Supplementary Table S1. Upregulated and downregulated genes found during differential expression analysis between parental and evolved Saccharomyces cerevisiae F12 with unknown biological process

Gene name	Brief description	Log2-fold change
Upregulated:		
AIM20	Protein whose biological role is unknown; localized to nucleus, cytoplasm, and vacuole	1.6
AIM34	Protein whose biological role and cellular location are unknown	1.3
ASF2	Nuclear protein involved in chromatin silencing at silent mating-type cassette	1.1
ECM34	Protein whose biological role is unknown; localizes to the cytosol	1.0
ECM8	Protein whose biological role and cellular location are unknown	1.4
ERP5	Protein with similarity to Emp24p and Erv25p; involved in ER to Golgi transport	0.6
FAR8	Protein involved in recovery from arrest in response to pheromone	0.8
FAT3	Protein required for fatty acid uptake	2.3
FDO1	Protein involved in donor selection during mating type switching; localizes to the nucleus in different large-scale studies	1.8
FLO11	Protein involved in flocculation, coflocculation, cell adhesion during biofilm formation, and in pseudohyphal and invasive growth; localizes to the plasma membrane, the bud neck and the extracellular region	4.0
FMP45	Protein involved in cell wall organization and ascopore formation; localizes to cell periphery, cell cortex, plasma membrane, and mitochondria	1.4
GAS3	Possibly inactive member of the GAS family of GPI-containing proteins; localizes to the cell wall	1.4
GAS4	Protein involved with Gas2p in spore wall assembly; localizes to the cell wall	1.2
GAS5	Protein similar to Gas1p; localizes to the cell wall	0.5
GRE1	Protein whose biological role is unknown; localizes to the cytoplasm in different large-scale studies	3.7
HBT1	Shmoo tip protein; involved in mating projection formation	1.5
HUA2	Protein whose biological role is unknown; localizes to the cytoplasm in a large-scale study	1.3
LPX1	Triglyceride lipase involved in triglyceride catabolism in the peroxisomal matrix	1.0
NCW1	Protein whose biological role is unknown; localizes to the cytoplasm and endoplasmic reticulum in a large-scale study	0.8
NDD1	Transcriptional activator essential for nuclear division; localized to the nucleus	1.2
PIN3	Negative regulator of actin nucleation-promoting factor activity	1.1
PLB2	Phospholipase B (lysophospholipase) involved in lipid metabolism	1.1
PLM2	Putative transcription factor, contains Forkhead Associated domain	1.2
PNS1	Protein whose biological role is unknown; localizes to the plasma membrane in large scale studies	1.4
PRM10	Predicted integral membrane protein whose biological role is unknown	1.3

Supplementary Table S1. Cont.

Gene name	Brief description	Log2-fold change
Upregulated:		
RAX1	Protein involved in bud site selection; localizes to vacuole and bud neck	1.5
SFG1	Nuclear protein putative transcription factor; required for growth of superficial pseudohyphae but not for invasive pseudohyphal growth	1.9
SLZ1	Sporulation-specific protein with a leucine zipper motif	1.0
SPC24	Component of the kinetochore-associated Ndc80 complex; involved in chromosome segregation, spindle checkpoint activity, and kinetochore clustering	1.4
SPG4	Protein whose biological role and cellular location are unknown	2.2
SPO12	Protein involved in meiosis and regulation of mitotic exit; localized to the nucleolus	1.3
SPO16	Protein involved in ascospore formation, protein sumolyation, meiotic recombination and synaptonemal complex assembly; localizes to the condensed nuclear chromosome	1.1
SRL1	Mannoprotein required for cell wall stability in the absence of GPI-anchored mannoproteins	1.4
SUR7	Plasma membrane protein, component of eisosomes	1.4
TDA6	Protein whose biological role is unknown; localizes to the cell periphery and vacuole	1.6
TOS1	Protein whose biological role is unknown; localizes to the cell wall; localized to the vacuole in a large-scale study	1.1
TOS2	Protein involved in anchoring Cdc24p to sites of polarized growth; negative regulator of cytokinesis; localizes to the incipient bud site, the bud tip, and the bud neck	1.2
WSC2	Transmembrane signaling receptor involved in Rho protein signal transduction, heat response, and cell wall organization; localizes to cytoplasm, vacuole, site of polarized growth, bud, and shmoo tip	1.2
YBR071W	Protein whose biological role is unknown; localizes to the cytoplasm and bud neck	1.3
YET2	Predicted integral membrane protein whose biological role is unknown; colocalizes with the ribosome in a large-sclae study	1.1
YFL067W	Protein whose biological role and cellular location are unknown	1.6
YHR214C-D	Protein whose biological role and cellular location are unknown	1.5
YIL024C	Protein whose biological role and cellular location are unknown	1.4
YIL165C	Putative protein of unknown function	1.5
YJL118W	Protein whose biological role is unknown; colocalizes with the ribosome in a large scale study	1.0
YML119W	Putative protein of unknown function; non-essential gene	1.1
YMR315W-A	Protein whose biological role and cellular location are unknown	1.1
YNL058C	Protein whose biological role is unknown; localizes to the vacuole in a large-scale study	1.4
YNR014W	Protein whose biological role is unknown; localizes to the cytoplasm	2.0
YOR032W-A	Protein whose biological role is unknown; localizes to the endoplasmic reticulum	1.1

Supplementary Table S1. Cont.

Gene name	Brief description	Log2-fold change
Upregulated:		
YOR072W-B	Protein whose biological role and cellular location are unknown	1.3
YPL257W	Predicted integral membrane protein whose biological role is unknown	1.4
YSC83	Protein whose biological role is unknown; localizes to the mitochondrion and mitochondrial outer membrane in large scale studies	1.0
Downregulated genes:		
CIS1	Protein whose biological role is unknown; localizes to the mitochondrion in a large-scale study	-1.7
CMS1	Protein whose biological role is unknown; localizes to the cytoplasm, 90S preribosome, and nucleus in different large-scale studies	-0.9
COS6	Protein predicted to have a role in the multivesicular body sorting pathway; localizes to the endosome; localizes to the vacuole in a large-scale study	-1.3
DPA10	Protein whose biological role and cellular location are unknown	-1.4
ENT4	Putative clathrin binding protein, that is localized to cortical actin patches; it has a predicted role in actin filament organization and actin patch assembly, and endocytosis	-1.0
FCF2	Nucleolar protein involved in the early steps of 35S rRNA processing; essential gene	-0.8
FIT2	Mannoprotein that is incorporated into the cell wall via a glycosylphosphatidylinositol (GPI) anchor; involved in the retention of siderophore-iron in the cell wall	-1.2
HGH1	Protein whose biological role is unknown; localizes to the nucleus and cytoplasm in different large-scale studies	-1.0
IMD1	Nonfunctional protein with homology to IMP dehydrogenase	-2.3
PRM5	Predicted integral membrane protein whose biological role is unknown	-1.1
PRM7	Pheromone-regulated protein; predicted to have one transmembrane segment	-1.1
RRT6	Predicted membrane protein whose biological role is unknown	-1.1
RSA1	Protein involved in the assembly of 60S ribosomal subunits; functions in a late nucleoplasmic step of the assembly	-1.1
SDO1	Guanyl-nucleotide exchange factor that contributes to mature ribosome assembly; localizes to nucleus and cytoplasm	-0.7
YAL065C	Protein whose biological role and cellular location are unknown	-1.0
YCR016W	Protein whose biological role is unknown; localizes to the nucleus and nucleolus in a large-scale study	-0.9
YGL262W	Protein whose biological role and cellular location are unknown	-1.2
YKR041W	Protein whose biological role is unknown; localizes to the mitotic spindle and the nucleus in large-scale studies	-1.8
YNL050C	Protein whose biological role and cellular location are unknown	-0.7