

Table S1.AID screen candidates and phenotypes

All strains generated in this study are constructed in W303 background *MATa/MAT α (leu2-3,112 trp1-1 can1-100 ura3-1 ade2-1 his3-11,15)*

Protein	Function	Phenotype upon depletion
Rpb2	RNA Pol II subunit	Basket destabilization and Mlp1 granule formation
Rpa135	RNA Pol I subunit	-
Enp1	Small ribosomal subunit export	Basket re-localization at the nucleolar periphery
Csl4	Exosome-non catalytic core component	Basket re-localization at the nucleolar periphery
Ulp1	Ubiquitin-like modifier, Basket associated protein	Basket destabilization
Mlp2	Basket scaffold, Mlp1 homologue	Basket destabilization
Nup60	Basket nucleoporin	Basket destabilization and Mlp1 granule formation
Esc1	Lamin-like protein	Basket destabilization and Mlp1 granule formation
Pml39	Pre-mRNA surveillance, basket associated protein	Basket destabilization
Mex67	Export receptor	-
Tho2	Co-transcriptional mRNP packaging	-
Yra1	TREX subunit ; mRNA export factor	-
Sus1	SAGA and TREX-2 subunit	-
Sac3	TREX-2 scaffold ; mRNA export factor	-
Pap1	Poly(A) polymerase	Basket destabilization and Mlp1 granule formation
Nab2	Poly(A) binding protein	-
Pab1	Poly(A) binding protein	Basket destabilization and Mlp1 granule formation
Rna14	Cleavage and mRNA polyadenylation	Basket re-localization at the nucleolar periphery
Rna15	Cleavage and mRNA polyadenylation	Basket re-localization at the nucleolar periphery
Cbc2	Cap binding complex subunit	-
Prp5	Pre-spliceosome formation; RNA helicase	Basket destabilization
Snu17	Splicing factor; U2 snRNP complex	-
Luc7	Splicing factor; U1 snRNP complex	-
Pml1	Pre-mRNA surveillance	-
Npl3	Nuclear mRNA surveillance	-
Gbp2	Nuclear mRNA surveillance	-
Prp18	Splicing factor; component of snRNP U5	-
Hrb1	Nuclear mRNA surveillance	-