Nucleosome eviction assists condensin loading and chromosome condensation

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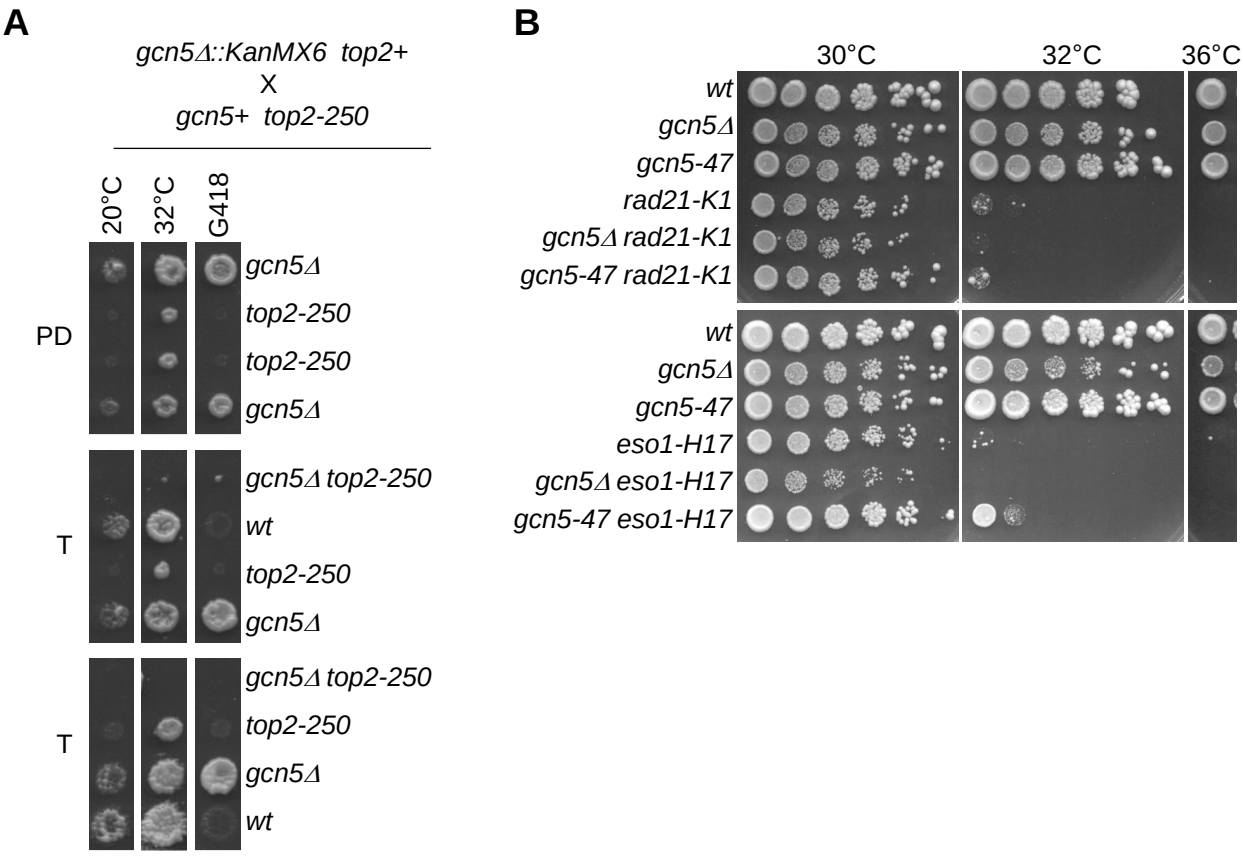

Appendix Figure S1. Lack of *gcn5* is synthetically lethal with *top2-250* but not with *rad21-K1* or *eso1-H17*

A. Tetrad analysis of a cross between a *gcn5Δ::kanMX6* strain and a cryosensitive *top2-250* strain. Dissected tetrads were replicaplated onto YES+A medium at 20°C, 32°C and YES+A supplemented with G418 to select for KanMX6 expression. Three tetrads are shown, 1 parental ditype (PD) and two tetratypes (T). **B**. Fivefold serial dilutions of indicated strains were spotted onto YES+A at the indicated temperatures.

Appendix Table S1

Strain	Genotype	Distance	Cells	Replicates
2779	*h$^-$, ChrI 1.50Mb::TetO-hphMX6, ChrI 2.49Mb::LacO-natMX4, his7-366::EGFP-lacI-NLS-his7$^+$, leu1-32::TetR-tdTomato-NLS-leu1$^+$, ade6-M210, lys1-131, ura4-D18*	1 Mb	59	1
2930	*h?, cut14-208, ChrI 1.50Mb::TetO-hphMX6, ChrI 2.49Mb::LacO-natMX4, his7-366::EGFP-lacI-NLS-his7$^+$, leu1-32::TetR-tdTomato-NLS-leu1$^+$, ade6-M210, lys1-131, ura4-D18*	1 Mb	32	1
4020	*h?, ChrI 1.50Mb::TetO-hphMX6, ChrI 2.49Mb::LacO-natMX4, his7-366::EGFP-lacI-NLS-his7$^+$, leu1-32::TetR-tdTomato-NLS-leu1$^+$, ade6-M210, lys1-131, ura4-D18*	1 Mb	105	2
4021	*h?, gcn5-47, ChrI 1.50Mb::TetO-hphMX6, ChrI 2.49Mb::LacO-natMX4, his7-366::EGFP-lacI-NLS-his7$^+$, leu1-32::TetR-tdTomato-NLS-leu1$^+$, ade6-M210, lys1-131, ura4-D18*	1 Mb	52	2
4215	*h?, ChrI 1.5Mb::TetO-hphMX6, ChrI 1.95Mb::LacO-natMX, his7-366::EGFP-lacI-NLS-his7$^+$, leu1-32::TetR-tdTomato-NLS-leu1$^+$, ade6-M210, lys1-131, ura4-D18*	0.5 Mb	44	1
4217	*h?, cut14-208, ChrI 1.5Mb::TetO-hphMX6, ChrI 1.95Mb::LacO-natMX, his7-366::EGFP-lacI-NLS-his7$^+$, leu1-32::TetR-tdTomato-NLS-leu1$^+$, ade6-M210, lys1-131, ura4-D18*	0.5 Mb	63	2
4219	*h? ChrI 1.5Mb::TetO-hphMX6, ChrI 1.95Mb::LacO-natMX, his7-366::EGFP-lacI-NLS-his7$^+$, leu1-32::TetR-tdTomato-NLS-leu1$^+$, ade6-M210, lys1-131, ura4-D18*	0.5 Mb	50	1
4221	*h?, gcn5-47, ChrI 1.5Mb::TetO-hphMX6, ChrI 1.95Mb::LacO-natMX, his7-366::EGFP-lacI-NLS-his7$^+$, leu1-32::TetR-tdTomato-NLS-leu1$^+$, ade6-M210, lys1-131, ura4-D18*	0.5 Mb	65	2

Appendix Table S2. Yeast strains used in this study

Figure	strain number			Genotype*	Origin
Fig. 1A	**LY113**	*h-*	*leu1- ura4- ade6-*		our stock
	LY1069	*h-*	*leu1- ura4-*	*cut3-477*	YGRC
	LY855	*h+*	*leu1- ura4- ade6-*	*gcn5-47*	this study
	LY614	*h-*	*leu1- ura4- ade6-*	*cut3-477 gcn5-47*	this study
	LY1292	*h-*	*leu1- ura4 ade6-*	*gcn5Δ::KanR*	this study
	LY1318	*h-*	*leu1- ura4- ade6-*	*cut3-477 gcn5Δ::KanR*	this study
Fig. 1C	**CH4020**	*h?*	*ura4- ade6- lys1-*	*LacI-gfp-his7+ TetR-tomato-Leu1+ chr1 (2,49)::LacO-NatR chr1(1,5)::TetO-HygroR*	this study
	CH2930	*h?*	*ura4- ade6- lys1-*	*cut14-208 LacI-gfp-his7+ TetR-tomato-Leu1+ chr1 (2,49)::LacO-NatR chr1(1,5)::TetO-HygroR*	this study
	CH4021	*h?*	*ura4- ade6- lys1-*	*gcn5-47 LacI-gfp-his7+ TetR-tomato-Leu1+ chr1 (2,49)::LacO-NatR chr1(1,5)::TetO-HygroR*	this study
	CH4215	*h?*	*ura4- ade6- lys1-*	*LacI-gfp-his7+ TetR-tomato-leu1+ Chr1(1,95)::LacO-NatR Chr1(1,5)::TetO-HygroR*	this study
	CH4217	*h?*	*ura4- ade6- lys1-*	*cut14-208 LacI-gfp-his7+ TetR-tomato-leu1+ Chr1(1,95)::LacO-NatR Chr1(1,5)::TetO-HygroR*	this study
	CH4219	*h?*	*ura4- ade6- lys1-*	*LacI-gfp-his7+ TetR-tomato-leu1+ Chr1(1,95)::LacO-NatR Chr1(1,5)::TetO-HygroR*	this study
	CH4221	*h?*	*ura4- ade6- lys1-*	*gcn5-47 LacI-gfp-his7+ TetR-tomato-leu1+ Chr1(1,95)::LacO-NatR Chr1(1,5)::TetO-HygroR*	this study
Fig. 1D-E	**LY1139**	*h+*	*leu1- ura4-*	*mis6-3HA-LEU2 cdc11-GFP-KanR*	this study
	LY1357	*h-*	*leu1- ura4-*	*gcn5-47 mis6-3HA-LEU2 cdc11-GFP-KanR*	this study
	LY1354	*h?*	*leu1- ura4-*	*cut3-477 mis6-3HA-LEU2 cdc11-GFP-KanR*	this study
Fig. 2A	**LY1491**	*h+*	*leu1- ura4-*	*ada2Δ::KanR*	this study
	LY1519	*h-*	*leu1- ura4- ade6 ?*	*cut3-477 ada2Δ::KanR*	this study
	LY1492	*h+*	*leu1- ura4-*	*ada3Δ::KanR*	this study
	LY1520	*h-*	*leu1- ura4- ade6 ?*	*cut3-477 ada3Δ::KanR*	this study
	LY1658	*h+*	*ura4- ade6-*	*spt8Δ::ura4+*	Fred Winston
	LY1698	*h?*	*leu1- ura4- ade6-*	*cut3-477 spt8Δ::ura4+*	this study
	LY2637	*h+*	*ura4- ade6-*	*spt20Δ::ura4+*	Dom. Helmlinger
	LY2738	*h-*	*leu1- ura4- ade?*	*cut3-477 spt20Δ::ura4+*	this study
	LY1490	*h+*	*leu1- ura4-*	*sgf11Δ::KanR*	this study

	LY1518	*h-*	*leu1- ura4- ade6 ?*	*cut3-477 sgf11Δ::KanR*	this study
	LY2636	*h+*	*leu1- ura4- ade6-*	*sgf73Δ::ura4+*	Dom. Helmlinger
	LY2742	*h-*	*leu1- ura4- ade6?*	*cut3-477 sgf73Δ::ura4+*	this study
	LY1941	*h-*	*ura4- ade6-*	*tra1Δ::HygroR*	Dom. Helmlinger
	LY1979	*h-*	*leu1- ura4-*	*cut3-477 tra1Δ::HygroR*	this study
Fig. 2B	**LY1659**	*h+*	*ura4- ade6-*	*gcn5-myc13-NatR*	Fred Winston
	LY1660	*h+*	*ura4- ade6-*	*gcn5-191-myc13-NatR*	Fred Winston
	LY1786	*h-*	*leu1- ura4- ade6-*	*cut3-477 gcn5-191-myc13-NatR*	this study
	LY1788	*h-*	*leu1- ura4- ade6-*	*cut3-477 gcn5-myc13-NatR*	this study
Fig. 2C	**LY1694**	*h+*	*leu1- ura4- ade6-*	*hat1Δ::KanR*	this study
	LY1740	*h+*	*leu1- ura4-*	*cut3-477 hat1Δ::KanR*	this study
	LY1695	*h+*	*leu1- ura4- ade6-*	*naa40Δ::KanR*	this study
	LY1742	*h+*	*leu1- ura4-*	*cut3-477 naa40Δ::KanR*	this study
	LY1635	*h+*	*leu1- ura4- ade6-*	*mst2Δ::ura4+*	Susan Forsburg
	LY1686	*h+*	*leu1- ura4- ade6?*	*cut3-477 Dmst2::ura4+*	this study
	LY1682	*h90*	*leu1- ura4- ade6?*	*rtt109Δ::KanR*	Blerta Xhemalce
	LY1726	*h-*	*leu1- ura4- ade6?*	*cut3-477 rtt109Δ::KanR*	this study
	LY1636	*h+*	*leu1- ura4- ade6-*	*elp3Δ::KanR*	Susan Forsburg
	LY1778	*h?*	*leu1- ura4- ade6-*	*cut3-477 elp3Δ::KanR*	this study
Fig. 2D	**LY2514**	*h-*	*leu1- ura4- ade6?*	*cut3-477 gcn5Δ::NatR mst2Δ::ura4+*	this study
	LY2516	*h-*	*leu1- ura4- ade6?*	*gcn5Δ::NatR mst2Δ::ura4+*	this study
	LY2520	*h-*	*leu1- ura4- ade6?*	*cut3-477 gcn5Δ::NatR*	this study
	LY2059	*h-*	*leu1- ura4- ade6-*	*gcn5Δ::NatR*	this study
Fig. 3A-B	**LY270**	*h-*	*leu1- ura4-*	*nda3-KM311*	this study
Fig. EV3D-E	**LY3201**	*h+*	*leu1- ura4-*	*nda3-KM311 gcn5Δ::NatR Dmst2::ura4+*	this study
	LY1802	*h-*	*leu1- ura4-*	*nda3-KM311 cnd2-gfp-LEU2*	this study (cnd2-GFP-LEU2 from YGRC)
	LY1349	*h-*	*leu1- ura4- ade6-*	*nda3-KM311 gcn5Δ::KanR cnd2-gfp-LEU2*	this study
	LY3200	*h-*	*leu1- ura4-*	*nda3-KM311 gcn5Δ::NatR Dmst2::ura4+ cnd2-gfp-LEU2*	this study
Fig. 3C-D	**LY2440**	*h+*	*leu1-*	*dam1-GFP-HygroR*	this study
	LY2672	*h-*	*leu1- ura4-*	*cut3-HA-KanR dam1-gfp-HygroR*	this study (cut3-HA-KanR from Michael Keogh)
	LY2794	*h+*	*leu1- ura4- ade6?*	*cut3-HA-KanR dam1-gfp-Hph gcn5Δ::NatR*	this study
	LY2791	*h90*	*leu1- ura4- ade6?*	*cut3-HA-KanR dam1-gfp-Hph gcn5Δ::NatR Dmst2::ura4+*	this study
Fig. 4A	**LY270**	*h-*	*leu1- ura4-*	*nda3-KM311*	this study
	LY346	*h-*	*leu1- ura4?*	*nda3-KM311 cut14-3HA-His6-ura4+*	this study (cut14-HA from YGRC)
	LY1930	*h-*	*leu1- ura4-*	*nda3-KM311 cut14-3HA-His6-ura4+ gcn5-myc-NatR*	this study

Fig. 4B& EV5A	**LY270**	*h-*	*leu1- ura4-*	*nda3-KM311*	this study
	LY1794	*h-*	*ura4- ade6?*	*nda3-KM311 gcn5-myc-NatR*	this study
Fig. 4C	**LY1802**	*h-*	*leu1- ura4-*	*nda3-KM311 cnd2-gfp-LEU2*	this study
Fig 4D-E, EV5B.	**LY1802**	*h-*	*leu1- ura4-*	*nda3-KM311 cnd2-gfp-LEU2*	this study
Fig. 5, EV6A, C-D	**LY1349**	*h-*	*leu1- ura4- ade6-*	*nda3-KM311 cnd2-gfp-LEU2 gcn5Δ::KanR*	this study
& EV7.	**LY3200**	*h-*	*leu1- ura4-*	*nda3-KM311 cnd2-gfp-LEU2 gcn5Δ::NatR Dmst2::ura4+*	this study
Fig.6A-D	**LY1802**	*h-*	*leu1- ura4-*	*nda3-KM311 cnd2-gfp-LEU2*	this study
Fig. EV8	**LY3733**	*h-*	*leu1- ura4- ade6?*	*nda3-KM311 cnd2-gfp-LEU2 arp9Δ::NatR*	this study
	LY3766	*h-*	*leu1- ura4- ade6?*	*nda3-KM311 cnd2-gfp-LEU2 snf21-129*	this study
Fig. 6E-F	**LY3744**	*h-*	*leu1- ura4- ade6?*	*nda3-KM311 snf21-flag-KanR cnd2-gfp-LEU2*	this study
	LY3745	*h+*	*leu1- ura4- ade6?*	*nda3-KM311 gcn5Δ::NatR snf21-flag-KanR cnd2-gfp-LEU2*	this study
	LY3746	*h+*	*leu1- ura4- ade6?*	*nda3-KM311 gcn5Δ::NatR mst2Δ::ura4+ snf21-flag-KanR cnd2-gfp-LEU2*	this study
Fig. S1A & S1B	**LY42**	*h-*	*leu1-*	*top2-250cs*	YGRC
	LY1557	*h?*	*leu1-*	*eso1-H17ts sid4-Tomato-HygroR*	this study
	LY1530	*h-*	*leu1-*	*eso1-H17ts gcn5Δ::KanR sid4-Tomato-HygroR*	this study
	LY1544	*h-*	*leu1- ura4- ade6-*	*rad21-K1ts-ura4+ gcn5Δ::KanR sid4-Tomato-HygroR*	this study
	LY1562	*h?*	*leu1- ura4- ade6-*	*rad21-K1ts-ura4+ sid4-Tomato-HygroR*	this study
Fig. EV1	**LY1889**	*h-*	*leu- ura4- ade6?*	*cdc11-gfp-KanR pREP-fib1-RFP-LEU2*	this study
	LY1938	*h-*	*leu1- ura4?*	*cut3-477 cdc11-gfp-KanR pREP-fib1-RFP-LEU2*	this study
	LY1942	*h-*	*leu1- ura4-*	*gcn5-47 cdc11-gfp-KanR pREP-fib1-RFP-LEU2*	this study
Fig. EV2A and D	**LY113**	*h-*	*leu1- ura4- ade6-*		our stock
	LY855	*h+*	*leu1- ura4- ade6-*	*gcn5-47*	this study
	LY1292	*h-*	*leu1- ura4 ade6-*	*gcn5Δ::KanR*	this study
Fig. EV2B	**LY393**	*h+*	*leu1- ura4- ade6-*	*cut3-gfp-ura4+*	this study
	LY710	*h-*	*leu1- ura4- ade6-*	*gcn5-47 cut3-gfp-ura4+*	this study
	LY1436	*h-*	*leu1- ura4-*	*gcn5Δ::KanR cut3-gfp-ura4+ sid4-tomato-HygroR*	this study
	LY2341	*h+*	*leu1- ura4- ade6?*	*top2-HA-ura4+ dam1-gfp-KanR*	this study (Top2-HA from YGRC)
	LY2342	*h+*	*leu1- ura4- ade6?*	*gcn5-47 top2-HA-ura4+ dam1-gfp-KanR*	this study
	LY2343	*h+*	*leu1- ura4- ade6?*	*gcn5Δ::NatR top2-HA-ura4+ dam1-gfp-KanR*	this study
	LY2344	*h+*	*leu1- ura4- ade6?*	*cut3-477 top2-HA-ura4+ dam1-gfp-KanR*	this study
Fig. EV2C	**LY270**	*h-*	*leu1- ura4-*	*nda3-KM311*	this study
	LY348	*h+*	*leu1- ura4?*	*nda3-KM311 cut3-3HA-His6-ura4+*	this study
	LY388	*h-*	*leu1- ura4-*	*nda3-KM311 cut3-HA-His6-ura4+ cnd2-GFP-LEU2*	this study
	LY1797	*h+*	*leu1- ura4-*	*nda3-KM311 gcn5Δ::KanR cut3-HA-His6-ura4+*	this study
	LY1799	*h+*	*leu1- ura4-*	*nda3-KM311 gcn5Δ::KanR cut3-HA-His6-ura4+ cnd2-gfp-LEU2*	this study

Fig. EV2E-F	**LY1638**	*h-*	*leu1- ura4- ade6?*	*gcn5-47 ars1-FYG45.H14-cnp3-LEU2*	this study
	LY1662	*h-*	*leu1- ura4- ade6-*	*cut3-477 ars1-FYG45.H14-cnp3-LEU2*	this study
	LY1667	*h-*	*leu1- ura4- ade6?*	*cut3-477 gcn5-47 ars1-FYG45.H14-cnp3-LEU2*	this study
Fig. EV3A-C	**LY270**	*h-*	*leu1- ura4-*	*nda3-KM311*	this study
	LY1802	*h-*	*leu1- ura4-*	*nda3-KM311 cnd2-gfp-LEU2*	this study
	LY2046	*h-*	*leu1- ura4-*	*nda3-KM311 cut3-477 cnd2-gfp-LEU2*	this study
Fig. EV4A-B	**LY2341**	*h+*	*leu1- ura4- ade6-*	*top2-HA-ura4+ dam1-gfp-KanR*	this study
	LY2343	*h+*	*leu1- ura4- ade6?*	*gcn5Δ::NatR top2-HA-ura4+ dam1-gfp-KanR*	this study
	LY3388	*h?*	*leu1- ura4-*	*gcn5Δ::NatR mst2Δ::ura4+ top2-HA-ura4+ dam1-gfp-HygroR*	this study
	LY2344	*h+*	*leu1- ura4- ade6?*	*cut3-477 top2-HA-ura4+ dam1-gfp-KanR*	this study
	LY1730	*h+*	*leu1-*	*dam1-gfp-KanR*	this study
	LY3345	*h-*	*leu1- ura4- ade6-*	*dam1-gfp-HygroR mis4-HA-LEU2*	this study (mis4-HA-LEU2 from JPaul Javerzat)
	LY3343	*h-*	*leu1- ura4- ade6-*	*gcn5Δ::NatR mst2Δ::ura4+ dam1-gfp-HygroR mis4-HA-LEU2*	this study

** leu1-: leu1-32 ; ura4- : ura4D18 or DS/E ; ade6- : ade6-210 or -216 ; lys1- : lys1-131.*

Table S3. List of qPCR primers used in this study

Chromosome site	Primers	Sequence	Figures
cnt1	cnt1qL1	ACCGTTGCAACTTACATCAGC	Fig. 3A, EV3
	cnt1qR1	GGTCGCCAAATAGCAATGAG	
dh1	cendh1qL1	CGCTTTGTTGTCGTGGACTA	Fig. 3A, 4E, EV3, EV5B
	cendh1qR1	AACACGGCGATAAGAAATGG	
rds1 5'IGR	rds1s-2qL1	TCTGGCTCCTCGTCATTTTC	Fig. 3A, EV3A, EV3D
	rds1s-2qR1	TCATCGCTTCCAACCCTTAC	
rds1 CDS	rds1s+3qL1	AAGCGTCGAATTGGCTTG	Fig. EV3D
	rds1s+3qR1	GTTGCCGGTGATGTTTAAGG	
gas1 5'IGR	Gas1qL1	ACGACAGAATTGCCACGTTC	Fig. EV3D
	Gas1qR1	CGTTTTGGGGGAATACAGTG	
gas1 CDS	Gas1qL2	CCGTTCGTGACGTTAAATCC	Fig. EV3D
	Gas1qR2	CATCATCACCGCAGTCAAAG	
gas1 3'IGR	Gas1qL2	AATAGCATGTCGAGGTTGTATGG	Fig. 3A
	Gas1qR3	TGTCATCGCGAAACCTTACC	
prl53 5'IGR	prl53qL2	TAGTTTGTTTGGGGGAGTGG	Fig. 4B, 4E, 5F, 6B, 6F, EV3D, EV5B
	prl53qR2	TAGAACTTGGGAGGGACAACC	
prl53 CDS	prl53qL1	CAAGGGCTGTTTTGTCACTG	Fig. 3A, 6C, EV3A, EV3D
	prl53qR1	TCCCCTGTTTAGCATGGAAG	
prl53 3'IGR	prl53 qL4	ACATGTCAGGGTTCAGTACACG	Fig. EV5, EV7
	prl53 qR4	TCGCTATACGCAACAAGTGC	
ecm33 5'IGR	ecm33qL1	CAAAGTTTGGTCGCAAGCTC	Fig. 4B, 4E, 5F, 6B, 6F, EV3D, EV5B
	ecm33qR1	AGGTGCGCAATTTCGTTG	
ecm33 CDS	Ecm33qL2	TTCGGTTCCTTACCTTACCG	Fig. EV3D
	Ecm33qR2	AACGAAACCACCACCAACAG	
ecm33 3'IGR	Ecm33qL3	TCAGCTGCACGTTGTTTAGC	Fig. 3A, 6C, EV5, EV7
	Ecm33qR3	AGAAACAAGCCGGAGATCCTAC	
B1E7.04c 5'IGR	B1E7qL1	ATTCGATTCCTCGCTACCTCTC	Fig. EV3D
	B1E7qR1	CACGTGGTTGGCATAGCAAC	
B1E7.04c CDS	B1E7qL2	TGTTTCAAGTTCGCCGGTTG	Fig. EV3D
	B1E7qR2	GAAAGGCTTGCCGAGTAAGTG	
B1E7.04c 3' IGR	Rpc82qL3	AAGCTTCTCGGTTAGATGATATGG	Fig. 3A
	Rpc82qR3	AAGCAAAAGAAGTGCCGAAG	
snoU14 5'IGR	snoU14qL1	AAGGTATGTTCGCCGTATGC	Fig. 3A, 5F, 6B, 6C, 6F, EV3A, EV3D
	snoU14qR1	GTCGATAGGACGGGTAAAGAAG	
snoU14 CDS	snoU14qL3	CATTGAACATTCGCAGTTTCC	Fig. EV3D
	snoU14qR3	GAAGGACTATGCACGACATCTG	
snoU14 3'IGR	snoU14qL2	TGATGGAAATTGTAGTCTGGTTG	Fig. EV7
	snoU14qR2	TTAATTGCCATTCTACGCATTG	
exg1 5'IGR	exg1qL2	CGCGGTAAGCCACAATAAAC	Fig. 4B, 4E, 5F, 6B, 6F, EV3D, EV5B
	exg1qR2	CTGCTTGGATTTGCGTACTG	

exg1 CDS	exg1qL1	GACGGTAAATGAGCCTTTGG	Fig. 3A, 6C, EV3A, EV3D
	exg1qR1	AGCTGGAAAGAGGATTGACG	
exg1 3'IGR	exg1qL3	CACATAGACGGACCACTTTGAG	Fig. EV5, EV7
	exg1qR3	ATATGTCACCTGTGGCTGAGTG	
cdc22 5'IGR	cdc22qL4	GTCGGACTTATTTTAGCGGAAC	Fig. 4B, 4E, 5F, 6B, 6F, EV3D, EV5B
	cdc22qR4	TGGAAACCGGATCATTTTTG	
cdc22 CDS	cdc22qL1	AAGCTCGCCGTAGCAATATG	Fig. 3A, 6C, EV3A, EV3D
	cdc22qR1	GAAGAAAGCATCGGCAAGAC	
cdc22 3'IGR	cdc22qL3	CGGGCTAAATTGAGGTATGG	Fig. EV5, EV7
	cdc22qR3	CGCAGTTGCACTTTTCAAAC	
slp1 5'IGR	eng1qL1	AACCCTCACGAATCACCAAG	Fig. 4B, 4E, 5F, 6B, 6F, EV3D, EV5B
	eng1qR1	AGCATTTCGCCAAGAGCTAC	
slp1 CDS	slp1 qL3	ATGAGGGCTCCAAATCAGTG	Fig. 3A, 6C, EV3D
	slp1 qR3	GTGCCCTTGGCAAAGTAATC	
slp1 3'IGR	slp1 qL4	CACCCCTAAAGGTGGAATTG	Fig. EV7
	slp1 qR4	ACCTTGGGGTGATCTGATTG	
cnd1 5'IGR	Cnd1-NDRqL1	ATAAATGGACCCCCACACAG	Fig. 4B, 4E, EV5B
	Cnd1-NDRqR1	GATGGATTTGGCGTACTACATTC	
cnd1 CDS	cnd1qL1	AGCAATTAGCCGAACGTCTG	Fig. 3A
	cnd1qR1	CACCACATGATCCCATTGAC	
rpl1502 5'IGR	Rpl1502qL1	AGTATTTTGGTGTCTTGCTCTCG	Fig. 4B
	Rpl1502qR1	GCAAATTGTGACTGCTCCTG	
rpl1502 CDS	Rpl1502qL2	TCGCTACTGCTCCAATTTGC	Fig. 3A
	Rpl1502qR2	GAGAGGGATCAACGAGAATCAC	
uge1 5'IGR	Uge1qL1	TTCCGACGACCTCTTTGTTAC	Fig. 4B, 4E, EV5B
	Uge1qR1	AGCAAAAGCCACAATGAAGC	
uge1 3'IGR	Uge1qL3	GAACCCTTTTCCCTTTCCTG	Fig. 3A
	Uge1qR3	CGGTATTATTAGCGACCTAATCG	
5S 5'IGR	rDNA37qL1	TAGGATCGCTGAGAATCCATC	Fig. 3A, 4B, 4E, 5F, 6B, 6C, 6F, EV3A, EV5B
	rDNA37qR1	TGGATTAAAACACATTGCTTGC	
tRNA Gly05	gly05qL1	GACGTTGTGCTAAAAGGTGTTG	Fig. 3A, 6B, 6C, 6F, EV3A, EV5B
	gly05qR1	GGAAATCGAGCAGAGGTCAG	
18S	18sqL1	TTTCTAGGACCGCCGTAATG	Fig. EV3D
	18sqR1	TGCTTTCGCAGTAGTTCGTC	
Mnase-qPCR prl53#1	Prl53P4qL1	CGCTGCCTCTATCACCAACT	Fig. EV6C
	Prl53P4qR1	CATGACAGAGCAAGCGACAG	
Mnase-qPCR prl53#2	Prl53V3qL1	CCAACTCTACCGCCCCTTAC	Fig. EV6C
	Prl53V3qR1	GTGGTGTTGGTGCCGTTAGT	
Mnase-qPCR prl53#3	Prl53P3qL1	AAGCATTCTTAATAAGCTCCAACC	Fig. EV6C
	Prl53P3qL1	CGACGGAAAGAACACGAGAG	
Mnase-qPCR prl53#4	Prl53P3qL3	GCACCTTTACTCAACGGTCGTA	Fig. EV6C
	Prl53P3qR3	AAAGATTAAACGGTTGGAGCTTATT	
Mnase-qPCR prl53#5	Prl53P3qL2	GGTTGTCCCTCCCAAGTTCT	Fig. EV6C
	Prl53P3qR2	CGACCGTTGAGTAAAGGTGCT	
Mnase-qPCR	Prl53N2qL3	AATGGCCGTATCTTCACGTC	Fig. EV6C

prl53#6	Prl53N2qR3	GAGTCTAGGAGATGGTCAGCCTTA	
Mnase-qPCR prl53#7	prl53qL2	TAGTTTGTTTGGGGGAGTGG	Fig. EV6C
	prl53qR2	TAGAACTTGGGAGGGACAACC	
Mnase-qPCR prl53#8	Prl53NDR2qL2	TAGACCCGGATGGACTCTCC	Fig. EV6C
	Prl53NDR2qR2	CCACTCCCCCAAACAAACTA	
Mnase-qPCR prl53#9	Prl53_NDR2qL1	CCCCTGGTACCTGTCCTCTT	Fig. EV6C
	Prl53_NDR2qR1	GTCCATCCGGGTCTAGAAGG	
Mnase-qPCR prl53#10	Prl53NDR1qL2	CAACATTGCCTCCTCCTCTC	Fig. EV6C
	Prl53NDR1qR2	CGTACTCCAGGGACTGCTTT	
Mnase-qPCR prl53#11	Prl53_NDR1qL1	CGACGGACTTCTCCCTGTGT	Fig. EV6C
	Prl53_NDR1qR1	TTGGACGAGGAGAGGTGAGA	
Mnase-qPCR prl53#12	Prl53V2qL1	CCATTTCTCCTCCTTGTTGC	Fig. EV6C
	Prl53V2qR1	CGCTGTAACTGTGGTGCAAG	
Mnase-qPCR prl53#13	Prl53-P2qL1	CGTTCATTATTTGGCCTATCCA	Fig. EV6C
	Prl53P2qR1	GCAACAAGGAGGAGAAATGG	
Mnase-qPCR prl53#14	Prl53P2qL2	CGTAAACAATCATTAACTGAACTCTCA	Fig. EV6C
	Prl53P2qR2	AACGCTGGATAGGCCAAATAA	

Appendix Table S4. List of antibodies used in this study

Application	Antibody
ChIP-Cnd2-GFP	rabbit polyclonal #A11122, Life Technologies
ChIP-Gcn5-myc	rabbit polyclonal #A14, Santa Cruz
W. blotting & ChIP anti-H3-Cterm	rabbit polyclonal #ab1791 ChIP-grade, abcam
W. Blotting & ChIP anti-H3K9ac	rabbit polyclonal #07-352, upstate
W. Blotting & ChIP anti-H3K18ac	rabbit polyclonal #07-354, upstate
W. Blotting anti-H3K14ac	rabbit polyclonal #07-353, upstate
ChIP anti-H3K14ac	rabbit polyclonal #06-911, upstate
ChIP anti-H4	rabbit polyclonal #39177 ChIP-grade, active motif
ChIP anti-Snf21-Flag	mouse monoclonal #M2, Sigma
W. Blotting anti –α tubulin	mouse monoclonal Tat1, Keith Gull
ChIP anti RNA Pol II (Ser2P)	rabbit polyclonal #ab5095 ChIP-grade, abcam