Supplementary Material

1 Figure and 3 Tables

Figure Legend

Supplementary Figure 1 Rhodamine-phalloidin staining of actin structures in actin alleles. Polarised cortical actin patches (arrowhead) and actin cables (arrow) are visible in strains expressing wild-type actin (A), *act1-102* (B)*, act1-157* (C). Depolarised cortical actin patches with few or no actin cables are observed in cells expressing *act1-115* (D). Visualisation of the cells was performed using an Olympus BX60 fluorescence microscope. (Bar: 10 μm, Exposure time: 500 msec)

Supplementary Table 1. Yeast strains

Strain	Genotype	Origin/ Reference
KAY 141	MAT**a** *his3Δ200 leu2-3.112 ura3-52 cry1 can1-1 tub2-201 (benR) act1-133::HIS3*	DDY336 (D.Drubin)
KAY 143	MAT**a** *ura3-52 leu2-3.112 his3Δ200 cry1 can1-1 tub2-201 act1-101::HIS3*	DDY338(D.Drubin)
KAY 166	MATα *ura3-52 leu2-3.112 his3Δ200 can1-1 ade4 cry1 tub2-201 act1-102:: HIS3*	DDY339 (D.Drubin)
KAY 147	MATα *ura3 leu2 his3 can1-1 tub2-201 act1-113::HIS3*	DDY342 (D.Drubin)
KAY 172	MATα *ura3-52 leu2 his3 can1-1 tub2-201 act1-115::HIS3*	DDY343 (D.Drubin)
KAY 151	MAT**a** *ura3 leu2 his3 ade2 cry1 bry2-201 act1-119::HIS3*	DDY346 (D.Drubin)
KAY 152	MAT**a** *ura3-52 leu2-3.112 his3Δ200 cry1 tub2-201 can1-1 act1-120::HIS3*	DDY347 (D.Drubin)
KAY 156	MATα *ura3 leu2 his3 tub2-201 can1-1 act1-129::HIS3* (R177A, D179A)	DDY351 (D.Drubin)
KAY159	MAT**a** *ura3 leu2 his3 cry1 tub-201 ACT1*::HIS3	DDY354 (D.Drubin)
KAY 207	MAT**a** *ura3-52 leu2-3.112 his3Δ200 ade2-101 (am) can1 cry1* + CEN *ACT1*:: *HIS3*	DBY7062 (D.Botstein)
KAY 208	MAT**a** *ura3-52 leu2-3.112 his3Δ200 ade2-101 (am) can1 cry1* + CEN *ACT1*:: *act1-45 HIS3* (I341A)	DBY7063 (D.Botstein)
KAY 209	MAT**a** *ura3-52 leu2-3.112 his3Δ200 ade2-101 (am) can1 cry1* + CEN *ACT1*:: *act1-53 HIS3* (I345A)	DBY7064 (D.Botstein)
KAY 210	MAT**a** *ura3-52 leu2-3.112 his3Δ200 ade2-101 (am) can1 cry1* + CEN *ACT1*:: *act1-54 HIS3* (Y166T)	DBY7067 (D.Botstein)
KAY 211	MAT**a** *ura3-52 leu2-3.112 his3Δ200 ade2-101 (am) can1 cry1* + CEN *ACT1*:: *act1-57 HIS3* (I341K)	DBY7072 (D.Botstein)
KAY 212	MAT**a** *ura3-52 leu2-3.112 his3Δ200 ade2-101 (am) can1 cry1* + CEN *ACT1*:: *act1-61 HIS3* (Y166A)	DBY7075 (D.Botstein)
KAY 213	MAT**a** *ura3-52 leu2-3.112 his3Δ200 ade2-101 (am) can1 cry1* + CEN *ACT1*:: *act1-62 HIS3* (F169A)	DBY7076 (D.Botstein)
KAY 214	MAT**a** *ura3-52 leu2-3.112 his3Δ200 ade2-101 (am) can1 cry1* + CEN *ACT1*:: *act1-63 HIS3* (Y166A, F169A)	DBY7078 (D.Botstein)
KAY 1199	MATα *tub2-201 his3Δ200 leu2-3.112 ura3-52 act1-157::HIS3*	This study
KAY 446	MAT**a**, *his3Δ1 leu2Δmet15Δura3Δ*	Invitrogen BY4741
KAY 448	MAT**a** *Δscp1::KanMx his3Δ leu2Δ met15Δ ura3Δ*	Invitrogen
KAY 593	MAT**a** *Δsac1::KanMx his3Δ leu2Δ met15Δ ura3Δ*	Invitrogen
KAY 1242	MATa *Δscp1::KanMx his3Δ leu2Δ met15Δ ura3Δ, sac6Δ:: LEU2*	This study
KAY 684	MATα *Sac6-RFP::KanMx his3Δ1 leu2Δ0 lys2Δ0 ura3Δ0*	Huh et al., 2003
KAY1178	MAT**a**, *his3Δ1 leu2Δmet15Δura3Δ, SCP1-GFP*	Invitrogen
KAY1199	MATα *his3Δ200, leu2-3,112,ura3-52, act1-157::HIS3*	This study
KAY1304	As KAY159 + Abp1mRFP	This study
KAY1305	As KAY166 + Abp1mRFP	This study
KAY1306	As KAY172 + Abp1mRFP	This study

KAY1307	As KAY1199 + Abp1mRFP	This study
DGY157	BY4741 *Scp1*(1-154)::*HIS5*	This study
DGY159	BY4741 *Scp1*(1-172)::*HIS5*	This study

Supplementary Table 2. Plasmids

Plasmid name	Description	Origin/ Reference
pKA 88	GFP-*ABP1* under the control of the *ACT1* promoter and terminator	Gift-D. Botstein, Princeton
pKA 211	Scp1 cloned between NdeI and SalI sites on the pSJW1 vector (2585 bp, AmpR); used for Scp1p purification	(5)
pKA 148	PCR template used to create *SCP1* deletions and truncations using the *HIS 3* cassette	(12)
pKA280	p416 CEN URA MET 25 promoter -*SCP1*	(5)
pKA281	p426 2μ URA MET 25 promoter -*SCP1* 2μ	(5)
B4189	GFP-Scp1 expressed under the control of the *SCP1* native promoter (contains two polymorphisms at positions 394 and 420)	Gift-G. Fink, Whitehead Inst.
pKA 491	pET14b vector containing Scp1Δ180 (expresses 6 x His-Scp1Δ180)	This study
pKA 501	pET14b vector containing Scp1 full length cloned between the NdeI and the Sal I sites (6 x His- Scp1)	This study
pKA 504	A point mutation was introduced at position 172 in Scp1 in B4189	This study
pKA 505	A point mutation was introduced at position 180 in Scp1 in B4189	This study
pKA 530	A point mutation was introduced at position 154 in Scp1 in B4189	This study
pKA542	A point mutation was introduced to generate S185A in Scp1 in B4189	This study
pKA543	A point mutation was introduced to generate S185D in Scp1 in B4189	This study
pKA474	PCR template plasmid used to create *SAC6* deletions *LEU2*	Gift-D.Drubin

Supplementary Table 3 Oligonucleotides used in this study

OLIGO	SEQUENCE	Notes
oKA313	CTAGGACCACAACTGTCAATCTAGAAGCCAAGACCCCCGGTT	IVM for Scp1Δ154
oKA314	AACCGGGGGTCTTGGCTTCTAGATTGACAGTTGTGGTCCTAG	IVM for Scp1Δ154
oKA 315	CATCTACAAGATGGTACTGTCTAGAGTACTTTTGAATACGGT	IVM for Scp1Δ172
oKA 316	ACCGTATTCAAAAGTGCTCTAGACAGTACCATCTTGTAGATG	IVM for Scp1Δ172
oKA 317	TGGAGCACTTTTGAATACGTCTAGATGAAAGGTGCATCTCAG	IVM for Scp1Δ180
oKA 318	CTGAGATGCACCTTTCATCTAGACGTATTCAAAAGTGCTCCA	IVM for Scp1Δ180
oKA 319	GGTTATATGAAAGGTGCAGCTCAGGCTACTGAAGGAGTG	IVM for Scp1S185A
oKA 320	CACTCCTTCAGTAGCCTGAGCTGCACCTTTCATATAACC	IVM for Scp1S185A
oKA 321	GGTTATATGAAAGGTGCAGATCAGGCTACTGAAGGAGTG	IVM for Scp1S185D
oKA 322	CACTCCTTCAGTAGCCTGATCTGCACCTTTCATATAACC	IVM for Scp1S185D
oKA 690	TATCAGAGAAGAAGCTGATATATTAGCCCTAAGGAGTACACCAAAACACAT CGAGGTCGACGGTATC	Δsac6 deletion 5’
oKA 691	TGGAACAAGAAAGCTGAGTAGAAAACAGGTTACGAAAGTTGTTTGTTGGCC GCTCTAGAACTAGTGGATC	Δsac6 deletion 3’
oKA 692	GTTCCCGATGGCCTTCATGTG	Δsac6 deletion check
oKA 693	GGAATCATTGAGCGTTGGAGGC	Δsac6 deletion check

Supplementary Figure 1