

Table S1 Strain list

Strain	Genotype	Source
Y131	<i>MATa hta1-htb1Δ::LEU2 hta2-htb2Δ leu2-3,-112 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pRS426-HTA1-HTB1></i>	K. Robzyk[1]
CFK1065 (YS131)	<i>MATa hta1-htb1Δ hta2-htb2Δ leu2-3,-112 his3-11,-15 trp1-1 ade2-1 can 1-100 ura3-1 <pRS426-HTA1-HTB1></i>	Y131 This study
CFK1179 (YS131 bar1Δ)	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 his3-11,-15 trp1-1 ade2-1 can 1-100 ura3-1 <pRS426-HTA1-HTB1></i>	CFK1065 This study
CFK1204 (YCL001)	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1179 This study
CFK1202	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 hir1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1204 This study
CFK1206	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 cac1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1204 This study
CFK1208	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 asf1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1204 This study
CFK1212	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 rtt109Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1204 This study
CFK1231 (YMW001)	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS146-HTA1-Flag-htb1-K123R CEN HIS3></i>	CFK1179 This study
CFK1233	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 asf1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS146-HTA1-Flag-htb1-K123R CEN HIS3></i>	CFK1231 This study
CFK1235	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 hir1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS146-HTA1-Flag-htb1-K123R CEN HIS3></i>	CFK1231 This study
CFK1237	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 cac1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i>	CFK1231 This study

	<pZS146-HTA1-Flag-htb1-K123R CEN HIS3>	
CFK1241	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 rtt109Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3>	CFK1231 This study
CFK1419	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS145-HTA1-Flag-HTB1 CEN HIS3> <p404-BrdU-Inc-TRP1>	CFK1204 This study
CFK1421	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3> <p404-BrdU-Inc-TRP1>	CFK1231 This study
CFK1443	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 bre1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS145-HTA1-Flag-HTB1 CEN HIS3>	CFK1204 This study
CFK1444	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 mrc1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS145-HTA1-Flag-HTB1 CEN HIS3>	CFK1204 This study
CFK1447	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sgs1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS145-HTA1-Flag-HTB1 CEN HIS3>	CFK1204 This study
CFK1450	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 mrc1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3>	CFK1231 This study
CFK1453	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sgs1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3>	CFK1231 This study
CFK1481	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sml1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS145-HTA1-Flag-HTB1 CEN HIS3>	CFK1204 This study
CFK1482	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sml1Δ::KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3>	CFK1231 This study
CFK1764	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sgs1-13myc::HIS3 pep4Δ::HPH+ trp1-1 ade2-1 can1-100 ura3-1</i> <pRS414-HTA1-Flag-HTB1 CEN TRP>	Y131 This study
CFK1765	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sgs1-13myc::HIS3 pep4Δ::HPH+ trp1-1 ade2-1 can1-100 ura3-1</i>	Y131 This study

	<i>1-100 ura3-1 <pRS414-HTA1-Flag-htb1-K123R CEN TRP></i>	
CFK1984	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 pol1-17 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1204 This study
CFK1986	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 pol1-17 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS146-HTA1-Flag-htb1-K123R CEN HIS3></i>	CFK1231 This study
CFK1988	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 pri2-1 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1204 This study
CFK1990	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 pri2-1 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS146-HTA1-Flag-htb1-K123R CEN HIS3></i>	CFK1231 This study
CFK1992	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 pol3-14 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1204 This study
CFK1994	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 pol3-14 his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS146-HTA1-Flag-htb1-K123R CEN HIS3></i>	CFK1231 This study
CFK2000	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 his3-11,-15 trp1-1 ade2-1 can 1-100 ura3-1 <pRS426-HTA1-HTB1> <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1179 This study
CFK2002	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 his3-11,-15 trp1-1 ade2-1 can 1-100 ura3-1 <pRS426-HTA1-HTB1> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3></i>	CFK1179 This study
CFK2004	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 pol2-11 his3-11,-15 trp1-1 ade2-1 can 1-100 ura3-1 <pRS426-HTA1-HTB1> <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1179 This study
CFK2006	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 pol2-11 his3-11,-15 trp1-1 ade2-1 can 1-100 ura3-1 <pRS426-HTA1-HTB1> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3></i>	CFK1179 This study
CFK2346 (GA-4978)	<i>MATa Rad5+ mec1-100::LEU2(HIS+) ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	W303 Rad5+ (Susan M.)

		Gasser)[2]
CFK2347 (GA-1491)	<i>MATa rad53-11 ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	W303 (NOY408-1b) (Susan M. Gasser)
CFK2351 (GA-180)	<i>MATa ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	W303 (NOY408-1b) (Susan M. Gasser)
CFK2352 (GA-1981)	<i>MATa Rad5+ ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	W303 Rad5+ (Susan M. Gasser)
CFK2356	<i>MATa Rad5+ mec1-100::LEU2(HIS+) HTA1-htb1-K123R::NAT+ HTA2-htb2-K123R::HIS+ ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	GA4978 This study
CFK2358	<i>MATa rad53-11 HTA1-htb1-K123R::NAT+ HTA2-htb2-K123R::HIS+ ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	GA1491 This study
CFK2371	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sgs1Δ:: NAT+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1204 This study
CFK2373	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sgs1Δ:: NAT+ bre1Δ:: KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3></i>	CFK1204 This study
CFK2378	<i>MATa rad53-11 bre1Δ:: KAN+ ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	GA1491 This study
CFK2414	<i>MATa ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	W303 (NOY408-1b) This study
CFK2416	<i>MATa HTA1-htb1-K123R::NAT+ HTA2-htb2-K123R::HIS+ ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	W303 (NOY408-1b) This study
YCL007	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sgs1Δ:: KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <pZS145-HTA1-Flag-HTB1 CEN HIS3> <p404-BrdU-Inc-TRP1></i>	CFK1447 This study
YCL008	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 sgs1Δ::</i>	CFK1453

	<i>KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3> <p404-BrdU-Inc-TRP1>	This study
YMW069	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 dun1Δ::</i> <i>KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS145-HTA1-Flag-HTB1 CEN HIS3>	CFK1204 This study
YMW072	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 dun1Δ::</i> <i>KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3>	CFK1231 This study
YMW093	<i>MATa bre1Δ:: KAN+ ade2-1 ura3-1 his3-11 trp1-1</i> <i>leu2-3,112 can 1-100</i>	GA-180 This study
YMW095	<i>MATa Rad5+ mec1-100::LEU2(HIS+) bre1Δ:: KAN+</i> <i>ade2-1 ura3-1 his3-11 trp1-1 leu2-3,112 can 1-100</i>	GA-4978 This study
YMW104	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 asf1-3HA</i> <i>his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1 <</i> <i>pZS146-HTA1-Flag-htb1-K123R CEN HIS3></i>	CFK1231 This study
YMW105	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 asf1-3HA</i> <i>his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS145-HTA1-Flag-HTB1 CEN HIS3>	CFK1204 This study
YCL023	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 dun1Δ::</i> <i>KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS145-HTA1-Flag-HTB1 CEN HIS3> <p404-BrdU-Inc-TRP1>	YMW069 This study
YCL025	<i>MATa hta1-htb1Δ hta2-htb2Δ bar1Δ::LEU2 dun1Δ::</i> <i>KAN+ his3-11,-15 trp1-1 ade2-1 can1-100 ura3-1</i> <pZS146-HTA1-Flag-htb1-K123R CEN HIS3> <p404-BrdU-Inc-TRP1>	YMW072 This study

1. Robzyk K, Recht J, Osley MA (2000) Rad6-dependent ubiquitination of histone H2B in yeast. *Science* 287: 501-504.
2. Duncker BP, Shimada K, Tsai-Pflugfelder M, Pasero P, Gasser SM (2002) An N-terminal domain of Dbf4p mediates interaction with both origin recognition complex (ORC) and Rad53p and can deregulate late origin firing. *Proc Natl Acad Sci U S A* 99: 16087-16092.