JKM139 <i>MATa sml1Δ::NATMX</i>	11
184-10A	JKM139 <i>MATa mec1Δ::HIS3 sml1Δ::KANMX</i>	13
DMP6910/6A	JKM139 <i>MATa mre11Δ::NAT::mre11-H125N::URA3 mec1Δ::HIS3 sml1Δ::KANMX</i>	This study
DMP6910/8C	JKM139 <i>MATa mre11Δ::NAT::mre11-H125N::URA3 mec1Δ::HIS3 sml1Δ::KANMX</i>	This study

DMP6910/12D	JKM139 <i>MATa mre11Δ::NAT::mre11-H125N::URA3 mec1Δ::HIS3 sml1Δ::KANMX</i>	This study
DMP6910/13C	JKM139 <i>MATa mre11Δ::NAT::mre11-H125N::URA3 sml1Δ::KANMX</i>	This study
YLL2769	JKM139 <i>MATa sae2Δ::KANMX mec1Δ::HIS3 sml1Δ::KANMX</i>	This study
YLL3940	JKM139 <i>MATa sae2-ms::LEU2 mec1Δ::HIS3 sml1Δ::KANMX</i>	This study
DMP6872/2B	JKM139 <i>MATa sae2-S134L::LEU2 mec1Δ::HIS3 sml1Δ::KANMX</i>	This study
YLL4081	JKM139 <i>MATa sae2-S134L::LEU2</i>	This study
DMP6990/3D	JKM139 <i>MATa mre11Δ::NAT::mre11-H125N::URA3 RAD9-3HA::TRP1</i>	This study
DMP6912/1A	JKM139 <i>MATa sae2-S134L::LEU2 RAD9-3HA::TRP1</i>	This study
YLL3101	JKM139 <i>MATa SAE2-3HA::TRP</i>	14
YLL4102	JKM139 <i>MATa sae2-ms-3HA::TRP1::LEU2</i>	This study
YLL4103	JKM139 <i>MATa sae2-S134L-3HA::TRP1::LEU2</i>	This study
HS21	<i>MATa ade5-1 his7-2 ura3Δ trp1-289 leu2-3,112::p305L3 LEU2 lys2::AluIR</i>	15
YLL1357	HS21 <i>MATa sae2Δ::KANMX</i>	4
YLL3944	HS21 <i>MATa sae2-ms::HPHMX</i>	This study
YLL4000	HS21 <i>MATa sae2-S134L::HPHMX</i>	This study

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