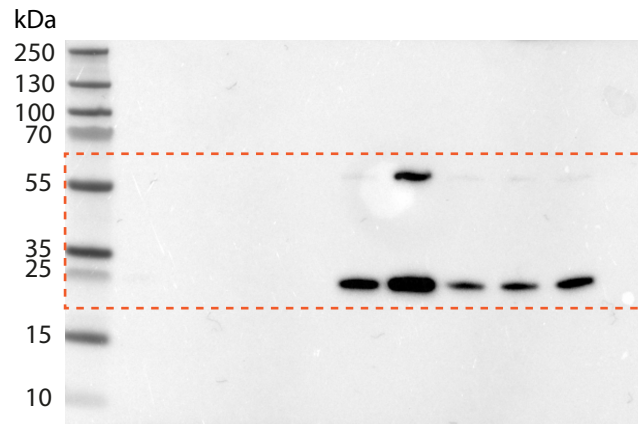
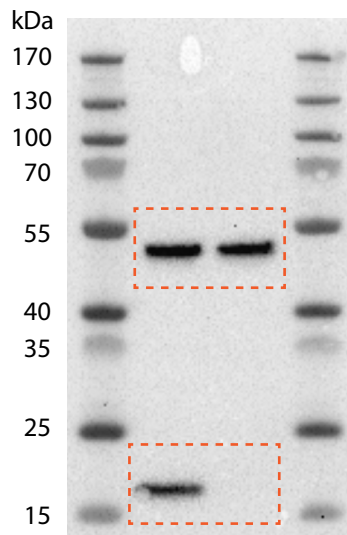


Supplementary Figure 1 | Source gel data

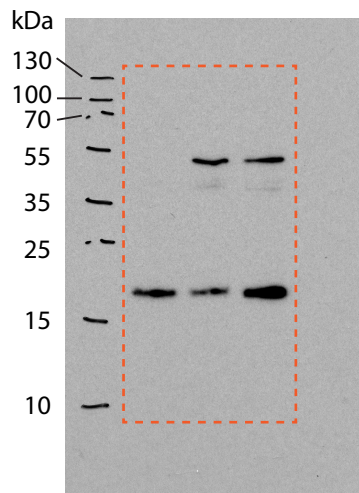
Extended Data Fig. 1e



Extended Data Fig. 6d

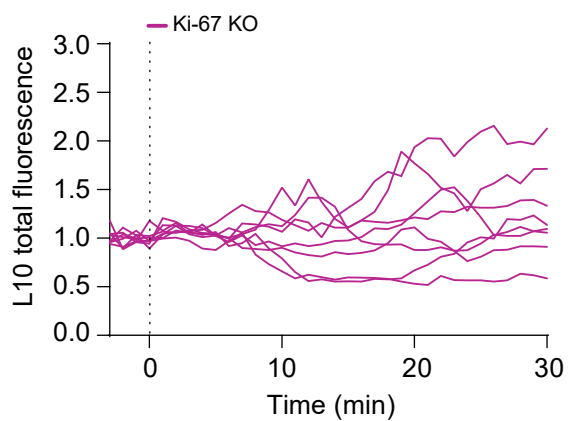


Extended Data Fig. 7c

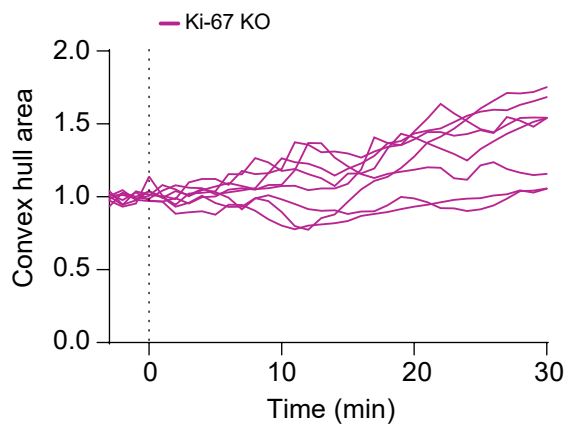


Supplementary Figure 2 | Individual cell plots

Figure 4f



Extended Data Figure 10 h



## Supplementary Table 1 | Cell lines used in this study

Background	Cell line name	Reference	Lab ID
HeLa Kyoto	EGFP-Encapsulin; H2B-mCherry	Generated and verified in this study (Extended Data Fig. 1a- c)	1701
HeLa Kyoto	H2B-mCherry; L10-EGFP	Generated via lentiviral transduction and verified in this study (Extended Data Fig. 1a-c)	1772
HeLa Kyoto	HKF1; H2BmCherry; IBB-EGFP	Schmitz et al., Nat. Cell Biology, 2010	172
HeLa Kyoto	Actin-GFP; H2B-mCherry	Steigmann et al., Cell, 2009	161
HeLa Kyoto	L10-EGFP	Generated in this study via lentiviral transduction	1815
HeLa Kyoto	Ki-67 KO L10-EGFP	Generated in this study via lentiviral transduction	1816
HeLa Kyoto	Encapsulin-EGFP	Generated in this study via lentiviral transduction	1819
HeLa Kyoto	Ki-67 KO Encapsulin-EGFP	Generated in this study via lentiviral transduction	1820
HeLa Kyoto	IBB-EGFP	Generated in this study via lentiviral transduction	1813
HeLa Kyoto	H2B-mCherry	Generated in this study via lentiviral transduction	1693
HeLa Kyoto	CENPA-GFP; H2B-mcherry	Derived from CENP-A-GFP cell line as described in Wurzenberger et al., 2012; additionally, H2B-mcherry-IRESpuro2 was introduced	398
HeLa Kyoto	EGFP-MKI67 (homozygous)	Cuylen et al., 2016	1336
HeLa Kyoto	HeLa Wildtype	Obtained from S. Narumiya (Kyoto University, Japan), validated by a Multiplex human Cell line Authentication test (MCA), 21.04.16.	1
HeLa Kyoto	HKF1; H2B-mCherry	Steigmann et al., Cell, 2009	137
HeLa Kyoto	HKF1; H2B-mCherry	Generated in this study	140
HeLa Kyoto	Ki-67 KO	Cuylen et al., 2016	1102
HeLa	AcFL-LAP2 $\beta$ ; H2B-mCherry	Obtained from M. Petronczki, published in Takaki et al., 2017	1150
HeLa Kyoto	TET3G endotropic receptor (RIEP)	Published in Samwer et al. 2017	1081
HeLa Kyoto	Ki-67 KO TET3G endotropic receptor (RIEP)	Generated in this study	1499
HeLa Kyoto	BAF-EGFP, H2B-mCherry	Generated in this study	1114
HeLa Kyoto	Myr-Palm-mEGFP	Generated in this study	619
HeLa Kyoto	MKI67(RASA) (homozygous)	Generated in this study	1177
HeLa Kyoto	Ki-67 KO H2B-mCherry (strong overexpression)	Generated in this study	1582

## Supplementary Table 2 | Plasmids used in this study

Plasmid name	Vector backbone	Source	Lab ID
Encapsulin-EGFP_IRESNeo3	IRESneo3	Encapsulin gene amplified from a plasmid obtained from Liam Holt	1688
Lenti_L10-EGFP_IRES_Hygro	Lenti_SFFV IRES_Hyg	L10 gene amplified from a plasmid obtained from Tchorzewski lab	1770
Lenti_Encapsulin-EGFP_IRES_neo	Lenti_SFFV_IRES_Neo	Encapsulin gene amplified from a plasmid obtained from Liam Holt	1795
Lenti_IBB-EGFP_Blast	Lenti_EF1a_IRES_Blast	Generated in this study	1406
H2B-mCherry	IRESpuro2	Steigmann et al., Cell, 2009	191
<b>H2B-mCherry</b>	IRESneo3	Generated in this study	192
GFP-NES	EGFP-C3	Generated in this study	27
EGFP-Ki-67-mCherry	IRESpuro2	Cuylen et al., 2016	1371
mCherry-Ki-67-EGFP	IRESpuro2	Cuylen et al., 2016	1368
H2B-mNeonGreen	IRESpuro2	Cuylen et al., 2016	703
EGFP-BAF	Lenti_EF1a_IRES_Blast	Samwer et al., 2017	1149
MyrPalm-mEGFP	IRESpuro2	Generated in this study	135
H2B-mNeonGreen-FRB	IRESpuro2	Generated in this study	1071
H2B-mCherry-FKBP	IRESpuro3	Generated in this study	948
EGFP-Ki-67	IRESpuro2	Generated in this study	p-343
mCherry-Ki-67(RASA)-EGFP	IRESpuro2	Generated in this study	1551
EGFP-Ki-67(RASA)-mCherry	IRESpuro2	Generated in this study	1552