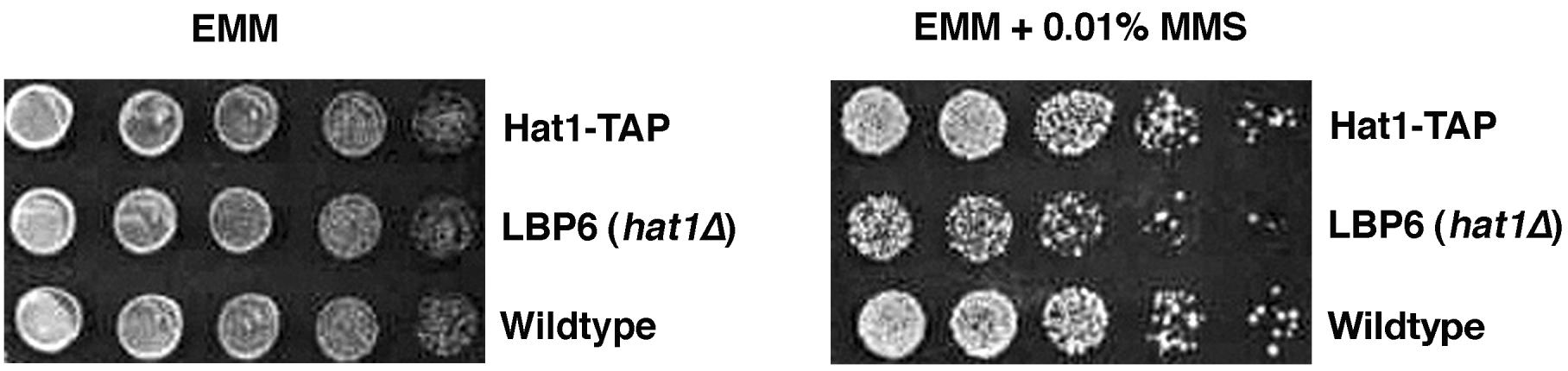

Fig. S1

Figure S1. *Hat1-TAP is functional.* Wildtype (975) and Hat1-TAP (KTP1) *S. pombe* strains were cultured on EMM plates in the presence or absence of 0.01% MMS. Cells were grown three (EMM) or four (EMM + 0.01% MMS) days at 30°. LBP6: *hat1Δ*.

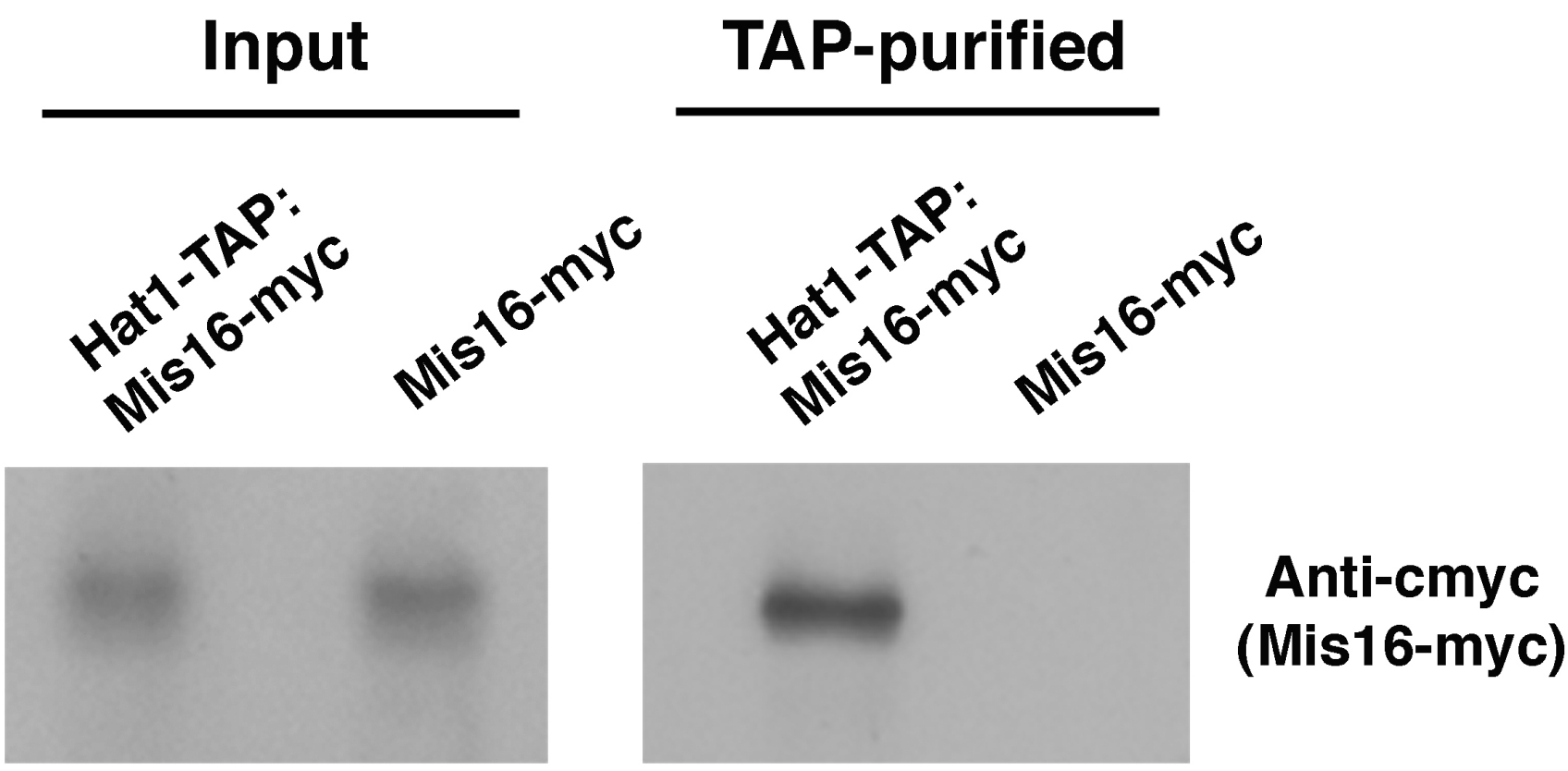

Fig. S2

Figure S2. *Hat1-TAP and Mis16-myc are associated in a complex. S. Pombe* strains Hat1-TAP:Mis16-myc (KTP40) and Mis16-myc (control strain with untagged Hat1) were subjected to tandem affinity purification. Proteins from Input and TAP-purified fractions were subjected to SDS-PAGE and western blot analysis using antibodies against c-myc.

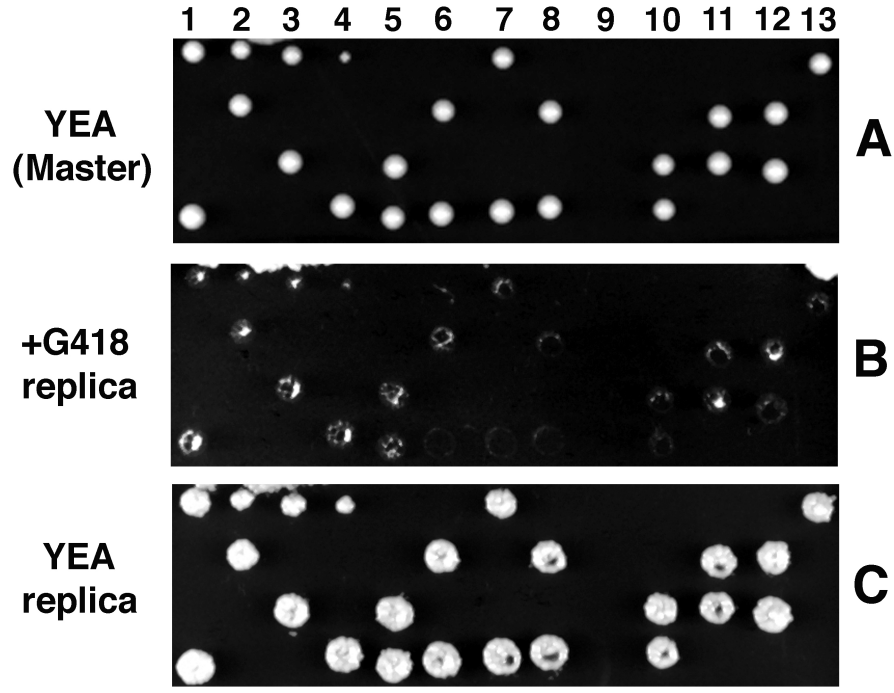

Fig. S3

Figure S3. *mis16 is an essential gene. S. pombe* strain KTP7, heterozygous for deletion of *mis16* (*mis16+/mis16Δ::kan*) was sporulated on MEA plates. (**A**) Tetrads were dissected on YEA plates. Spores were allowed to grow for 3 days at 30° prior to replica plating onto (**B**) G418 (400 μg/ml) and (**C**) YEA plates. Replica-plated colonies were allowed to grow for 2 days. **Note:** Substantial colony growth was not observed on medium containing G418, indicating that the viable cells in Panel A are wildtype for *mis16*. Thus the nonviable cells in panel A are *mis16Δ*.

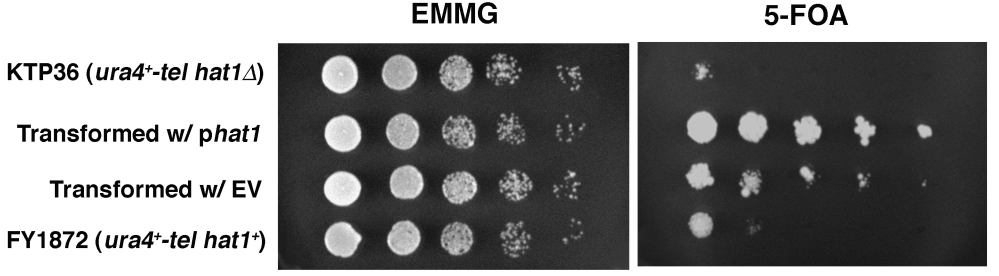

Fig. S4

Figure S4. *Hat1 expressed from a plasmid restores telomeric silencing.* The *ura4-tel, hat1Δ* strain (**KTP36**) was transformed with an empty vector (EV) or a plasmid containing *hat1* controlled by an *nmt1* promoter (*phat1*). Transformed cells were cultured on EMMG plates in the presence or absence of 5-FOA. Spot cultures represent 5-fold serial dilutions. Cells were grown for two (EMMG) or three days (5-FOA) at 30°. **FY1872**: *ura4-tel, hat1+*; **KTP36**: *ura4-tel, hat1Δ*. Note: the slight growth of KTP36 after transformation with the empty vector is likely due to the inherent mutagenicity of transformation.

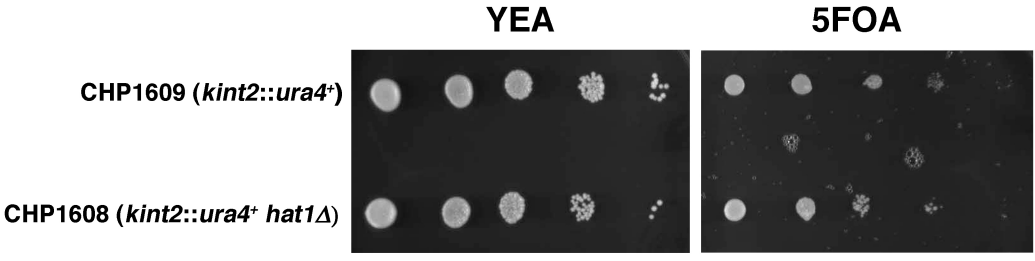

Fig. S5

Figure S5. *hat1 deletion does not result in the loss of silencing at the mating-type locus.* Wildtype and experimental yeast strains were cultured on YEA plates in the presence (**5FOA**) or absence (**YEA**) of 5FOA. Spot cultures represent 10-fold dilutions. Cells were grown for three days at 30°. **CHP1609**: *ura4-silent mating-type locus marker*; **CHP1608**: *ura4-mating-type locus marker, hat1Δ*. The *ura4* marker is silent in both strains.