

Table S4. Strains used in this study

	GENOTYPE
YAM1252	<i>lys2ΔNhe his4-260,519 leu2-3,112 MATα trp1-289 ura3-1 thr1-4 ade2-1</i> <i>lys2ΔNhe his4-260,519 leu2-3,112 MATα trp1-289 ura3-1 thr1-4 ade2-1</i>
K842	<i>lys2ΔNhe HIS4 leu2-3,112 hphMX4@CEN3 MATα ADE2@RAD18 natMX4@HMR</i> <i>lys2ΔNhe his4-260,519 leu2-3,112 CEN3 MATα RAD18 HMR</i> <i>trp1-289 ura3-1 TRP1MX4@SPO11 spo13::URA3 THR1 210kb ade2-1</i> <i>trp1-289 ura3-1 SPO11 SPO13 thr1-4 LYS2@210kb ade2-1</i>
AM3724	K842 homozygous <i>pch2::kanMX4</i>
AM4025	K842 homozygous <i>pch2::kanMX4 msh4::LEU2</i>
AM4023	K842 homozygous <i>pch2::LEU2 zip1::kanMX4</i>
AM3725	K842 homozygous <i>pch2::kanMX4 zip1[Δ2-163]</i>
AM4026	K842 homozygous <i>pch2::kanMX4 zip1::kanMX4 msh4::LEU2</i>
K852	K842 homozygous <i>msh4::kanMX4</i>
AM3684	K842 homozygous <i>zip1[Δ2-20]</i>
K1000	K842 homozygous <i>zip1[Δ2-20] msh4::kanMX4</i>
MP43	K842 homozygous <i>zip1[Δ2-9]</i>
MP46	K842 homozygous <i>zip1[Δ2-9] msh4::kanMX4</i>
SYC107	K842 homozygous <i>zip1[Δ10-14] thr1-4 LEU2@152kb XI 193kb XI</i> <i>152 kb XI THR1@193kb XI</i>
SYC149	K842 homozygous <i>zip1[Δ10-14] msh4::kanMX4 thr1-4 LEU2@152kb XI 193kb XI</i> <i>152 kb XI THR1@193kb</i>
AF8	K842 homozygous <i>zip1[Δ15-20]</i>
K914	K842 homozygous <i>zip1[Δ15-20] msh4::kanMX4</i>
AF6	K842 homozygous <i>zip1[Δ21-163]</i>
SYC151	K842 homozygous <i>zip1[Δ21-163] msh4::kanMX4 thr1-4 LEU2@152kb XI 193kb XI</i> <i>152 kb XI THR1@193kb</i>
K926	K842 homozygous <i>zip3::kanMX4</i>
AM3658/ AM3659	K842 homozygous <i>zip3::kanMX4 msh4::LEU2</i>
MP52	K842 homozygous <i>zip3::kanMX4 zip1[Δ2-9]</i>
AM3655	K842 homozygous <i>zip1[Δ2-163]</i>
K1281	K842 homozygous <i>zip1[N3A, R6A, D7A]</i>
K1309	K842 homozygous <i>zip1[F4A, F5A]</i>
K1321	K842 homozygous <i>zip1[F4A, F5A] msh4::kanMX4</i>
K1282	K842 homozygous <i>zip1[I18A, F19A]</i>

K1328	K842 homozygous <i>zip1</i> [I18A, F19A] <i>msh4::kanMX</i>
Cytology	
K320	YAM1252 <i>ECM11-13MYC::kanMX4 ndt80::LEU2</i> <i>ECM11 ndt80::LEU2</i>
AM4064	K320 homozygous <i>zip1</i> [Δ2-9]
AM4194	K320 homozygous <i>zip1</i> [Δ10-14]
AM4069	K320 homozygous <i>zip1</i> [10-14 all residues changed to A]
SYC79	K320 homozygous <i>zip1</i> [Δ15-20]
K981	K320 homozygous <i>zip1</i> [15-20 all residues changed to A]
AM4066	K320 homozygous <i>zip3::hphMX4</i>
K1266	K320 homozygous <i>zip1</i> [Δ2-20]
K1267	K320 homozygous <i>zip1</i> [Δ2-163]
K969	K320 homozygous <i>zip1</i> [N3A, R6A, D7A]
AM4067	K320 homozygous <i>zip1</i> [F4A, F5A]
K985	K320 homozygous <i>zip1</i> [I18A, F19A]
AM4203	YAM1252 homozygous <i>CTF19-MYC::kanMX4 ndt80::LEU2</i>
CO10	YAM1252 homozygous <i>zip1::UAR3</i>
AM4204	AM4203 homozygous <i>zip3::LYS2</i>
AM4231	AM4203 homozygous <i>zip1</i> [Δ2-9]
AM4175	AM4203 homozygous <i>zip1</i> [Δ10-14]
AM4174	YAM1252 <i>ZIP3-MYC/ZIP3 ZIP4/ZIP4-HA</i> homozygous <i>spo11::kanMX4 ndt80::LEU2</i>
AM4253	AM4174 homozygous <i>zip1</i> [Δ2-9]
AM4173	AM4174 homozygous <i>zip1</i> [Δ10-14]
AM4256	AM4174 homozygous <i>zip1</i> [Δ15-20] <i>spo11::hphMX4</i>
AM4350	AM4174 homozygous <i>zip1</i> [N3A, R6A, D7A] <i>spo11::ADE2</i>
AM4340	AM4174 homozygous <i>zip1</i> [F4A, F5A] <i>spo11::ADE2</i>
AM4343	AM4174 homozygous <i>zip1</i> [Δ21-163] <i>spo11::ADE2</i>
AM4171	YAM1252 <i>ZIP3-MYC/ZIP3 ZIP4/ZIP4-HA</i> homozygous <i>ndt80::LEU2</i>
AM4277	AM4171 homozygous <i>zip1</i> [Δ2-9]
K1268	YAM1252 homozygous <i>MSH4-13MYC::kanMX4 ndt80::LEU2</i>

AM4278	K1268 <i>ZIP4/ZIP4-HA</i>
AM4274	K1268 homozygous <i>zip1[Δ2-9] ZIP4-HA</i>
AM4270	K1268 homozygous <i>zip1[Δ10-14]</i>
AM4265	K1268 homozygous <i>zip1[Δ15-20]</i>
AM4363	K1268 homozygous <i>zip1::URA3</i>
AM4458/AM4462	YAM1252 homozygous <i>GFP-LacI@URA3 lacO-LEU2@CENIV ndt80::LEU2</i>
AM4440/AM4441	AM4458 homozygous <i>zip1[Δ2-9]</i>
AM4446	AM4458 homozygous <i>zip1[Δ10-14]</i>
AM4453	AM4458 homozygous <i>zip3::hphMX4</i>
Western Blot	
AM2712	YAM1252 <i>ECM11-13MYC::kanMX4 ndt80::LEU2</i> <i>ECM11-13MYC::kanMX4 ndt80::LEU2</i>
MP39	AM2712 homozygous <i>zip1[Δ2-9]</i>
SYC96	AM2712 homozygous <i>zip1[Δ10-14]</i>
SYC97	AM2712 homozygous <i>zip1[Δ15-20]</i>
AM3719	AM2712 homozygous <i>zip3::hphMX4</i>
AM3662	AM2712 homozygous <i>zip1[F4A, F5A]</i>
AM3628	AM2712 homozygous <i>zip1[N3A, R6A, D7A]</i>
AM3656	AM2712 homozygous <i>zip1[P14A, P16A]</i>
AM2784	AM2712 homozygous <i>zip1::URA3</i>
K986	AM2712 homozygous <i>zip1[I18A, F19A]</i>
IP	
ORD9670	SK1 <i>lys2 leu2-k MATα ho::LYS2 ura3 arg4-nsp.bgl ZIP3-HIS6-FLAG3::kanMX4</i> <i>lys2 leu2-k MATα ho::LYS2 ura3 arg4-nsp.bgl ZIP3-HIS6-FLAG3::kanMX4</i>
AM3946 (VBD1872)	ORD9670 homozygous <i>zip1[Δ2-9]</i>
AM3951 (VBD1873)	ORD9670 homozygous <i>zip1[Δ10-14]</i>
ORD9689	ORD9670 homozygous <i>zip1::kanMX</i>

