

**Supplementary Table I.** Strains used in this study

Strain background	Genotype	Source
BY4741	<i>MATa his31Δ leu2Δ0 met15Δ0 ura3Δ0</i>	Euroscarf, (Brachmann et al, 1998)
BY4742	<i>MATα his3Δ leu2Δ lysΔ ura3Δ</i>	This study
BY4741	<i>ubp3Δ::KANMX4</i>	Euroscarf, (Brachmann et al, 1998)
ATCC 201388	<i>MATa his3Δ1 leu2Δ0 met15Δ0 ura3Δ0 SSA2-GFP::HIS3MX</i>	(Huh et al, 2003)
BY4741	<i>SSA2-GFP::HIS3MX6</i>	This study
BY4741	<i>SSA2-GFP::HIS3MX6 ubp3Δ::HPHMX4</i>	This study
BY4741	<i>SSA1-mCherry::HPHMX4 NUP49-GFP::HIS3MX</i>	This study
BY4741	<i>SSA1-mCherry::HPHMX4 NUP49-GFP::HIS3MX ubp3Δ::KANMX4</i>	This study
BY4741	<i>SSA1-mCherry::HPHMX4 SPC42-GFP::HIS3MX</i>	This study
BY4741	<i>SSA1-mCherry::HPHMX4 SPC42-GFP::HIS3MX ubp3Δ::KANMX4</i>	This study
UCC5179	<i>MATa ade2::hisG his3 leu2 lys2 ura3Δ0 trp1Δ63 hoΔ::PSCW11-cre-EBD78-NATMX loxP-UBC9-loxPLEU2 loxP-CDC20-Intron-loxP-HPHMX</i>	(Lindstrom & Gottschling, 2009)
UCC5179	<i>MATa ade2::hisG his3 leu2 lys2 ura3Δ0 trp1Δ63 hoΔ::PSCW11-cre-EBD78-NATMX loxP-UBC9-loxPLEU2 loxP-CDC20-Intron-loxP-HPHMX SSA2-GFP::KANMX4</i>	This study
UCC5179	<i>MATa ade2::hisG his3 leu2 lys2 ura3Δ0 trp1Δ63 hoΔ::PSCW11-cre-EBD78-NATMX loxP-UBC9-loxPLEU2 loxP-CDC20-Intron-loxP-HPHMX SSA2-GFP::KANMX4 ubp3Δ::URA3</i>	This study
	BY4741 <i>UBP3-TAP::HIS3</i>	Open Biosystems; (Ghaemmaghami et al, 2003)
BY4741	<i>NAT::P<sub>ADH</sub>-UBP3-TAP::HIS3</i>	This study
BY4741	<i>NAT::P<sub>TEF</sub>-UBP3-TAP::HIS3</i>	This study
BY4741	<i>NAT::P<sub>GPD</sub>-UBP3-TAP::HIS3</i>	This study
BY4741	<i>NAT::P<sub>GPD</sub>-UBP3</i>	This study
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::KANMX4</i>	This study
BY4742	<i>ssa1Δ::HPHMX4 ssa2Δ::KANMX4</i>	This study
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::KANMX4 UBP3-TAP::HIS3</i>	This study
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::KANMX4 NAT::P<sub>ADH</sub>-UBP3-TAP::HIS3</i>	This study
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::KANMX4 NAT::P<sub>TEF</sub>-UBP3-TAP::HIS3</i>	This study
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::KANMX4 NAT::P<sub>GPD</sub>-UBP3-TAP::HIS3</i>	This study
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::KANMX4 NAT::P<sub>GPD</sub>-UBP3</i>	This study
BY4741	<i>rpn4Δ::KANMX4</i>	Euroscarf
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::LEU2</i>	This study
BY4742	<i>ssa1Δ::HPHMX4 ssa2Δ::LEU2</i>	This study
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::LEU2 rpn4Δ::KANMX4</i>	This study

BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::LEU2 P<sub>GPD</sub>::NAT-UBP3-TAP::HIS3</i>	This study
BY4742	<i>ssa1Δ::HPHMX4 ssa2Δ::LEU2 P<sub>GPD</sub>::NAT-UBP3-TAP::HIS3</i>	This study
BY4741	<i>ubr1Δ::KANMX4</i>	Euroscarf
BY4741	<i>ubr1Δ::KANMX4 ubp3Δ::NATMX4</i>	This study
BY4741	<i>ubr2Δ::KANMX4</i>	Euroscarf
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::LEU2 ubr2Δ::KANMX4 NAT::P<sub>GPD</sub>-UBP3-TAP::HIS3</i>	This study
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::LEU2 ssa3Δ::KANMX4</i>	This study
BY4741	<i>ssa1Δ::HPHMX4 ssa2Δ::LEU2 ssa3Δ::KANMX4 NAT::P<sub>GPD</sub>-UBP3-TAP::HIS3</i>	This study
BY4741	<i>MATa his31Δ leu2Δ0 met15Δ0 ura3Δ0, ubp1-ubp16 (individual Δ)</i>	Euroscarf, (Brachmann et al, 1998)

## References

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Ghaemmaghami S, Huh WK, Bower K, Howson RW, Belle A, Dephoure N, O'Shea EK, Weissman JS (2003) Global analysis of protein expression in yeast. *Nature* **425**: 737-741

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