



Supplementary Figure S2. Ydj1 is approximately 100 times more abundant than Apj1 and Xdj1. (A, B,C) Indicated amounts (OD₆₀₀) of total protein isolated from wild-type, or the indicated mutant, yeast cells and purified Ydj1, Xdj1 or Apj1 (ng) were resolved by electrophoresis, electro-blotted and probed with antibody specific for one of the J-proteins, as indicated. Blots were scanned and densitometric quantification was performed using ImageJ software. (A) only wt lysates. (B) lysates from *xdj1*Δ, wild-type (WT) and *xdj1*Δ cells expressing pRS414-*ADH-Xdj1* (*ADH-Xdj1*). All samples were run on a single gel and blotted and processed together. Dashed line indicates where irrelevant lanes were spliced out. C) wild-type (WT) or *apj1*Δ yeast. Levels of protein in wt cells, estimated as described in Ghaemmaghami et al, 2003, were approximately 90,000, 500 and 100 molecules/cell of Ydj1, Xdj1 and Apj1, respectively. The estimates reported by Ghaemmaghami et al, 2003 using tagged protein in a high throughput analysis were 119,000, 1210 and 125 molecules/cell.

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

Supplementary Figure S3. List of Ascomycetes species surveyed in this work.

Species	4-letter code	Classification
<i>Schizosaccharomyces japonicus</i>	Sjap	Taphrinomycotina
<i>Schizosaccharomyces pombe</i>	Spom	Taphrinomycotina
<i>Schizosaccharomyces octosporus</i>	Soct	Taphrinomycotina
<i>Schizosaccharomyces cryophilus</i>	Scry	Taphrinomycotina
<i>Ajellomyces capsulatus</i>	Acap	Pezizomycotina
<i>Ucinocarpus reesii</i>	Uree	Pezizomycotina
<i>Coccidioides immitis</i>	Cimm	Pezizomycotina
<i>Aspergillus nidulans</i>	Anid	Pezizomycotina
<i>Aspergillus fumigatus</i>	Afum	Pezizomycotina
<i>Aspergillus oryzae</i>	Aory	Pezizomycotina
<i>Aspergillus terreus</i>	Ater	Pezizomycotina
<i>Phaeosphaeria nodorum</i>	Pnod	Pezizomycotina
<i>Magnaporthe grisea</i>	Mgri	Pezizomycotina
<i>Neurospora crassa</i>	Ncra	Pezizomycotina
<i>Podospora anserina</i>	Pans	Pezizomycotina
<i>Chaetomium globosum</i>	Cglo	Pezizomycotina
<i>Trichoderma reesei</i>	Tree	Pezizomycotina
<i>Gibberella moniliformis</i>	Gmon	Pezizomycotina
<i>Gibberella zeae</i>	Gzea	Pezizomycotina
<i>Botryotinia fuckeliana</i>	Bfuc	Pezizomycotina
<i>Sclerotinia sclerotiorum</i>	Sscl	Pezizomycotina
<i>Yarrowia lipolytica</i>	Ylip	Yarrowia
<i>Candida lusitanae</i>	Clus	CTG group
<i>Pichia guilliermondii</i>	Pgui	CTG group
<i>Debaryomyces hansenii</i>	Dhan	CTG group
<i>Candida parapsilosis</i>	Cpar	CTG group
<i>Candida tropicalis</i>	Ctro	CTG group
<i>Candida dubliniensis</i>	Cdub	CTG group
<i>Candida albicans</i>	Calb	CTG group
<i>Lachancea waltii</i>	Lwal	pre-WGD
<i>Lachancea kluyveri</i>	Lklu	pre-WGD
<i>Lachancea thermotolerans</i>	Lthe	pre-WGD
<i>Eremothecium gossypii</i>	Egos	pre-WGD
<i>Kluyveromyces lactis</i>	Klac	pre-WGD
<i>Zygosaccharomyces rouxii</i>	Zrou	pre-WGD
<i>Vandewaltozyma polyspora</i>	Vpol	post-WGD
<i>Saccharomyces castelli</i>	Scas	post-WGD
<i>Candida glabrata</i>	Cgla	post-WGD
<i>Saccharomyces bayanus</i>	Sbay	post-WGD
<i>Saccharomyces kudriavzevii</i>	Skud	post-WGD
<i>Saccharomyces mikatae</i>	Smik	post-WGD
<i>Saccharomyces cerevisiae</i>	Scer	post-WGD
<i>Saccharomyces paradoxus</i>	Spar	post-WGD