

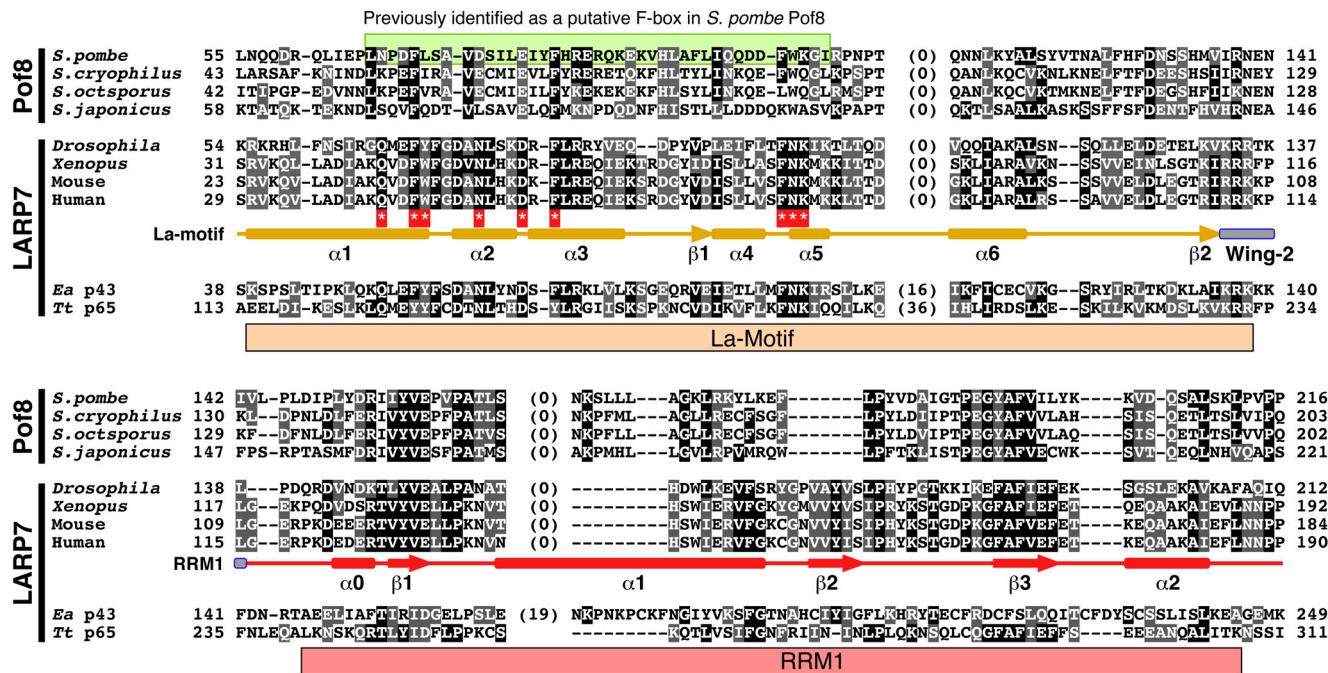
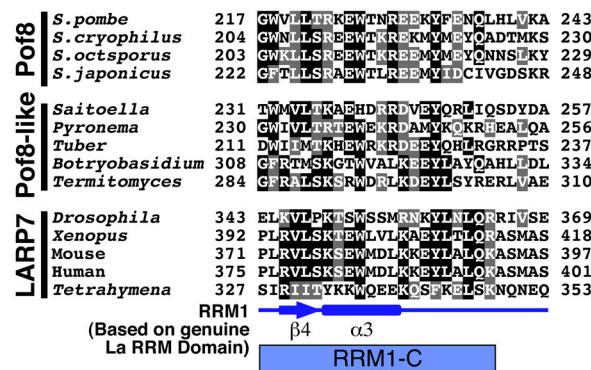
Supplementary Figure 1 Pof8 and Lsm3 bind to non-telomeric sites.

(a-d) Quantitative real-time PCR ChIP analysis to monitor association of Trt1, Pof8 and Lsm3 in indicated genetic backgrounds at (a) *ars2004*, (b) *non-ARS*, (c) *ade6*⁺ and (d) *his1*⁺. (See **Supplementary Table 4** for primers used in PCR.) Plots show mean values plus/minus SEM from at least 5 independent experiments. Raw data and statistical analysis are available in **Supplementary Dataset**.

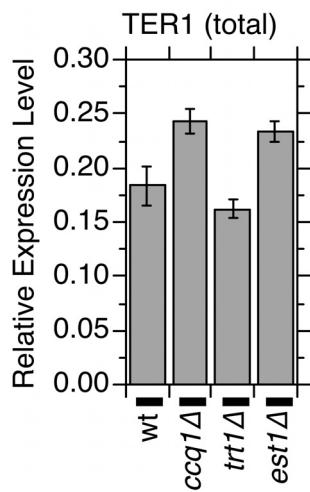
<i>S. pombe</i>	1	MFVPROQINVRKIKIPTGKENNSIADGNNNKIKDEHYHKH--NEASKEPSHSIS--GGMLNQQ--	-DRQLIEPLNPDF	70
<i>S. cryophilus</i>	1	MFLPQVNVRNRRLTRRPSISNKTP--DQEHKSI--NGS--S-T-SSTRLARS	-AFKNINDLKPDEF	58
<i>S. octosporus</i>	1	MFLPQVNIRNKPQK-THSKHTP--TDKENENT--SSS--S-A-SLNSITIP	-GPEDVNLLKPEF	57
<i>S. japonicus</i>	1	MFVPROQIKRKRRPLPSKEFAENAPP-AKEAPVVDVVYIPIHPSRKEPIKEAPDVTHTIKTAT	-QKTEKNDLSQVF	73
<i>Saitoella</i>	1	MFVFRTVKRRKLPHVPAEPPRALQPISTGS--VAAQPESSNPADTSS-KHPPRAPT-GP--VQOPKKGPNYSBEDL	71	
<i>Pyronema</i>	1	MFVPROVKRTYTAHPTPKSSASKNKSIV--SPEPKPSIEPVAVAA-SSTTTAAP	-TNITRPGTIDLQS	68
<i>Tuber</i>	1	MFVPROLOKSLCQOQK--E-STPL--APT	-EKSTKNDYIDPTL	38
<i>Botryobasidium</i>	1	MSFNFIPIAKKRNKGKAASSSSV-PPNPTP--FTQRPPP	-EGPRLPTNTKGKGEKELSRIAKDEELERD-	70
<i>Termitomyces</i>	1	MASSFPFIPRTLVIGKQKQSHTQSASTSAQVSPSPS-LNT	-GTPHITKAKYSNP	53
La-Motif?				
<i>S. pombe</i>	71	LSA DVS IILEIVFHR--EROKEVHLAFLIO-QDDFKGIG--RENPTONNLKVAYSYVTNAIF	127	
<i>S. cryophilus</i>	59	IRAVECMIEVLFYR--DRETFKHLYILIN-KOEFVQCL-KPSPTONLKOCVKNLKNEIF	115	
<i>S. octosporus</i>	58	IRAVECMIEILFYK--BKEKCFHLSYLIN-KOELVQCL-KMSPTONLKOCVKTMKNEIF	114	
<i>S. japonicus</i>	74	QDTVLSA VELQFMK--NPQDNFHISL LLLDDDEQKIASV--KAPPTOKWLSAALKASKSFFF	132	
<i>Saitoella</i>	72	AWKHIVALEMLFAPSS--SVRFAAKSTI-DGSSCIHLHLSLIS-HRSISLN-RSPSPQALATALRTIPSALI	138	
<i>Pyronema</i>	69	AEAIVVVIOLFSS--ENPWT EWLDA RRET-DGPHOVHLLAAVIE-CPYKEHEH-RALPSQIVVRAFEAIPSRVLI	139	
<i>Tuber</i>	39	AKEMWMTLIELIFSDHGIESGPPEWFSARMRSV--EGESDFIHLSSLDD-CPILLAEM-KPKPSOMTLRKAI TOYPSDFL	112	
<i>Botryobasidium</i>	71	--LATLLELSFSDY--AFWSAHLGRQAVS-TSKDCQVPLRLLN-BSVSPAHIPQPRPSESAFAKALKAHGSGFL	139	
<i>Termitomyces</i>	54	--YINIFNLA LSDY--ALWVDPDLRQIDFSTESSSSNE-TGDCFPLSLRIR--RSKVLGPLNI-ENLOVEIAKALKRSDAISAL	130	
La-Motif?				
<i>S. pombe</i>	128	HF--DNSSHMVIRNENIVL--PLDIPPLYDRIIVYEPVPATLSNKSLL--LAGKLKY--	178	
<i>S. cryophilus</i>	116	TF--DEEHSIITRNEYK-L--DPNLDLFERIIVYEPFPATLSNKP FM--LAGLLREC--	165	
<i>S. octosporus</i>	115	TF--DEGSHFII(NENK-F--DFNLDLFERIIVYEPFPATLSNKP FM--LAGLLREC--	164	
<i>S. japonicus</i>	133	SF--DENEFHVRNEAFPS--RPTASMDRIVVSESPATMSA PMH--LLGVLRPV--	183	
<i>Saitoella</i>	139	ET--SAAGYHVROREL PPN--PLIGTDEMITYVEPVPAKLLDDALD--VAVALNKE--	189	
<i>Pyronema</i>	140	QI--SODGYHILRSSTT--PRIPIDESHTIYVTPSPVSNATTCPTG--RLAIELH--	187	
<i>Tuber</i>	113	QL--SKDKWYIIRRREYLA SRSRSPGPKCSEDSTIYEPHTGIGL-NPG--RVARMLSQ--	168	
<i>Botryobasidium</i>	140	EVIRLFTEPSQGDWNPDQAQMSESEQGEDAGGYEIRRKDWHSIKD-AHPLWGTAMEGRITYVENMPSPARSLSLARFMHA ILPPPSQS	228	
<i>Termitomyces</i>	131	EVRLLVSEPSSSAWSGKR--DTARDIGAYEVRRRNTQA-RP-SRTYSRQDWE DRTVYESIPQYRSI PAIMHUVNSLRSERLPE-	212	
La-Motif?				
RRM1				
<i>S. pombe</i>	179	--LKEFLPVDAI GTPEGYAFVIIYKKVDOSATSK--IPV--PPGWVLTREWE	227	
<i>S. cryophilus</i>	166	--FSGFLPVLDIIP--PEGYAFVVL AHSISOEINTS--IVI--POGWNLLSREWE	214	
<i>S. octosporus</i>	165	--FSGFLPVLDIIP--PEGYAFVVL AHSISOEINTS--IVV--POGMKLLSREWE	213	
<i>S. japonicus</i>	184	--MRQWLPLPTKLSI--PEGYAFVECWKSVTQEOQNH-VQA--PSGFLLLSRABEW	232	
<i>Saitoella</i>	190	--MSAEDPCLPIQRVFGLGRGYAIVL LSSIVDESTVTKN--PMTMWVLTKA EBD	241	
<i>Pyronema</i>	188	--KTLPAELLPVYTTNEHRSWAI LTLISAPVTOQEDHDN HESW--POGWI VLTRWE	240	
<i>Tuber</i>	169	--SAMPRKYLQYDPLVQFVEAGDTAFAVILSAAVSHEDAE NOCLW--PKDWLIMTKEBWR	221	
<i>Botryobasidium</i>	229	PVPMAVQSI TFPNROSASEGSNLSLFCGEIKCRGFAVFTFREVEHAERAVQEWPWDTQEASEGNTATPSNTTAVEAKKCGPRTM SKGTW	318	
<i>Termitomyces</i>	213	PHAA RVQGVILPPHQDKPG--DAPICKGFALWVFDQDILDVEFILORNPWDRHQ DTLQNP-EAPAEVSEATKF GERALSKSRW	294	
RRM1-C				
289 [Δ289-402]				
<i>S. pombe</i>	228	NREEKYFENOIHLVKASSSDVSN--S--SNS-F--PENRYPKLTKVEQKMTKVS KTSQTDKDEDNLDFTK NLLTRIKNLH	301	
<i>S. cryophilus</i>	215	KREKMYM-YQADTMKSSSSA FFT--EPIITNOS-FRTNPDRASSSSVXPESSE RQFPELEDDCKKSQTKHSESKRSPFKG LLTRLNLH	301	
<i>S. octosporus</i>	214	KREEMYMYQNNSSKYPKRTYF--VPSLQKQ--NQAVLSSPTNQEHHHKHPLEAEDSSEESKSKP KNEGEFPRGHLTRLNLH	295	
<i>S. japonicus</i>	233	LREEMYI CIVGDSKRATRLOQO--SOARRN GALVRNSNLSLSPSPDPPTK--SPHHEPNPSLDSNVPKGLLTLRCNLH	305	
<i>Saitoella</i>	242	RREVEYQRLIQSDYDALRRRRVSPERRREGRLT--PPREVGRLLTPPLPS--LPPKSRPASTSTPTVYEKGLLHLHSLH	320	
<i>Pyronema</i>	241	KRDAMYKQRKHEAO-Q--ARL--A--S--HHVREMANAPIP--KHTFEPGLIVHINH	290	
<i>Tuber</i>	222	KRDEEYQHLRGRRPTSPARIRL--P-ERHDGASG--SSVQQMWSLPIFPTV PVDPASVREGDQKMNA DVE SGLIVYLNH	298	
<i>Botryobasidium</i>	319	ALKEEYLAYQAHLDLSKPTASPDPEVRSSP-IPNSNQ--PPPLIH--H--TPVFEHELEYTPRGCLUVFVRNVH	387	
<i>Termitomyces</i>	295	RLKDEYLSYRERLVAEINAQFATERPVP-TLP--VNPNPKA--ETAITN--HAAPPLEPPLDNTSFYPFNSLIFVRNH	368	
RRM1-C				
xRRM2				
<i>S. pombe</i>	302	PLTNKSTIHSLLSYVFSR OTO--NIACEPMYIDYRKDETAEIIRWKTPLHAE TCIINA FRTOERKNSHDDI	370	
<i>S. cryophilus</i>	302	PLTNKSTIHSLLRYVFSR OTP--TATCEPMYIDYRKDETAEIIRWKSPSEQAII CVSCFFNOKRKODSHNDI	370	
<i>S. octosporus</i>	296	PLTNKSTIHSLLHYVFSR ODP--TAICEPMYIDYRKDETAEIIRWKSSEQASLCVDCFSNORRKODAHDDI	364	
<i>S. japonicus</i>	306	PLT LTKSNSIOAFLVHDMKOAKO--DNVCI-QYD YRKDETAIVRWA YDAOASICISEUKROK RMSA ADDV	373	
<i>Saitoella</i>	321	EETNKP TISQSFIAQVANPQYFDKNPSAQOLEYDG APIEDDATDNLVH QYV DYT KPSD T YVRLS TPAEA NLLARAI TFOH RVMRA DDC	410	
<i>Pyronema</i>	291	LDA T KPTISQSFIAQVANPQYFDKNPSAQOLEYDG APIEDDATDNLVH QYV DYT KPSD T YVRLS TPAEA NLLARAI TFOH RVMRA DDC	371	
<i>Tuber</i>	299	PLT KETTISI TROVDRYNGKKRSSTL--K-DRDGPPVN IN YV D VDF QKG ID SCL RLSTPAHATRILWSY DSR PI IQAS ALDG	378	
<i>Botryobasidium</i>	388	PE TNKTTI KALF SAA FAE--ESS GDY D VDF QKG ID SCL RLSTPAHATRILWSY DSR PI IQAS ALDG	452	
<i>Termitomyces</i>	369	PE TNKTTI RKL FGR AFESSTE--VNS DGDY D VD YD NKGMD SCHL RLA PEHAR IL VNHF L SNO T IHSN E D E	437	
xRRM2				
390 [Δ390-402]				
<i>S. pombe</i>	371	RAHRKKGS--RPPIIAELI TGEEEPKNYR M KK	402	
<i>S. cryophilus</i>	371	RAHRKH NKD--GPFI S A E L V E G S E E S Y W N I LY G KV K	406	
<i>S. octosporus</i>	365	RAHRKH NKD--GPFI S A E L I E G F E E S Y W N I LY G KV K	400	
<i>S. japonicus</i>	374	VCTT---A--SEI V D A E L I AG S E E A S Y W N I L PPK R	405	
<i>Saitoella</i>	411	KCISVGENS-ERKIVVGVN VI EGERBRI YW M E D A K I K G K R K R K -A G D Q D R S R A V E S --VGEVQQLV----VN K A K G T H M K F D	485	
<i>Pyronema</i>	372	GK KKE----KDGIVQGRILL EGV F E A E Y W R K V E E V M C K V G K K G A G Q G V K A L S A G L A T V N L R G T V K R P R T G S P D C L G K K G F E E M L A	455	
<i>Tuber</i>	379	GK KKV TND SGRDNIVKATN VEGNE E R I Y W	407	
<i>Botryobasidium</i>	453	EGRVA--SGDERP II A E I V D G K R E E L Y W E R V P E K V R R E S V L K A R I G A G G H D A -----GGAGNEPEGGSGPRKRRKRG	523	
<i>Termitomyces</i>	438	TGKPS--DGTSPPVLM E L P G K R E Q L Y W E K V P E K V R R Q A V Q K A L A S V Q D A S A L N V G N G R G D E D G C E G E G D T R K R K R R R	514	
xRRM2				

Supplementary Figure 2 Sequence alignment of fungal Pof8-like proteins.

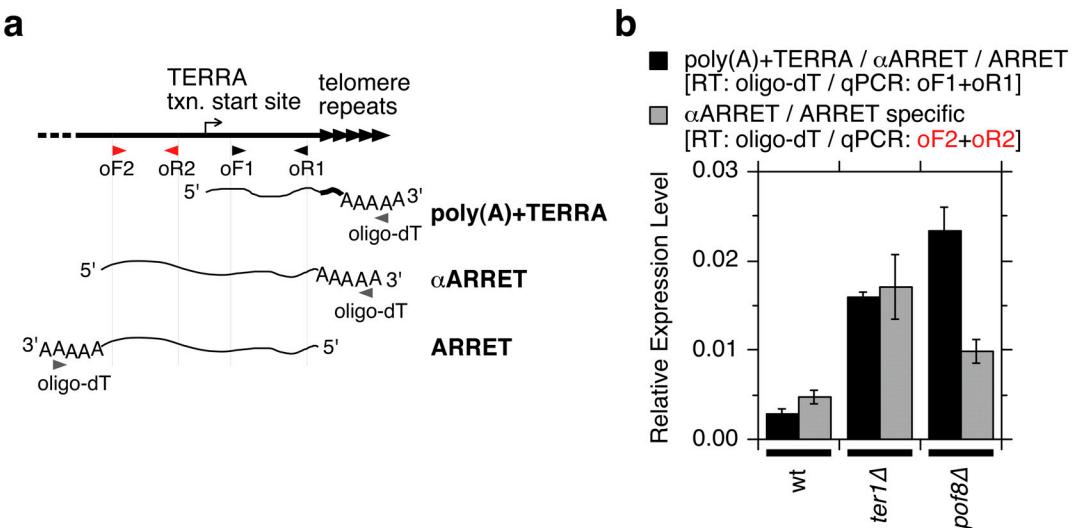
Proteins that show homology to fission yeast Pof8 were initially identified by PSH-BLAST (Position-Specific Iterated BLAST) at NCBI (<https://blast.ncbi.nlm.nih.gov/Blast.cgi>) after 3rd iterations using *S. pombe* Pof8 sequence. (Accession numbers for fungal Pof8-like proteins used in alignment are listed in **Supplementary Table 5**.) Multiple sequence alignment was generated by Clustal Omega¹. Highly conserved residues within the xRRM domain that have been implicated in RNA recognition²⁻⁴ are highlighted with colored background. Amino acid residues that show at least 50% conservation among aligned sequences are highlighted in black (identical residues) or gray (similar residues, grouped as GAVLI, FYW, CM, ST, KRH, DENQ, and P). Regions corresponding to putative La-motif, RRM1 and xRRM2 are marked. In addition, the region previously suggested to correspond to F-box in *S. pombe* Pof8⁵ is indicated.

a**b****Supplementary Figure 3** Sequence alignment for the N-terminal region of Pof8 and LARP7 family proteins.

(a) Sequence alignment of N-terminal regions that correspond to La-motif and RRM1 motif from Pof8 proteins from *Schizosaccharomyces* species (*S. pombe*, *S. cryophilus*, *S. octsporus*, and *S. japonicus*), LARP7 proteins (*Drosophila*, *Xenopus*, mouse, and human), *Euplotes* p43, and *Tetrahymena* p65. Residues within the La-motif that are important for recognition of poly(U) sequence in human LARP7⁶ are indicated with red colored square with Asterisk (*) mark. Amino acid residues that show at least 50% conservation among aligned sequences are highlighted in black (identical residues) or gray. The secondary structures for the human LARP7⁶ La-motif and RRM1, and the putative F-box in *S. pombe* Pof8⁵ are also indicated. **(b)** Alignment for additional region of homology C-terminal to RMM1 (RRM-C) among fission yeast Pof8, fungal Pof8-like proteins, and LARP7 family proteins from indicated species. This region of mammalian LARP7 has previously been identified to show homology to the α3 helix region of RRM1 in genuine La proteins⁶. The secondary structure of a genuine La protein for this region is also indicated.

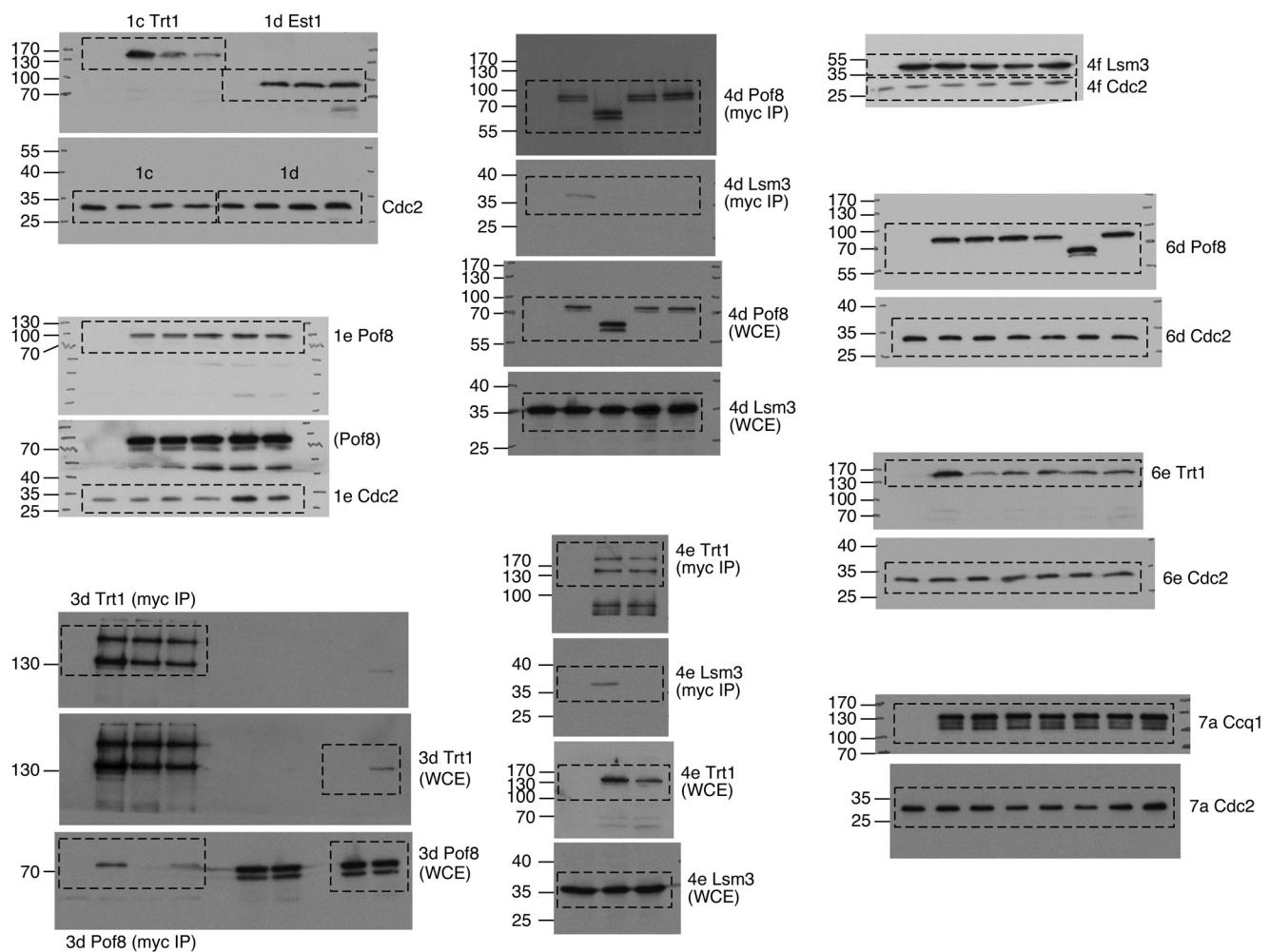


Supplementary Figure 4 TER1 RNA expression in *ccq1 Δ* , *trt1 Δ* , and *est1 Δ* cells. TER1 RNA expression levels were normalized to *his1⁺* mRNA expression. Error bars correspond to SEM from at least 3 independent experiments, and raw data and statistical analysis are available in **Supplementary Dataset**.



Supplementary Figure 5 Effect of *pof8Δ* on ARRET/ α ARRET expression.

(a) A schematic diagram indicating various poly(A)-tailed IncRNA species expressed at fission yeast telomere/sub-telomere regions^{7,8}. Locations of primers used in RT reaction (oligo-dT) and subsequent quantitative PCR analysis (oF2 and oR2) to specifically monitor ARRET and α ARRET, but not poly(A)+TERRA are indicated, along with primers that potentially detect all three type of poly(A)-tailed IncRNAs (oF1 and oR1) (**Supplementary Table 4**). (b) Expression levels of ARRET/ α ARRET is not greatly affected by *pof8Δ* mutation. Expression levels of telomeic transcripts were normalized to *his1⁺* mRNA. Error bars correspond to SEM from at least 5 independent experiments. Raw data and statistical analysis are available in **Supplementary Dataset**.



Supplementary Figure 6: Uncropped western blot gels for indicated main figures. Areas of gels shown in main figures are marked with dashed boxes. Sizes of protein molecular weight markers (kDa) are also indicated.

Supplementary Table 1: Fission yeast strains used in this study.

Figure	Strain	Full Genotype
1a	TN2411	wt
	TN12119	<i>pof8Δ</i>
	AM17672	<i>pof8Δ trt1Δ</i>
	TN17261	<i>pof8Δ rad52Δ*</i>
1b	TN2411	wt
	TN12119	<i>pof8Δ</i>
	AG14003	<i>taz1Δ</i>
	AM17697	<i>pof8Δ taz1Δ</i>
	YTC9370	<i>rap1Δ</i>
	AM17700	<i>pof8Δ rap1Δ</i>
	YTC8555	<i>poz1Δ</i>
	AM17701	<i>pof8Δ poz1Δ</i>
	YTC8432	<i>rif1Δ</i>
	AM17695	<i>pof8Δ rif1Δ</i>
1c	TN2411	<i>trt1⁺</i> (no tag)
	TN10695	<i>trt1-myc</i>
	TN10696	<i>trt1-myc</i>
	TN16187	<i>trt1-myc pof8Δ</i>
	TN16188	<i>trt1-myc pof8Δ</i>
	TN16189	<i>trt1-myc pof8Δ</i>
	AM17632	<i>trt1-myc ter1Δ</i>
	AM17633	<i>trt1-myc ter1Δ</i>
	TN2411	<i>est1⁺</i> (no tag)
1d	TN17157	<i>est1-myc</i>
	TN17158	<i>est1-myc</i>
	TN17171	<i>est1-myc pof8Δ</i>
	TN17172	<i>est1-myc pof8Δ</i>
	TN17380	<i>est1-myc ter1Δ</i>
	TN17381	<i>est1-myc ter1Δ</i>
	TN2411	<i>pof8⁺</i> (no tag)
1e	AM16931	<i>pof8-myc</i>
	AM16932	<i>pof8-myc</i>
	AM17629	<i>pof8-myc ter1Δ</i>
	AM17630	<i>pof8-myc ter1Δ</i>
	AM17036	<i>pof8-myc ccq1Δ</i>
	AM17037	<i>pof8-myc ccq1Δ</i>
	AM17026	<i>pof8-myc trt1Δ</i>
	AM17027	<i>pof8-myc trt1Δ</i>
	AM17029	<i>pof8-myc est1Δ</i>
	AM17030	<i>pof8-myc est1Δ</i>
3a	TN2411	<i>pof8⁺</i> (no tag)
	TN12132	<i>pof8-myc</i>
	AM16931	<i>pof8-myc</i>
	AM16932	<i>pof8-myc</i>
	AM17036	<i>pof8-myc ccq1Δ</i>
	AM17037	<i>pof8-myc ccq1Δ</i>
	AM17026	<i>pof8-myc trt1Δ</i>
	AM17027	<i>pof8-myc trt1Δ</i>
	AM17029	<i>pof8-myc est1Δ</i>
	AM17030	<i>pof8-myc est1Δ</i>
3b	TN2411	<i>trt1⁺</i> (no tag)
	TN7706	<i>trt1-myc</i>
	TN10695	<i>trt1-myc</i>
	TN10696	<i>trt1-myc</i>
	TN16187	<i>trt1-myc pof8Δ</i>
	TN16188	<i>trt1-myc pof8Δ</i>
	TN16189	<i>trt1-myc pof8Δ</i>
	TN17597	<i>trt1-myc pof8Δ[289-402]</i>
	TN2411	<i>trt1⁺</i> (no tag)

	TN17598	<i>trt1-myc pof8-Δ[289-402]</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 trt1+::G8-13myc-kanMX6 pof8-Δ[289-402]::natMX6</i>
3c	TN2411	<i>est1⁺</i> (no tag)	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1</i>
	TN17157	<i>est1-myc</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 est1⁺::G8-13myc-kanMX6</i>
	TN17158	<i>est1-myc</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 est1⁺::G8-13myc-kanMX6</i>
	TN17171	<i>est1-myc pof8Δ</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 est1⁺::G8-13myc-kanMX6 pof8Δ::kanMX6</i>
	TN17172	<i>est1-myc pof8Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 est1⁺::G8-13myc-kanMX6 pof8Δ::kanMX6</i>
3d	AM17926	<i>pof8-PK</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8⁺::12PK-hphMX6</i>
	AM17931	<i>pof8-PK trt1-myc</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8⁺::12PK-hphMX6</i>
4a-b	TN2411	<i>wt</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1</i>
	TN12118	<i>pof8Δ</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6</i>
	TN12119	<i>pof8Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6</i>
4c	TN2411	<i>lsm3⁺</i> (no tag)	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1</i>
	AM17121	<i>lsm3-myc</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 lsm3⁺::13myc-kanMX6</i>
	TN17147	<i>lsm3-myc</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 lsm3⁺::13myc-kanMX6</i>
	AM17644	<i>lsm3-myc pof8Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX lsm3⁺::13myc-kanMX6</i>
	AM17645	<i>lsm3-myc pof8Δ</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6 lsm3⁺::13myc-kanMX6</i>
4d	AM17755	<i>lsm3-PK</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 lsm3⁺::12PK-natMX6</i>
	AM17746	<i>lsm3-PK pof8-myc</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 pof8⁺::13myc-kanMX6 lsm3⁺::12PK-natMX6</i>
	AM17946	<i>lsm3-PK pof8-Δ[289-402]-myc</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8-Δ[289-402]::13myc-kanMX6 lsm3⁺::12PK-natMX6</i>
	AM17949	<i>lsm3-PK pof8-myc ter1Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁻-tk pof8⁺::13myc-kanMX6 lsm3⁺::12PK-natMX6</i>
	AM17950	<i>lsm3-PK pof8-myc ter1Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁻-tk pof8⁺::13myc-kanMX6 lsm3⁺::12PK-natMX6</i>
4e	AM17755	<i>lsm3-PK</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 lsm3⁺::12PK-natMX6</i>
	AM17744	<i>lsm3-PK trt1-myc</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 lsm3⁺::12PK-natMX6</i>
	AM17943	<i>lsm3-PK trt1-myc pof8Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8Δ::kanMX6 lsm3⁺::12PK-natMX6</i>
4f	TN2411	<i>lsm3⁺</i> (no tag)	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1</i>
	AM17121	<i>lsm3-myc</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 lsm3⁺::13myc-kanMX6</i>
	TN17147	<i>lsm3-myc</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 lsm3⁺::13myc-kanMX6</i>
	AM17644	<i>lsm3-myc pof8Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6 lsm3⁺::13myc-kanMX6</i>
	AM17645	<i>lsm3-myc pof8Δ</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6 lsm3⁺::13myc-kanMX6</i>
	TN17409	<i>lsm3-myc ter1Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁻-tk lsm3⁺::13myc-kanMX6</i>
	TN17410	<i>lsm3-myc ter1Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁻-tk lsm3⁺::13myc-kanMX6</i>
	TN17415	<i>lsm3-myc trt1Δ</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 trt1Δ::his3⁺ lsm3⁺::13myc-kanMX6</i>
	TN17416	<i>lsm3-myc trt1Δ</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 trt1Δ::his3⁺ lsm3⁺::13myc-kanMX6</i>
5a	AM17641	<i>lsm3-myc est1Δ</i>	<i>h+</i> <i>leu1-32 ura4-D18 his3-D1 est1Δ::hphMX6 lsm3⁺::13myc-kanMX6</i>
	TN17837	<i>wt / No pld +B1</i>	<i>h-</i> <i>leu1-32 his3-D1</i>
	TN17836	<i>wt / No pld -B1</i>	<i>h-</i> <i>leu1-32 his3-D1</i>
	TN17854	<i>pof8Δ / Empty pld +B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX //pREP42</i>
	TN17856	<i>pof8Δ / Empty pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX //pREP42</i>
	TN17858	<i>pof8Δ / TER1 OE pld +B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX //pREP42-TER1</i>
5b	TN17859	<i>pof8Δ / TER1 OE pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX //pREP42-TER1</i>
	TN17836	<i>wt / No pld -B1</i>	<i>h-</i> <i>leu1-32 his3-D1</i>
	AM17109	<i>ter1Δ / No pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 ter1Δ25-1135:ura4⁻:tk</i>
	TN17848	<i>ter1Δ / TER1 OE pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 ter1Δ25-1135:ura4⁻:tk //pREP41-TER1</i>
	TN17856	<i>pof8Δ / Empty pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX //pREP42</i>
5c	TN17860	<i>pof8Δ / TER1 OE pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX //pREP42</i>
	TN17836	<i>wt (no tag) / No pld -B1</i>	<i>h-</i> <i>leu1-32 his3-D1</i>
	TN17892	<i>trt1-myc / Empty pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 //pREP2</i>
	TN17916	<i>trt1-myc pof8Δ / Empty pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP2</i>
5d	TN17908	<i>trt1-myc pof8Δ / TER1 OE pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP2</i>
	TN17837	<i>wt (no tag) / No pld +B1</i>	<i>h-</i> <i>leu1-32 his3-D1</i>
	TN17890	<i>trt1-myc / Empty pld +B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP2</i>
	TN17891	<i>trt1-myc / Empty pld +B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP2</i>
5e	TN17892	<i>trt1-myc / Empty pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP2</i>
	TN17893	<i>trt1-myc / Empty pld -B1</i>	<i>h-</i> <i>leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP2</i>

	TN17914	<i>trt1-myc pof8Δ</i> /Empty pld +B1	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP2</i>
	TN17915	<i>trt1-myc pof8Δ</i> /Empty pld +B1	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP2</i>
	TN17906	<i>trt1-myc pof8Δ</i> / TER1 OE pld +B1	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP42-TER1</i>
	TN17910	<i>trt1-myc pof8Δ</i> / TER1 OE pld +B1	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP42-TER1</i>
	TN17908	<i>trt1-myc pof8Δ</i> / TER1 OE pld -B1	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP42-TER1</i>
	TN17912	<i>trt1-myc pof8Δ</i> / TER1 OE pld -B1	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6 //pREP42-TER1</i>
6a	TN17580	<i>pof8⁺</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8⁺::natMX6</i>
	TN12119	<i>pof8Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6</i>
	TN17582	<i>pof8-Y330A</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-Y330A::natMX6</i>
	TN17584	<i>pof8-R343A</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-R343A::natMX6</i>
	TN17587	<i>pof8-Δ[390-402]</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-[Δ390-402]::natMX6</i>
	TN17586	<i>pof8-Δ[289-402]</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-[Δ289-402]::natMX6</i>
6b	TN2411	<i>pof8+</i> (no tag)	<i>h- leu1-32 ura4-D18 his3-D1</i>
	TN12132	<i>pof8-myc</i>	<i>h- leu1-32 ura4-D18 ade6-M210 his3-D1 pof8⁺::13myc-kanMX6</i>
	AM16931	<i>pof8-myc</i>	<i>h+ leu1-32 ura4-D18 his3-D1 pof8⁺::13myc-kanMX6</i>
	AM16932	<i>pof8-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8⁺::13myc-kanMX6</i>
	AM17098	<i>pof8-Y330A-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-Y330A::13myc-kanMX6</i>
	AM17616	<i>pof8-R343A-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-R343A::13myc-kanMX6</i>
	AM17123	<i>pof8-Δ[390-402]-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-[Δ390-402]::13myc-kanMX6</i>
6c	AM17618	<i>pof8-Δ[289-402]-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-[Δ289-402]::13myc-kanMX6</i>
	TN12118	<i>pof8Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-[Δ289-402]::13myc-kanMX6</i>
	TN12119	<i>pof8Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6</i>
	TN2411	<i>pof8⁺</i> (no tag)	<i>h- leu1-32 ura4-D18 his3-D1</i>
	AM16931	<i>pof8-myc</i>	<i>h+ leu1-32 ura4-D18 his3-D1 pof8⁺::13myc-kanMX6</i>
	AM16932	<i>pof8-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8⁺::13myc-kanMX6</i>
6d	AM17098	<i>pof8-Y330A-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-Y330A::13myc-kanMX6</i>
	AM17616	<i>pof8-R343A-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-R343A::13myc-kanMX6</i>
	AM17123	<i>pof8-Δ[390-402]-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-[Δ390-402]::13myc-kanMX6</i>
	AM17618	<i>pof8-Δ[289-402]-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-[Δ289-402]::13myc-kanMX6</i>
	AM17629	<i>pof8-myc ter1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁺-tk pof8⁺::13myc-kanMX6</i>
	AM17630	<i>pof8-myc ter1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁺-tk pof8⁺::13myc-kanMX6</i>
	TN2411	<i>trt1⁺</i> (no tag)	<i>h- leu1-32 ura4-D18 his3-D1</i>
6e	TN10695	<i>trt1-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6</i>
	TN10696	<i>trt1-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6</i>
	TN16187	<i>trt1-myc pof8Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6</i>
	TN16188	<i>trt1-myc pof8Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6</i>
	TN16189	<i>trt1-myc pof8Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6 pof8Δ::kanMX6</i>
	TN17589	<i>trt1-myc pof8-Y330A</i>	<i>h+ leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8-Y330A::natMX6</i>
	TN17590	<i>trt1-myc pof8-Y330A</i>	<i>h+ leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8-Y330A::natMX6</i>
	TN17593	<i>trt1-myc pof8-R343A</i>	<i>h+ leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8-R343A::natMX6</i>
	TN17594	<i>trt1-myc pof8-R343A</i>	<i>h+ leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8-R343A::natMX6</i>
	TN17601	<i>trt1-myc pof8-[Δ390-402]</i>	<i>h+ leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8-[Δ390-402]::natMX6</i>
	TN17602	<i>trt1-myc pof8-[Δ390-402]</i>	<i>h+ leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8-[Δ390-402]::natMX6</i>
	TN17597	<i>trt1-myc pof8-[Δ289-402]</i>	<i>h+ leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8-[Δ289-402]::natMX6</i>
	TN17598	<i>trt1-myc pof8-[Δ289-402]</i>	<i>h+ leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-kanMX6 pof8-[Δ289-402]::natMX6</i>
7a	TN2411	<i>ccq1⁺</i> (no tag)	<i>h- leu1-32 ura4-D18 his3-D1</i>
	OR12046	<i>ccq1-myc</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6</i>
	OR12047	<i>ccq1-myc</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6</i>
	AM16956	<i>ccq1-myc pof8Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8Δ::kanMX6</i>
	AM16957	<i>ccq1-myc pof8Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8Δ::kanMX6</i>
	AM17683	<i>ccq1-myc ter1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-kanMX6 ter1Δ[25-1135]::ura4⁺:tk⁺</i>
	AM17685	<i>ccq1-myc ter1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-kanMX6 ter1Δ[25-1135]::ura4⁺:tk⁺</i>
	TN17767	<i>ccq1-myc pof8-Y330A</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8-Y330A::natMX6</i>
	TN17768	<i>ccq1-myc pof8-Y330A</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8-Y330A::natMX6</i>
	TN17771	<i>ccq1-myc pof8-R343A</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8-R343A::natMX6</i>

	TN17772	<i>ccq1-myc pof8-[Δ390-402]</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8-[Δ390-402]::natMX6</i>
	TN17775	<i>ccq1-myc pof8-[Δ390-402]</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8-[Δ390-402]::natMX6</i>
	TN17776	<i>ccq1-myc pof8-[Δ390-402]</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8-[Δ390-402]::natMX6</i>
	TN17779	<i>ccq1-myc pof8-[Δ289-402]</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8-[Δ289-402]::natMX6</i>
	TN17780	<i>ccq1-myc pof8-[Δ289-402]</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1⁺::13myc-hphMX6 pof8-[Δ289-402]::natMX6</i>
7b	TN2411	<i>ura4⁻</i>	<i>h- leu1-32 ura4-D18 his3-D1</i>
	LK7299	<i>ura4⁺</i>	<i>h- leu1-32 his3-D1</i>
	CF53	<i>telo::ura4⁺</i>	<i>h⁹⁰ leu1-32 ura4-D18 ade6-M210 his3-D1 otr1R(sphl)::ade6⁺ (cen1) his3⁺:tel(1L) ura4⁺:tel(2L)</i>
	CF17571	<i>pof8Δ telo::ura4⁺</i>	<i>h⁹⁰ leu1-32 ura4-D18 ade6-M210 his3-D1 pof8Δ::kanMX6 otr1R(sphl)::ade6⁺ (cen1) his3⁺:tel(1L) ura4⁺:tel(2L)</i>
	TN17822	<i>pof8-[Δ289-402] telo::ura4⁺</i>	<i>h⁹⁰ leu1-32 ura4-D18 ade6-M210 his3-D1 pof8-[Δ289-402]::13myc-kanMX6 otr1R(sphl)::ade6⁺ (cen1) his3⁺:tel(1L) ura4⁺:tel(2L)</i>
	TN17823	<i>pof8-R343A telo::ura4⁺</i>	<i>h⁹⁰ leu1-32 ura4-D18 ade6-M210 his3-D1 pof8-R343A::13myc-kanMX6 otr1R(sphl)::ade6⁺ (cen1) his3⁺:tel(1L) ura4⁺:tel(2L)</i>
	TN17816	<i>ccq1Δ telo::ura4⁺</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1Δ::hphMX his3⁺:tel(1L) ura4⁺:tel(2L)</i>
7d	TN2409	<i>wt</i>	<i>h+ leu1-32 ura4-D18 his3-D1</i>
	TN2411	<i>wt</i>	<i>h- leu1-32 ura4-D18 his3-D1</i>
	AM17109	<i>ter1Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁺-tk</i>
	AM17307	<i>ter1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁺-tk</i>
	TN5345	<i>rap1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 rap1Δ::ura4⁺</i>
	TN5346	<i>rap1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 rap1Δ::ura4⁺</i>
	LK8667	<i>ccq1Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1Δ::hphMX</i>
	LK8668	<i>ccq1Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1Δ::hphMX</i>
	TN12118	<i>pof8Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6</i>
	TN12119	<i>pof8Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6</i>
	AM16931	<i>pof8-myc</i>	<i>h+ leu1-32 ura4-D18 his3-D1 pof8::13myc-kanMX6</i>
	AM17098	<i>pof8-Y330A-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-Y330A::13myc-kanMX6</i>
	AM17616	<i>pof8-R343A-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-R343A::13myc-kanMX6</i>
	AM17123	<i>pof8-[Δ390-402]-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-[Δ390-402]::13myc-kanMX6</i>
	AM17618	<i>pof8-[Δ289-402]-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8-[Δ289-402]::13myc-kanMX6</i>
S1	TN2411	<i>trt1⁺ (no tag)</i>	<i>h- leu1-32 ura4-D18 his3-D1</i>
	TN10695	<i>trt1-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 trt1⁺::G8-13myc-natMX6</i>
	AM16931	<i>pof8-myc</i>	<i>h+ leu1-32 ura4-D18 his3-D1 pof8⁺::13myc-kanMX6</i>
	AM17630	<i>pof8-myc ter1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁺-tk pof8⁺::13myc-kanMX6</i>
	AM17121	<i>lsm3-myc</i>	<i>h- leu1-32 ura4-D18 his3-D1 lsm3⁺::13myc-kanMX6</i>
	TN17409	<i>lsm3-myc ter1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁺-tk lsm3⁺::13myc-kanMX6</i>
S4	TN2411	<i>trt1⁺ (no tag)</i>	<i>h- leu1-32 ura4-D18 his3-D1</i>
	LK8667	<i>ccq1Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1Δ::hphMX</i>
	LK8668	<i>ccq1Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 ccq1Δ::hphMX</i>
	TN10817	<i>trt1Δ</i>	<i>h- leu1-32 ura4-D18 ade6-M210 his3-D1 trt1Δ::his3⁺</i>
	TN10818	<i>trt1Δ</i>	<i>h- leu1-32 ura4-D18 ade6-M210 his3-D1 trt1Δ::his3⁺</i>
	TN10728	<i>est1Δ</i>	<i>h+ leu1-32 ura4-D18 ade6-M210 his3-D1 est1Δ::hphMX</i>
	TN10729	<i>est1Δ</i>	<i>h+ leu1-32 ura4-D18 ade6-M210 his3-D1 est1Δ::hphMX</i>
S5	TN2409	<i>wt</i>	<i>h+ leu1-32 ura4-D18 his3-D1</i>
	TN2411	<i>wt</i>	<i>h- leu1-32 ura4-D18 his3-D1</i>
	AM17109	<i>ter1Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁺-tk</i>
	AM17307	<i>ter1Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 ter1Δ[25-1135]::ura4⁺-tk</i>
	TN12118	<i>pof8Δ</i>	<i>h- leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6</i>
	TN12119	<i>pof8Δ</i>	<i>h+ leu1-32 ura4-D18 his3-D1 pof8Δ::kanMX6</i>

*Rad52 was previously known as Rad22 in *S. pombe*, but it has been officially renamed to be more consistent with the name used in other organisms for orthologs of this protein.

Supplementary Table 2: Sources of various mutated and tagged alleles for fission yeast strains used in this study.**Previously published strains**

Mutated & epitope-tagged alleles	Source
<i>taz1Δ::ura4⁺</i>	[9]
<i>rap1Δ::ura4⁺</i>	[10]
<i>poz1Δ::natMX6</i>	[11]
<i>rif1Δ::ura4⁺</i>	[10]
<i>trt1⁺::G8-13myc-kanMX6</i>	[12]
<i>est1⁺::G8-13myc-kanMX6</i>	[12]
<i>ccq1Δ::hphMX6</i>	[13]
<i>trt1Δ::his3⁺</i>	[14]
<i>est1Δ::kanMX6</i>	[15]
<i>otr1R(sphiI)::ade6⁺ (cen1) his3⁺:tel(1L) ura4⁺:tel(2L)</i>	[16]

New strains generated for this study

Mutated & epitope-tagged alleles	Comment
<i>trt1⁺::G8-13myc-natMX6</i>	Marker swap of <i>trt1⁺::G8-13myc-kanMX6</i> [12] by PCR-based method.
<i>ccq1⁺::13myc-hphMX6</i>	Marker swap of <i>ccq1⁺::13myc-kanMX6</i> [13] by PCR-based method.
<i>ter1Δ[25-1135]:ura4⁺-tk</i>	Generated by two-step PCR-based method with plasmid 81 (Supplementary Table 3) and primers 1637, 1638, 1639, 1640 (Supplementary Table 4).
<i>lsm3⁺::12PK-kanMX6</i>	Generated by two-step PCR-based method [17] with plasmid 973 (Supplementary Table 3) and primers 1686, 1689, 1687, 1690 (Supplementary Table 4).
<i>lsm3⁺::13myc-kanMX6</i>	Generated by two-step PCR-based method [17] with plasmid 7 (Supplementary Table 3) and primers 1686, 1689, 1687, 1690 (Supplementary Table 4).
<i>pof8Δ::kanMX6</i>	Generated by two-step PCR-based method [17] with plasmid 7 (Supplementary Table 3) and primers 1383, 1390, 1386, and 1391 (Supplementary Table 4).
<i>pof8⁺::12PK-kanMX6</i>	Generated by two-step PCR-based method [17] with plasmid 973 (Supplementary Table 3) and primers 1385, 1382, 1386, and 1391 (Supplementary Table 4).
<i>pof8⁺::13myc-kanMX6</i>	Generated by two-step PCR-based method [17] with plasmid 7 (Supplementary Table 3) and primers 1385, 1382, 1386, and 1391 (Supplementary Table 4).
<i>pof8-Y330A::13myc-kanMX6</i>	Generated by two-step PCR-based method [18] with <i>pof8-myc</i> strain and primers 1699, 1655, 1656, 1386 (Supplementary Table 4).
<i>pof8-R343A::13myc-kanMX6</i>	Generated by two-step PCR-based method [18] with <i>pof8-myc</i> strain and primers 1699, 1658, 1386 (Supplementary Table 4).
<i>pof8-[Δ390-402]:13myc-kanMX6</i>	Generated by two-step PCR-based method [18] with <i>pof8-myc</i> strain and primers 1699, 1648, 1386 (Supplementary Table 4).
<i>pof8-[Δ289-402]:13myc-kanMX6</i>	Generated by two-step PCR-based method [18] with <i>pof8-myc</i> strain and primers 1699, 1647, 1386 (Supplementary Table 4).
<i>pof8⁺::natMX6 (wt)</i>	Removed epitope tag of <i>pof8-myc</i> strain via PCR-based method and primers 1699, 1724, 1285, 1386 (Supplementary Table 4).
<i>pof8-Y330A::natMX6</i>	Removed epitope tag of <i>pof8-Y330A-myc</i> strain via PCR-based method and primers 1699, 1724, 1285, 1386 (Supplementary Table 4).
<i>pof8-R343A::natMX6</i>	Removed epitope tag of <i>pof8-R343A-myc</i> strain via PCR-based method and primers 1699, 1724, 1285, 1386 (Supplementary Table 4).
<i>pof8-[Δ390-402]:natMX6</i>	Removed epitope tag of <i>pof8-[Δ390-402]-myc</i> strain via PCR-based method and primers 1699, 1726, 1285, 1386 (Supplementary Table 4).
<i>pof8-[Δ289-402]:natMX6</i>	Removed epitope tag of <i>pof8-[Δ289-402]-myc</i> strain via PCR-based method and primers 1699, 1725, 1285, 1386 (Supplementary Table 4).

Supplementary Table 3: Plasmids used in this study.**Plasmids used in fission yeast strain construction.**

Stock # & plasmid name	Genes	Description
7 pFA6a-13myc-kanMX6 [17]	<i>kanMX6; ampR</i>	Used as a PCR template to generate 13xmyc-tagged strains and <i>pof8Δ::kanMX6</i> strain.
973 pFA6a-12PK-kanMX6 [19]	<i>kanMX6; ampR</i>	Used as a PCR template to generate 12xPK-tagged strains.
81 pNR228 [20]	<i>ura4⁺; adh1:tk</i>	Used as a PCR template to generate <i>ter1Δ[25-1135]:ura4⁺-tk</i> strain with primers 1637, 1638, 1639, 1640 (Supplementary Table 4).
29 pREP2 [21]	<i>ura4⁺; ampR</i>	Used as empty plasmid control.
30 pREP42 [21]	<i>ura4⁺; ampR</i>	Used as empty plasmid control and for cloning <i>ter1⁺</i> .
1245 pREP42-TER1	<i>ura4⁺; ampR; ter1⁺</i>	Primers 1826 and 1827 (Supplementary Table 4) were used to amplify <i>ter1⁺</i> from <i>S. pombe</i> genome and inserted into BamHI digested plasmid 30.
27 pREP41 [21]	<i>LEU2; ampR</i>	Used to clone <i>ter1⁺</i> gene.
1241 pREP41-TER1	<i>LEU2; ampR; ter1⁺</i>	Primers 1826 and 1827 (Supplementary Table 4) were used to amplify <i>ter1⁺</i> from <i>S. pombe</i> genome and inserted into BamHI digested plasmid 27.

Additional fission yeast related plasmids.

Stock # & plasmid name	Genes	Description
254 pTELO [14]	Fission yeast telomere fragment; <i>ampR</i>	Carries a telomeric repeat fragment (Apal-Sacl) used in generating a telomere probe for Southern blot analysis.

Supplementary Table 4: DNA primers used in this study.

#	Primer Name	Primer Sequence (5' to 3')	Description
1383	Pof8-T2	GGAAAGACAAGGTCGTGGGTGCT	Anneals to <i>pof8</i> 5'UTR. Used to generate <i>pof8Δ::kanMX6</i> (sense).
1390	Pof8-KO(x)-B7	GGCAAGCTAACAGATCTGGCGC TTTACTTCGCTCC TTAAAGTACGGTTTC	Used to generate <i>pof8ΔkanMX6</i> strain. Red letters anneal to <i>kanMX6</i> on plasmid 7 (antisense) (Supplementary Table 3).
1386	Pof8-B5	GTGGTTCATGGTTATTGGAATTGGCTG	Anneals to <i>pof8</i> 3' UTR. Used to generate <i>pof8Δ::kanMX6</i> (antisense).
1391	Pof8-KO/tag(y)-T8	GTCGATTGATACTAACGCC GCCGTTTCCTTCTCT GGTAATACTAATTG	Used to generate <i>pof8Δ::kanMX6</i> and 13Myc tagged <i>pof8</i> strains. Red letters anneal to pFA6a-13Myc-kanMX6 plasmid 7 (sense) (Supplementary Table 3).
1385	Pof8-T4	GCCCATGTATATAGACTATAGGAAGGACG	Anneals to <i>pof8</i> . Used to generate 13Myc tagged <i>pof8</i> strains (sense).
1382	Pof8-tag(x)-B1	GGGGATCCGTCGACCTGCAGCGTACGA CTTTTTAA CATACGCCAATAATTCTTTCTTCTTC	Used to generate 13Myc tagged <i>pof8</i> strains. Red letters anneal to pFA6a-13Myc-kanMX6 plasmid 7 (antisense) (Supplementary Table 3).
1637	TER1ΔUTK-1F	CCACTCGGGACTTGCTTGACTTTAACGG	Used to generate <i>ter1Δ[25-1135]:ura4^r-tk^r</i> strain. Anneals upstream of <i>ter1</i> transcript (sense).
1638	TER1ΔUTK-1R	CGGGAGATGGGGGAGGCTAACTGA CCTTCTAACGA TGGGCGTTGCG	Used to generate <i>ter1Δ[25-1135]:ura4^r-tk^r</i> strain. Red letters anneal to plasmid 81 (antisense) (Supplementary Table 3).
1639	TER1ΔUTK-2F	GCGATCAGCAAAGACTTCTCAGCATTAA CCTCTT GAGCGCGTTTAGGTTTTTCAC	Used to generate <i>ter1Δ[25-1135]:ura4^r-tk^r</i> strain. Red letters anneal to plasmid 81 (sense) (Supplementary Table 3).
1640	TER1ΔUTK-2R	GATTCACTTCTCAAAATTGAAACCGG	Used to generate <i>ter1Δ[25-1135]:ura4^r-tk^r</i> strain (antisense).
1602	Leu1Ter1-F	CCTGCAGCCGGGGATCC GTAAACGGAATATCCG CGATGAAA	Used to generate <i>leu1-32:[ter1+,leu1+]</i> strain. Red letters anneal to plasmid 37 (sense) (Supplementary Table 3).
1636	Leu1Ter1-R	GGCCGCTCTAGAACTAGTGGATCC ACTTCATCTCTT CTAGTACGC	Used to generate <i>leu1-32:[ter1+,leu1+]</i> strain. Red letters anneal to plasmid 37 (antisense) (Supplementary Table 3).
1686	Ism3-T1	GATGATGAAGAGACCGATAAGGAC	Anneals to <i>Ism3^r</i> (sense).
1689	Ism3-B1	GGATCCGTCGACCTGCAGCGTACGA ATTACGAGGT GGAGCAATCAAATAACC	Used to generate <i>Ism3^r::13Myc-kanMX6</i> strain. Red letters anneal to pFA6a-13Myc-kanMX6 plasmid 7(antisense) (Supplementary Table 3).
1687	Ism3-T2	CTGTCGATTGATACTAACGCCGCC AGGAACGAATA AAATTACTATACAAAGC	Used to generate <i>Ism3^r::13Myc-kanMX6</i> strain. Red letters anneal to pFA6a-13Myc-kanMX6 plasmid 7 (sense) (Supplementary Table 3).
1690	Ism3-B2	CGTGAATGTTGGTTAACCTCG	Anneals to <i>Ism3^r 3' UTR</i> (antisense)
1655	pof8 Y330A-R	CGTCCTTCCTATAAGTCTAT AGCC ATGGGCTCACATG CAATATT	Used to generate Y330A mutation (red letters) in <i>pof8</i> (antisense).
1656	pof8 Y330A-F	GAATATTGCATGTGAGCCCATGG GCT ATAGACTATAG GAAGGACG	Used to generate Y330A mutation (red letters) in <i>pof8</i> (sense).
1657	pof8 R343A-R	GCATGAAGCGGTGTTTCCA AGCT TATTATCGCCTCT GTTTCGTC	Used to generate R343A mutation (red letters) in <i>pof8</i> (antisense).
1648	pof8Δ390-402-R	CCGGGGATCCGTCGACCTGCAGCGTACGA GGTAAT TAGCTCAGCAATCAGGAATGGACGGC	Used to generate <i>pof8-Δ[390-402]-myc</i> strain. Red letters anneal to pFA6a-kanMX6 plasmid.
1647	pof8Δ289-402-R	CGGGGGATCCGTCGACCTGCAGCGTACGA ATCCAAA TTATCTTCATCTTATCAGTTG	Used to generate <i>pof8-Δ[289-402]-myc</i> strain. Red letters anneal to pFA6a-13Myc-kanMX6 plasmid 7 (Supplementary Table 3).
1285	Tpz1-T54	CGCGCCACTTCTAAATAAGCGAATTCTT	Used to remove 13myc tag from <i>pof8-my</i> c strains.
1699	pof8-TC	CCTTCCTGAAATCGTTATCCC	Anneals to <i>pof8</i> (sense).
1724	pof8ΔMyc	GAAATTGCTTATTAGAAGTGGCGCG TTACTTTTT AACATACGCCAATAATTCTTT	Used to remove 13myc tag from full length <i>pof8-my</i> c strains.
1725	pof8Δ289Myc	GAAATTGCTTATTAGAAGTGGCGCG TTAATCCAAA TTATCTTCATCTTATCAGTTG	Used to remove 13myc tag from <i>pof8-Δ[289-402]-myc</i> strain.
1726	pof8Δ390Myc	GAAATTGCTTATTAGAAGTGGCGCG TTAGGTAATT AGCTCAGCAATCAGGAATGGACG	Used to remove 13myc tag from <i>pof8-Δ[390-402]-myc</i> strain.

1826	pREPter1F	CATATGTCGACTCTAGAGGATCC TTATACTCAACG CAACGCC	Used to clone TER1 gene in pREP41 or pREP42 (Supplementary Table 3). Red sequence contains homology to plasmids 27, 29, or 30.
1827	pREPter1R	CATTCCCTTTACCCGGGGATCC ACTTCATCTCTTCT AGTACGC	Used to clone TER1 gene in pREP41 or pREP42 (Supplementary Table 3). Red sequence contains homology to plasmids 27, 29, or 30.
637	jk380 (TEL-#1)	TATTTCCTTATTCAACTTACCGCACTTC	Used in qPCR in telomere ChIP experiments [22].
638	jk381 (TEL-#2)	CAGTAGTGCAGTGATTATGATAATTAAAATGG	Used in qPCR in telomere ChIP experiments [22].
935	ars2004-66-F	CGGATCCGTAATCCCAACAA	Used in qPCR in <i>ars2004</i> ChIP experiments [23].
936	ars2004-66-R	TTTGCTTACATTTCGGGAACTTA	Used in qPCR in <i>ars2004</i> ChIP experiments [23].
941	non-ARS-70-F	TACGCGACGAACCTTGCATAT	Used in qPCR in <i>non-ARS</i> (~30 kb from <i>ars2004</i>) ChIP experiments [23].
942	non-ARS-70-R	TTATCAGACCATGGAGCCCATT	Used in qPCR in <i>non-ARS</i> (~30 kb from <i>ars2004</i>) ChIP experiments [23].
633	Ade6-3	TGATGGAGGACGTGAGCACATTGA	Used in qPCR in <i>ade6</i> ⁺ ChIP experiments.
634	Ade6-4	TTGAATGCATCGCAGAGTTGCAGG	Used in qPCR in <i>ade6</i> ⁺ ChIP experiments.
1779	his1.1	CGAAGACGTGCTTCAGCGA	Used in <i>his1</i> ⁺ ChIP experiments, and RT and qPCR for <i>his1</i> ⁺ expression studies [24].
1780	his1.2	TGTCCACCTCGGAATCACTG	Used in <i>his1</i> ⁺ ChIP experiments, and RT and qPCR for <i>his1</i> ⁺ expression studies [24].
1016	3'TER1-B1	GATCCATGGATCTCACGTAATG	Used in RT for TER1.
1015	5'TER1-T1	CAGTGTACGTGAGTCTTCTGCCTT	Used in qPCR for TER1.
1017	275-Ter1	CAAAAATTCGTTGTGATCTGACAAGC	Used in qPCR for TER1.
1678	BLoli1275	CGGAAACGGAATTCAGCATGT	Used in RT and qPCR for un-spliced TER1 [25].
1679	Bloli1020	CAA CAATAATGAACGTCTG	Used in qPCR for un-spliced TER1 [25].
1779	his1.1	CGAAGACGTGCTTCAGCGA	Used in RT and qPCR for <i>his1</i> ⁺ [24].
1780	his1.2	TGTCCACCTCGGAATCACTG	Used in qPCR for <i>his1</i> ⁺ [24].
1772	odT	TTTTTTTTTTTTTTTTTTTT	Used in RT for polyA-TERRA/ARRET [8].
1773	oF1	GAAGTTCACTCAGTCATAATTAAATTGGGTAACGGAG	Used in qPCR for polyA-TERRA/ARRET [8].
1775	oR1	GGGCCCAATAGTGGGGCATTGTATTTGTG	Used in qPCR for polyA-TERRA/ARRET [8].
1774	oF2	GGTTGAATTGAGCGTGGTAGG	Used in qPCR for polyA-ARRET [8].
1776	oR2	ACTTACTGCACCCCTAACGCA	Used in qPCR for polyA-ARRET [8].

Supplementary Table 5: Sources of sequences used in bioinformatic analysis.

Protein Name	GenBank Acc. No.	Source
Pof8	BAB60688	<i>Schizosaccharomyces pombe</i>
Pof8	EPX72631	<i>Schizosaccharomyces octosporus</i> yFS286
Pof8	EPY52790	<i>Schizosaccharomyces cryophilus</i> OY26
Pof8	EEB09384.1	<i>Schizosaccharomyces japonicus</i> yFS275
LARP7	NP_524795	<i>Drosophila melanogaster</i>
LARP7	NP_001039168	<i>Xenopus tropicalis</i>
LARP7	AFE61891	<i>Mus musculus</i>
LARP7	AAH66945	<i>Homo sapiens</i>
p43*	AF307939	<i>Euplates aediculatus</i>
p65	AY280524	<i>Tetrahymena thermophila</i>
hypothetical protein G7K_2053-t1	GAO47857	<i>Saitoella complicata</i> NRRL Y-17804
similar to Pof8	CCX33746	<i>Pyronema omphalodes</i> CBS 100304
hypothetical protein	XP_002836370	<i>Tuber melanosporum</i> Mel28 (black truffle mushroom)
hypothetical protein BOTBODRAFT_187311	KDQ15495	<i>Botryobasidium botryosum</i> FD-172 SS1
Pof8	KNZ72704	<i>Termitomyces</i> sp. J132 (mushroom)

*NOTE: Final protein sequence surrounding open reading frameshift site was adjusted as originally proposed by Aigner *et al.* [26].

SUPPLEMENTARY REFERENCES

1. Sievers, F. et al. Fast, scalable generation of high-quality protein multiple sequence alignments using Clustal Omega. *Mol Syst Biol* **7**, 539 (2011).
2. Singh, M. et al. Structural basis for telomerase RNA recognition and RNP assembly by the holoenzyme La family protein p65. *Mol Cell* **47**, 16-26 (2012).
3. Singh, M., Choi, C.P. & Feigon, J. xRRM: a new class of RRM found in the telomerase La family protein p65. *RNA Biol* **10**, 353-9 (2013).
4. Eichhorn, C.D., Chug, R. & Feigon, J. hLARP7 C-terminal domain contains an xRRM that binds the 3' hairpin of 7SK RNA. *Nucleic Acids Res* **44**, 9977-9989 (2016).
5. Schmidt, M.W., McQuary, P.R., Wee, S., Hofmann, K. & Wolf, D.A. F-box-directed CRL complex assembly and regulation by the CSN and CAND1. *Mol Cell* **35**, 586-97 (2009).
6. Uchikawa, E. et al. Structural insight into the mechanism of stabilization of the 7SK small nuclear RNA by LARP7. *Nucleic Acids Res* **43**, 3373-88 (2015).
7. Bah, A., Wischnewski, H., Shchepachev, V. & Azzalin, C.M. The telomeric transcriptome of *Schizosaccharomyces pombe*. *Nucleic Acids Res* **40**, 2995-3005 (2012).
8. Moravec, M. et al. TERRA promotes telomerase-mediated telomere elongation in *Schizosaccharomyces pombe*. *EMBO Rep* **17**, 999-1012 (2016).
9. Cooper, J.P., Nimmo, E.R., Allshire, R.C. & Cech, T.R. Regulation of telomere length and function by a Myb-domain protein in fission yeast. *Nature* **385**, 744-7 (1997).
10. Kanoh, J. & Ishikawa, F. spRap1 and spRif1, recruited to telomeres by Taz1, are essential for telomere function in fission yeast. *Curr Biol* **11**, 1624-30 (2001).
11. Khair, L., Subramanian, L., Moser, B.A. & Nakamura, T.M. Roles of heterochromatin and telomere proteins in regulation of fission yeast telomere recombination and telomerase recruitment. *J Biol Chem* **285**, 5327-37 (2010).
12. Webb, C.J. & Zakian, V.A. Identification and characterization of the *Schizosaccharomyces pombe* TER1 telomerase RNA. *Nat Struct Mol Biol* **15**, 34-42 (2008).
13. Moser, B.A., Subramanian, L., Khair, L., Chang, Y.T. & Nakamura, T.M. Fission yeast Tel1^{ATM} and Rad3^{ATR} promote telomere protection and telomerase recruitment. *PLoS Genet* **5**, e1000622 (2009).
14. Nakamura, T.M. et al. Telomerase catalytic subunit homologs from fission yeast and human. *Science* **277**, 955-9 (1997).
15. Beernink, H.T., Miller, K., Deshpande, A., Bucher, P. & Cooper, J.P. Telomere maintenance in fission yeast requires an Est1 ortholog. *Curr Biol* **13**, 575-80 (2003).
16. Nimmo, E.R., Pidoux, A.L., Perry, P.E. & Allshire, R.C. Defective meiosis in telomere-silencing mutants of *Schizosaccharomyces pombe*. *Nature* **392**, 825-8 (1998).
17. Bähler, J. et al. Heterologous modules for efficient and versatile PCR-based gene targeting in *Schizosaccharomyces pombe*. *Yeast* **14**, 943-51 (1998).
18. Krawchuk, M.D. & Wahls, W.P. High-efficiency gene targeting in *Schizosaccharomyces pombe* using a modular, PCR-based approach with long tracts of flanking homology. *Yeast* **15**, 1419-27 (1999).
19. Gadaleta, M.C., Iwasaki, O., Noguchi, C., Noma, K. & Noguchi, E. New vectors for epitope tagging and gene disruption in *Schizosaccharomyces pombe*. *Biotechniques* **55**, 257-63 (2013).
20. Sivakumar, S., Porter-Goff, M., Patel, P.K., Benoit, K. & Rhind, N. *In vivo* labeling of fission yeast DNA with thymidine and thymidine analogs. *Methods* **33**, 213-9 (2004).
21. Basi, G., Schmid, E. & Maundrell, K. TATA box mutations in the *Schizosaccharomyces pombe* *nmt1* promoter affect transcription efficiency but not the transcription start point or thiamine repressibility. *Gene* **123**, 131-6 (1993).
22. Kanoh, J., Sadaie, M., Urano, T. & Ishikawa, F. Telomere binding protein Taz1 establishes Swi6 heterochromatin independently of RNAi at telomeres. *Curr Biol* **15**, 1808-19 (2005).

23. Hayashi, M. et al. Genome-wide localization of pre-RC sites and identification of replication origins in fission yeast. *EMBO J* **26**, 1327-39 (2007).
24. Fujita, I., Tanaka, M. & Kanoh, J. Identification of the functional domains of the telomere protein Rap1 in *Schizosaccharomyces pombe*. *PLoS One* **7**, e49151 (2012).
25. Tang, W., Kannan, R., Blanchette, M. & Baumann, P. Telomerase RNA biogenesis involves sequential binding by Sm and Lsm complexes. *Nature* **484**, 260-4 (2012).
26. Aigner, S. et al. *Euplotes* telomerase contains an La motif protein produced by apparent translational frameshifting. *EMBO J* **19**, 6230-9 (2000).