Table S2 Genes down regulated in quercetin treated cells. S. cerevisiae BY4741 was grown to exponential phase in YPD medium and treated with 300 μ M of quercetin or equal volume of DMSO (control cells) for 15 min. Genes differentially regulated (quercetin ν s control) were sorted into functional categories according to MIPS; some genes were listed in more than one category.

| Gene name | Fold change | Gene Product |
|---------------|------------------|--|
| Amino acid m | etabolism | |
| SRB6 | -2.1 | part of Srb/mediator complex; transcription factor |
| CIT2 | -1.0 | citrate synthase |
| MAK31 | -1.8 | member of the Sm protein family |
| DTD1 | -1.2 | D-Tyr-tRNA(Tyr) deacylase |
| LYS5 | -1.0 | alpha aminoadipate reductase phosphopantetheinyl transferase |
| YIL167W | -1.3 | questionable protein |
| MET14 | -1.1 | adenylylsulfate kinase |
| MET1 | -1.1 | S-adenosyl-L-methionine uroporphyrinogen III transmethylase |
| ASP3-1 | -1.2 | nitrogen catabolite-regulated cell-wall L-asparaginase II |
| ASP3-2 | -1.0 | nitrogen catabolite-regulated cell-wall L-asparaginase II |
| ASP3-3 | -1.0 | nitrogen catabolite-regulated cell-wall L-asparaginase II |
| ASP3-4 | -1.2 | nitrogen catabolite-regulated cell-wall L-asparaginase II |
| ORT1 | -1.2 | ornithine transporter of the mitochondrial inner membrane |
| MET31 | -1.0 -1.2 | highly homologous to Met32p; transcriptional regulator of sulfur amino |
| W.E.101 | 1.2 | acid metabolism |
| Nucleotide/nu | cleoside/nucleok | pase metabolism |
| RIB1 | -0.9 | GTP cyclohydrolase II |
| DUT1 | -1.2 | dUTP pyrophosphatase |
| CDC36 | -1.1 | basal transcription inhibitor; transcriptional regulator |
| HPT1 | -1.8 | hypoxanthine guanine phosphoribosyltransferase |
| GNA1 | -1.2 | glucosamine-phosphate N-acetyltransferase |
| SLX9 | -0.9 | protein of unknown function |
| RRP46 | -1.2 | 3'->5' exoribonuclease |
| CPD1 | -1.9 | 2',3'-cyclic nucleotide 3'-phosphodiesterase |
| DAL7 | -1.5 | malate synthase 2 |
| MRT4 | -1.3 | mRna turnover 4 |
| PUS5 | -1.8 | RNA:pseudouridine (Psi)-synthase |
| URA10 | -0.9 | orotate phosphoribosyltransferase 2 |
| LSM7 | -1.6 | snRNP protein |
| DCP1 | -0.9 | mRNA decapping enzyme |
| SPS4 | -1.6 | sporulation-specific protein |
| FCY1 | -1.2 | cytosine deaminase |
| Phosphate me | etabolism | |
| DUT1 | -1.2 | dUTP pyrophosphatase |
| YPI1 | -1.0 | PP1 phosphatase inhibitor |
| DOG2 | -0.9 | 2-deoxyglucose-6-phosphate phosphatase |
| MET14 | -1.1 | adenylylsulfate kinase |
| FBP1 | -0.9 | fructose-1,6-bisphosphatase |
| CTL1 | -1.3 | RNA triphosphatase |
| | phosphate meta | bolism |
| YPĪ1 | -1.0 | PP1 phosphatase inhibitor |
| - | and carbohydrate | |
| ACS1 | -1.5 | acetyl CoA synthetase |

LDB7

-0.9

protein involved in mannosylphosphorylation of cell wall mannoproteins

| Gene name | Fold change | Gene Product |
|-----------|-------------|--|
| HAP3 | -1.3 | transcriptional activator protein of CYC1 (component of HAP2/HAP3 heteromer) |
| GAL10 | -1.2 | UDP-glucose 4-epimerase |
| SRB6 | -2.1 | part of Srb/Mediator complex; transcription factor |
| CIT2 | -1.0 | citrate synthase |
| OST4 | -0.9 | oligosaccharyltransferase subunit |
| SOR2 | -1.3 | protein of unknown function, possible role in fructose or mannose metabolism |
| NRG1 | -1.6 | binds to UAS-1 in the STA1 promoter and can interact with Ssn6; transcriptional repressor |
| SNF11 | -1.4 | SWI/SNF global transcription activator complex component |
| YDR248C | -1.2 | questionable protein |
| GPI11 | -1.3 | protein involved in glycosylphosphatidylinositol (GPI) biosynthesis |
| ACN9 | -1.2 | Protein of the mitochondrial intermembrane space, required for acetate utilization and gluconeogenesis |
| FAU1 | -1.1 | 5,10-methenyltetrahydrofolate synthetase |
| GNA1 | -1.2 | glucosamine-phosphate N-acetyltransferase |
| SNF6 | -0.9 | chromatin remodeling Snf/Swi complex subunit |
| DOG2 | -0.9 | 2-deoxyglucose-6-phosphate phosphatase |
| DAL7 | -1.5 | malate synthase 2 |
| GON7 | -1.4 | protein proposed to be involved in the transfer of mannosylphosphate groups onto N-linked oligosaccharides |
| SOR1 | -1.5 | sorbitol dehydrogenase, sorbitol-induced |
| KTI12 | -1.1 | elongator associated protein |
| YLR164W | -1.1 | strong similarity to succinate dehydrogenase membrane anchor subunit Sdh4p |
| IDP3 | -1.0 | NADP-dependent isocitrate dehydrogenase |
| YNR071C | -1.3 | questionable protein |
| RKI1 | -0.9 | ribose-5-phosphate ketol-isomerase |
| OST2 | -1.4 | oligosaccharyltransferase epsilon subunit |
| SPR1 | -1.1 | exo-1,3-beta-glucanase, sporulation-specific |
| YOR283W | -0.9 | questionable protein |

| l inid | fatty ac | id and | isoprepoid | metabolism |
|--------|----------|---------|--------------|----------------|
| Lipiu, | ιαιιν αι | iu aliu | 13001 Ellolu | IIIEtabolisiii |

| | | *************************************** |
|---------|------|---|
| RER2 | -0.9 | cis-prenyltransferase |
| GPI11 | -1.3 | protein involved in glycosylphosphatidylinositol (GPI) biosynthesis |
| YLL049W | -0.9 | questionable protein |
| ARV1 | -1.0 | protein involved in sterol distribution |
| IDP3 | -1.0 | NADP-dependent isocitrate dehydrogenase |
| SPO1 | -0.9 | similar to phospholipase B |
| GPI15 | -1.6 | human Pig-H homolog |
| CYB5 | -1.1 | cytochrome b5 |
| YOL101C | -0.9 | questionable protein |
| INO4 | -1.7 | basic helix-loop-helix (bHLH) protein |
| YPL095C | -1.0 | questionable protein |
| PPT2 | -2.1 | phosphopantetheine:protein transferase (PPTase) |
| DAP1 | -1.5 | sterol-binding protein (putative) |

Metabolism of vitamins, cofactors, and prosthetic groups ACS1 -1.5 acetyl CoA synthetase

| ACSI | -1.5 | acetyl Coa synthetase |
|-------|------|---|
| RIB1 | -0.9 | GTP cyclohydrolase II |
| PET18 | -2.2 | protein required for respiratory growth and stability of the mitochondrial genome |
| HEM3 | -0.9 | phorphobilinogen deaminase (uroporphyrinogen synthase) |
| FAU1 | -1.1 | 5,10-methenyltetrahydrofolate synthetase |
| SNO3 | -0.9 | protein is related with B(1) biosynthesis during the exponential phase |

| Gene name | Fold change | Gene Product |
|-----------------------|--------------|---|
| LYS5 | -1.0 | alpha aminoadipate reductase phosphopantetheinyl transferase |
| QCR9 | -1.0 | ubiquinol cytochrome c oxidoreductase complex 7.3 kDa subunit 9 |
| FMC1 | -1.2 | assembly factor of ATP synthase in heat stress |
| MET1 | -1.1 | S-adenosyl-L-methionine uroporphyrinogen III transmethylase |
| IDP3 | -1.0 | NADP-dependent isocitrate dehydrogenase |
| BIO3 | -1.0 | 7,8-diamino-pelargonic acid aminotransferase (DAPA) aminotransferase |
| ISU1 | -1.0 -1.1 | iron-sulfur cluster nifU-like protein |
| PPT2 | -2.1 | phosphopantetheine:protein transferase (PPTase) |
| Socondon, m | ntah aliam | |
| Secondary me KTI11 | -1.2 | similar to Hemiascomycetous yeast protein |
| MAK31 | -1.8 | member of the Sm protein family |
| HEM3 | -0.9 | phorphobilinogen deaminase (uroporphyrinogen synthase) |
| TSA2 | -1.0 | thioredoxin-peroxidase |
| YJR097W | -1.5 | protein that may function as a cochaperone |
| MET1 | -1.1 | S-adenosyl-L-methionine uroporphyrinogen III transmethylase |
| | | e addition, in a modification of the polytry minegen in a anomolary account. |
| Energy ACS1 | 1.5 | acetyl CoA synthetess |
| NRG2 | -1.5 -1.6 | acetyl CoA synthetase |
| | | NRG1 homolog |
| CIT2 | -1.0 | citrate synthase |
| COX9 | -2.0 | cytochrome c oxidase subunit VIIa |
| INH1 | -1.4 | ATPase inhibitor |
| PET100 | -1.5 | cytochrome c oxidase-specific assembly factor |
| YDR115W | -1.4 | questionable protein |
| TIM11 | -1.7 | mitochondrial F1F0-ATPase subunit e |
| ACN9 | -1.2 | Protein of the mitochondrial intermembrane space, required for acetate utilization and gluconeogenesis |
| QCR7 | -1.1 | ubiquinol cytochrome C oxidoreductase subunit 7 |
| UBC8 | -1.0 | ubiquitin-conjugating enzyme; ubiquitin-protein ligase |
| YPI1 | -1.0 | PP1 phosphatase inhibitor |
| QCR6 | -1.3 | ubiquinol cytochrome C oxidoreductase subunit 6 (17 kDa) |
| YGL226W | -1.0 | questionable protein |
| QCR9 | -1.0 | ubiquinol cytochrome c oxidoreductase complex 7.3 kDa subunit 9 |
| VMA10 | -1.2 | vacuolar ATPase V1 domain subunit G (13 kDa) |
| VMA22 | -1.9 | required for V-ATPase activity |
| DAL7 | -1.5 | malate synthase 2 |
| CYC1 | -0.9 | iso-1-cytochrome c |
| COX17 | -0.9 -1.5 | cysteine-rich protein |
| COX17 | -1.5 -1.1 | · |
| | | cytochrome c oxidase subunit VIb |
| YLR164W | -1.1 | strong similarity to succinate dehydrogenase membrane anchor subunit Sdh4p |
| FBP1 | -0.9 | fructose-1,6-bisphosphatase |
| COX8 | -1.0 | cytochrome c oxidase chain VIII |
| ATP18 | -1.7 | ATP synthase associated protein |
| YML087C | -1.1 | questionable protein |
| COX14 | -1.2 | mitochondrial membrane protein |
| MRPS17 | -0.9 | mitochondrial ribosomal protein of the small subunit |
| COX7 | -2.2 | cytochrome c oxidase subunit VII |
| YMR299C | -1.3 | protein of unknown function; GFP-fusion protein localizes to the cytoplasm |
| IDP3 | -1.0 | NADP-dependent isocitrate dehydrogenase |
| ATP19 | -1.2 | ATP synthase subunit k homolog |
| RKI1 | -0.9 | ribose-5-phosphate ketol-isomerase |
| YOR283W | -0.9 | questionable protein |
| OYE3 | -0.9 -1.8 | NADPH dehydrogenase |
| | | to the second |
| ATP15 | -1.3 | ATP synthase epsilon subunit |
| ATP20 | -1.5 | ATP synthase subunit g homolog |
| | | |

| Gene name | Fold change | Gene Product |
|----------------|----------------|--|
| MRPL51 | -1.1 | mitochondrial ribosomal protein of the large subunit |
| Cell cycle and | DNA processing | 1 |
| POP5 | -1.3 | RNase MRP subunit (putative); RNase P integral subunit |
| HTA2 | -1.7 | histone H2A |
| KTI11 | -1.2 | similar to Hemiascomycetous yeast protein |
| HHF1 | -2.3 | histone H4 (HHF1 and HHF2 code for identical proteins) |
| HHT1 | -1.7 | histone H3 (HHT1 and HHT2 code for identical proteins) |
| POL30 | -1.1 | proliferating Cell Nuclear Antigen (PCNA) |
| NHP6B | -1.2 | 11 kDa nonhistone chromosomal protein |
| SLX1 | -1.3 | subunit of a complex, with Slx4p, that hydrolyzes 5` branches from duplex DNA |
| DAD3 | -1.3 | outer kinetochore protein - part of Dam1 complex |
| DPB3 | -1.1 | DNA polymerase II C and C' subunits |
| HMLALPHA2 | -2.7 | mating type regulatory protein, silenced copy at HML |
| HTL1 | -2.5 | high-temperature lethal |
| MATALPHA2 | -3.0 | mating type regulatory protein, expressed copy at MAT locus |
| APC11 | -1.2 | anaphase promoting complex (APC) subunit |
| IWR1 | -0.9 | interacts with RNA Polymerase II |
| MSH5 | -1.2 | mutS homolog |
| CDC36 | -1.1 | basal transcription inhibitor; transcriptional regulator |
| RAD57 | -1.2 | RecA homolog; interacts with Rad 55p |
| DAD1 | -1.7 | Duo1 and Dam1 interacting; localized to intranuclear spindles and spindle pole bodies |
| SNF11 | -1.4 | SWI/SNF global transcription activator complex component |
| TFB5 | -1.9 | Component of general transcription and DNA repair factor TFIIH |
| STN1 | -1.2 | involved in telomere length regulation |
| TAF10 | -1.2 | TFIID subunit |
| SPC19 | -1.2 | spindle pole component |
| HTA1 | -1.7 | histone H2A (HTA1 and HTA2 code for nearly identical proteins) |
| MCM21 | -0.9 | Involved in minichromosome maintenance |
| DAD4 | -1.7 | outer kinetochore protein - part of Dam1 complex |
| SEM1 | -2.6 | Regulator of exocytosis and pseudohyphal differentiation |
| DYN2 | -2.1 | dynein light chain (putative) |
| ADA2 | -1.4 | general transcriptional adaptor or co-activator |
| BIM1 | -2.0 | binding to microtubules |
| YER066W | -1.2 | questionable protein |
| ISC10 | -1.7 | meiosis-specific protein required for spore formation |
| GNA1 | -1.2 | glucosamine-phosphate N-acetyltransferase |
| FAR7 | -1.0 | protein involved in G1 cell cycle arrest in response to pheromone, in a pathway different from the Far1p-dependent pathway |
| SPT4 | -3.1 | transcription elongation protein |
| SLX9 | -0.9 | protein of unknown function |
| SYF2 | -0.9 | SYnthetic lethal with CDC40 |
| TRX2 | -1.0 | thioredoxin |
| CPD1 | -1.9 | 2',3'-cyclic nucleotide 3'-phosphodiesterase |
| SNF6 | -0.9 | chromatin remodeling Snf/Swi complex subunit |
| LRP1 | -1.6 | like rRNA Processing protein involved in regulation of DNA repair and recombination |
| YNG2 | -1.2 | NuA4 histone acetyltransferase complex component |
| SPO12 | -1.5 | sporulation protein |
| SPO16 | -1.0 | sporulation protein |
| SSP1 | -1.2 | essential for meiosis and spore formation |
| EST3 | -1.8 | Subunit of the telomerase |
| REV7 | -1.5 | DNA polymerase zeta (pol-zeta) subunit |
| STS1 | -1.1 | restores protein transport when overexpressed and rRNA stability to a |
| | | sec23 mutation |

| Gene name | Fold change | Gene Product |
|--------------------|----------------------|--|
| YIR024C | -1.1 | (putative) involved in cell cycle control |
| YJL065C | -1.0 | subunit of ISW2/yCHRAC chromatin remodelling complex |
| NNF1 | -1.3 | spindle pole protein, required for accurate chromosome segregation |
| MCM22 | -1.1 | required for maintenance of chromosomes and minichromosomes |
| MGM101 | -0.9 | mitochondrial nucleoid protein |
| DAD2 | -1.3 | outer kinetochore protein - part of Dam1 complex |
| TEN1 | -2.3 | protein involved in Telomeric pathways in association with Stn1 |
| TRX1 | -1.0 | thioredoxin |
| VPS71 | -0.9 | component of the Swr1p complex that incorporates Htz1p into chromatin, required for vacuolar protein sorting |
| HUG1 | -1.3 | protein involved in the Mec1p-mediated checkpoint pathway that responds to DNA damage or replication arrest |
| MFT1 | -1.2 | mitochondrial targeting protein |
| TAF13 | -1.0 | TFIID subunit |
| IMP2 | -1.0 | protease |
| BUB2 | -0.9 | protein required for cell cycle arrest in response to loss of microtubule function |
| ABF2 | -1.0 | HMG-1 homolog |
| CIN4 | -1.0 | GTP-binding protein |
| TAF9 | -1.2 | TFIID subunit |
| SAP30 | -1.7 | subunit of the histone deacetylase B complex |
| JNM1 | -1.1 | coiled-coil domain protein required for proper nuclear migration during mitosis |
| YMR299C | -1.3 | protein of unknown function; GFP-fusion protein localizes to the cytoplasm |
| SPO1 | -0.9 | similar to phospholipase B |
| HHF2 | -2.3 | histone H4 |
| HHT2 | -1.4 | histone H3 |
| NOP15 | -1.4 | ribosome biogenesis |
| GIM3 | -1.4 | bovine prefoldin subunit 4 homolog (putative) |
| KAR1 | -1.0 | involved in spindle pole body duplication and karyogamy |
| YNL213C | -1.2 | questionable protein |
| NTG2 | -1.1 | endonuclease III DNA base excision repair N-glycosylase |
| HRT1 | -1.1 | Skp1-Cullin-F-box ubiquitin protein ligase (SCF) subunit |
| PSF3 | -1.3 | a subunit of the GINS complex required for chromosomal DNA replication |
| CIN5 | -1.1 | transcriptional activator |
| YNG1 | -1.0 | histone acetyltransferase complex component |
| SAS5 | -1.0 | involved in silencing at telomeres, HML and HMR |
| RFM1 | -1.0 | DNA-binding protein |
| SPS4 | -1.6 | sporulation-specific protein |
| SPC29 | -1.3 | spindle pole body component |
| SPP1 | -0.9 | compass (complex proteins associated with Set1p) component |
| MCM16 | -1.8 | outer kinetochore protein |
| DIB1 | -1.3 | protein required for mitosis |
| Transcription POP5 | -1.3 | PNasa MPD subunit (nutativa): PNasa P intogral subunit |
| HTA2 | -1.3 -1.7 | RNase MRP subunit (putative); RNase P integral subunit histone H2A |
| POP8 | -1.7 -1.5 | RNase P integral subunit; subunit of RNase MRP (putative) |
| HAP3 | -1.3 | transcriptional activator protein of CYC1 (component of HAP2/HAP3 heteromer) |
| RRN10 | -1.5 | upstream activation factor subunit |
| LSM2 | -1.2 | snRNA-associated protein, Sm class |
| HHF1 | -2.3 | histone H4 (HHF1 and HHF2 code for identical proteins) |
| HHT1 | -2.3 -1.7 | histone H3 (HHT1 and HHT2 code for identical proteins) |
| NRG2 | -1. <i>7</i> -1.6 | NRG1 homolog |
| | 1.0 | |

| Gene name | Fold change | Gene Product |
|------------------|-------------|---|
| NHP6B | -1.2 | 11 kDa nonhistone chromosomal protein |
| CBP6 | -1.2 | translational activator of COB mRNA |
| RPB5 | -1.1 | 25 kDa RNA polymerase subunit (common to polymerases I, II and III) |
| POP7 | -1.4 | RNase MRP subunit (putative); RNase P integral subunit |
| NTC20 | -1.4 | splicing factor |
| SRB6 | -2.1 | part of Srb/Mediator complex; transcription factor |
| KRR1 | -0.9 | Involved in cell division and spore germination |
| HMLALPHA1 | -1.6 | mating type regulatory protein, silenced copy at HML |
| HMLALPHA2 | -2.7 | mating type regulatory protein, silenced copy at HML |
| SRD1 | -1.2 | protein involved in the processing of pre-rRNA to mature rRNA |
| PET18 | -2.2 | protein required for respiratory growth and stability of the mitochondrial genome |
| <i>MATALPHA2</i> | -3.0 | mating type regulatory protein, expressed copy at MAT locus |
| MATALPHA1 | -1.5 | mating type regulatory protein, expressed copy at MAT locus |
| YCR087C-A | -1.2 | questionable protein |
| HMRA1 | -2.0 | mating type regulatory protein, silenced copy at HMR locus |
| MSS2 | -1.1 | cox2 pre-mRNA splicing factor |
| CDC36 | -1.1 | basal transcription inhibitor; transcriptional regulator |
| NHP2 | -2.2 | HMG-like protein |
| NOP6 | -1.8 | protein with similarity to hydrophilins, which are involved in the adaptive response to hyperosmotic conditions |
| DTD1 | -1.2 | D-Tyr-tRNA(Tyr) deacylase |
| NRG1 | -1.6 | binds to UAS-1 in the STA1 promoter and can interact with Ssn6; transcriptional repressor |
| RPC11 | -1.4 | TFIIS-like small Pol III subunit C11 |
| SNF11 | -1.4 | SWI/SNF global transcription activator complex component |
| TFB5 | -1.9 | Component of general transcription and DNA repair factor TFIIH |
| RRP8 | -1.1 | nucleolar protein required for efficient processing of pre-rRNA at site A2; methyltransferase homolog |
| RRP1 | -1.0 | involved in processing rRNA precursor species to mature rRNAs |
| CWC15 | -2.0 | Protein involved in mRNA splicing |
| TAF10 | -1.2 | TFIID subunit |
| HTA1 | -1.7 | histone H2A (HTA1 and HTA2 code for nearly identical proteins) |
| SRB7 | -1.2 | RNA polymerase II holoenzyme/mediator subunit |
| LSM6 | -1.2 | snRNP protein |
| NCB2 | -1.6 | Negative Cofactor B2 is the beta subunit of a negative regulator of RNA polymerase II holoenzyme |
| YDR412W | -0.9 | protein required for cell viability |
| ADA2 | -1.4 | general transcriptional adaptor or co-activator |
| SMB1 | -1.1 | associated with U1 snRNP as part of the Sm-core that is common to all spliceosomal snRNPs |
| LSM4 | -1.0 | U6 snRNA associated protein |
| LSM5 | -2.0 | snRNP protein |
| BUR6 | -2.0 | transcriptional regulator |
| SMX2 | -1.3 | snRNP G protein (human Sm-G homolog) |
| LOC1 | -2.0 | nuclear protein involved in asymmetric localization of ASH1 mRNA |
| CGR1 | -2.3 | coiled-coil protein |
| RPB9 | -1.3 | RNA polymerase II core subunit |
| POP6 | -1.4 | RNase P integral subunit; subunit of RNase MRP (putative) |
| SPT4 | -3.1 | transcription elongation protein |
| SMD1 | -1.1 | homolog of human core snRNP protein D1, involved in snRNA maturation |
| PRP38 | -1.1 | RNA splicing factor |
| RRP46 | -1.2 | 3'->5' exoribonuclease |
| SYF2 | -0.9 | SYnthetic lethal with CDC40 |
| CPD1 | -1.9 | 2',3'-cyclic nucleotide 3'-phosphodiesterase |
| YGR251W | -1.2 | protein required for cell viability |

| Gene name | Fold change | Gene Product |
|-----------|--------------|---|
| PXR1 | -1.3 | possible telomerase regulator or RNA-binding protein |
| SNF6 | -0.9 | chromatin remodeling Snf/Swi complex subunit |
| BCD1 | -0.9 | box C/D snoRNA accumulation |
| SRB2 | -1.5 | RNA polymerase II holoenzyme/mediator subunit |
| NOP10 | -1.3 | H/ACA-box snoRNPs component |
| LRP1 | -1.6 | like rRNA Processing protein involved in regulation of DNA repair and |
| | | recombination |
| YHR085W | -1.2 | protein of unknown function, essential for viability, may be involved in rRNA processing |
| GAR1 | -1.4 | small nucleolar RNP protein |
| RPC10 | -1.6 | RNA polymerase II subunit |
| IMP3 | -0.9 | U3 snoRNP protein |
| IST3 | -2.1 | U2 snRNP associated protein |
| MSL1 | -1.2 | U2 snRNP component |
| YAP5 | -1.5 | transcription factor |
| RPC17 | -1.2 | RNA polymerase III subunit C17 |
| TAD2 | -0.9 | tRNA-specific adenosine deaminase subunit |
| ASF1 | -0.9 -1.1 | anti-silencing protein that causes depression of silent loci when |
| , | -1.1 | overexpressed |
| RPB4 | -1.0 | RNA polymerase II fourth largest subunit |
| RPA34 | -1.5 | RNA polymerase I subunit A34.5 |
| LSM8 | -2.1 | snRNP protein |
| RPA12 | -1.0 | RNA polymerase I A12.2 subunit |
| YJR141W | -1.3 | protein required for cell viability |
| MRT4 | -1.3 | mRna turnover 4 |
| UTP11 | -1.0 | U3 snoRNP protein |
| YKR022C | -1.3 | protein required for cell viability |
| YLR016C | -1.3 -1.3 | · · · · · · · · · · · · · · · · · · · |
| | | questionable protein |
| YLR022C | -1.0 | protein required for cell viability |
| FYV7 | -2.3 | protein involved in processing the 35S rRNA primary transcript to generate the 20S and 27SA2 pre-rRNA transcripts |
| YLR145W | -2.2 | protein required for cell viability |
| SMD3 | -1.1 | core snRNP protein |
| PUS5 | -1.8 | RNA:pseudouridine (Psi)-synthase |
| PDR8 | -1.1 | zinc finger transcription factor |
| SMD2 | -0.9 | U1 snRNP protein of the Sm class |
| YHC1 | -1.7 | U1 snRNP protein required for pre-mRNA splicing |
| TAD3 | -0.9 | tRNA-specific adenosine deaminase subunit |
| YLR405W | -0.9 | dihydrouridine synthase 4 |
| TSR2 | -0.9 -1.3 | twenty S rRNA accumulation |
| LSM3 | | • |
| | -2.5 | snRNP protein |
| TRM9 | -0.9 | mcm5U/mcm5s2U tRNA carboxyl methyltransferase |
| MFT1 | -1.2 | mitochondrial targeting protein |
| TAF13 | -1.0 | TFIID subunit |
| YML107C | -1.3 | protein of unknown function; GFP-fusion protein localizes to the nuclear periphery |
| DAT1 | -1.2 | datin, oligo(dA)/oligo(dT)-binding protein |
| SEN15 | -1.2 | tetrameric tRNA splicing endonuclease 15kDa subunit |
| CTL1 | -1.3 | RNA triphosphatase |
| TAF9 | -1.2 | TFIID subunit |
| SAP30 | -1.7 | subunit of the histone deacetylase B complex |
| RLP7 | -1.7 -1.3 | nucleolar protein related to ribosomal protein L7 |
| SPO1 | | · · · · · · · · · · · · · · · · · · · |
| | -0.9 | similar to phospholipase B |
| HHF2 | -2.3 | histone H4 |
| HHT2 | -1.4 | histone H3 |
| RPC19 | -1.2 | RNA polymerases I (A) and III (C) subunit |
| LSM7 | -1.6 | snRNP protein |

| Gene name | Fold change | Gene Product |
|---|--|--|
| RPB11 | -1.2 | RNA polymerase II core subunit |
| OL101C | -0.9 | questionable protein |
| NO4 | -1.7 | basic helix-loop-helix (bHLH) protein |
| HRT1 | -1.1 | Skp1-Cullin-F-box ubiquitin protein ligase (SCF) subunit |
| OCP1 | -0.9 | mRNA decapping enzyme |
| OR004W | -1.2 | protein required for cell viability |
| IN5 | -1.1 | transcriptional activator |
| UD21 | -1.5 | U3 snoRNP protein |
| SPP2 | -1.7 | required for final stages of splicesome maturation |
| SME1 | -1.0 | spliceosomal snRNA-associated Sm core protein required for mRNA splicing, also likely associated with telomerase TLC1 RNA |
| RPB10 | -1.9 | RNA polymerase II core subunit |
| SAS5 | -1.0 | involved in silencing at telomeres, HML and HMR |
| RPB8 | -0.9 | DNA-directed RNA polymerase I, II, III 16 KD subunit |
| OR287C | -1.7 | protein required for cell viability |
| RS1 | -1.2 | regulator for ribosome synthesis |
| 1BF1 | -1.9 | multiprotein bridging factor |
| IET31 | -1.2 | transcriptional regulator of sulfur amino acid metabolism |
| PL047W | -1.4 | questionable protein |
| PP1 | -0.9 | compass (complex proteins associated with Set1p) component |
| IF6 | -1.0 | translation initiation factor 6 (eIF6) |
| RR1 | -0.9 | spliceosomal snRNP component |
| IB1 | -1.3 | protein required for mitosis |
| DS3 | -2.0 | protein required for cell viability |
| NT309 | -1.5 | protein complex component associated with the splicing factor Prp19p |
| PR143W | -1.3 | protein required for cell viability |
| PO26 | -1.5 | RNA polymerases I, II, and III subunit |
| | -:- | |
| rotein synthes CM1 | | nutative transmembrane demain protein involved in cell well biogenesis |
| | -1.7 | putative transmembrane domain protein involved in cell wall biogenesis |
| BP6 | -1.2 | translational activator of COB mRNA |
| IRPL37 | -1.3 | mitochondrial ribosomal protein of the large subunit |
| IRPL27 | -1.7 | mitochondrial ribosomal protein of the large subunit |
| RR1 | -0.9 | Involved in cell division and spore germination |
| IRPL32 | -1.7 | ribosomal protein (YmL32) |
| MG2 | -1.1 | mitochondrial ribosomal protein of the small subunit |
| TD1 | -1.2 | D-Tyr-tRNA(Tyr) deacylase |
| DR115W | -1.4 | questionable protein |
| DR185C | -1.1 | questionable protein |
| PPL27B | -0.9 | ribosomal protein L27B |
| SLF1 | -1.1 | La motif-containing proteins that modulate mRNA translation |
| OP16 | -1.4 | ribosome biogenesis |
| SM18 | -1.1 | mitochondrial ribosome small subunit component |
| PS24A | -1.0 | ribosomal protein S24A |
| PL23B | -0.9 | ribosomal protein L23B (L17aB) (YL32) |
| | 4.6 | ribosomal protein L22B (L1c) (rp4) (YL31) |
| | -1.6 | |
| OC1 | -2.0 | nuclear protein involved in asymmetric localization of ASH1 mRNA |
| OC1 PL29 | -2.0 -0.9 | ribosomal protein L29 (YL43) |
| OC1 PL29 GR1 | -2.0 | ribosomal protein L29 (YL43) coiled-coil protein |
| OC1 PPL29 GR1 IRPL25 | -2.0 -0.9 -2.3 -1.3 | ribosomal protein L29 (YL43) coiled-coil protein mitochondrial ribosomal protein of the large subunit |
| OC1 RPL29 CGR1 MRPL25 | -2.0 -0.9 -2.3 | ribosomal protein L29 (YL43) coiled-coil protein |
| RPL22B .OC1 RPL29 CGR1 MRPL25 YGR201C RSM27 | -2.0 -0.9 -2.3 -1.3 | ribosomal protein L29 (YL43) coiled-coil protein mitochondrial ribosomal protein of the large subunit |
| OC1 RPL29 CGR1 MRPL25 'GR201C | -2.0 -0.9 -2.3 -1.3 -1.0 | ribosomal protein L29 (YL43) coiled-coil protein mitochondrial ribosomal protein of the large subunit questionable protein |
| OC1 RPL29 CGR1 MRPL25 (GR201C RSM27 | -2.0 -0.9 -2.3 -1.3 -1.0 -2.0 | ribosomal protein L29 (YL43) coiled-coil protein mitochondrial ribosomal protein of the large subunit questionable protein mitochondrial ribosome small subunit component |
| OC1 PPL29 GR1 IRPL25 GR201C PSM27 PPL27A | -2.0 -0.9 -2.3 -1.3 -1.0 -2.0 -1.0 | ribosomal protein L29 (YL43) coiled-coil protein mitochondrial ribosomal protein of the large subunit questionable protein mitochondrial ribosome small subunit component ribosomal protein L27A |

| Gene name | Fold change | Gene Product |
|-----------------|-------------|--|
| RPS21B | -1.7 | ribosomal protein S21B (S26B) (YS25) |
| RPL39 | -1.3 | ribosomal protein L39 (L46) (YL40) |
| RPL43B | -1.0 | ribosomal protein L43B |
| MRP17 | -1.5 | ribosomal protein MRP17 |
| MRT4 | -1.3 | mRna turnover 4 |
| MRPL31 | -1.0 | mitochondrial ribosomal protein of the large subunit |
| RPS27A | -1.0 | ribosomal protein S27A (rp61) (YS20) |
| RPS21A | -1.2 | ribosomal protein S21A (S26A) (YS25) |
| RPL37A | -1.3 | ribosomal protein L37A (L43) (YL35) |
| YLR221C | -0.9 | riboSome Assembly |
| RPS28B | -1.0 | ribosomal protein S28B (S33B) (YS27) |
| RPS30A | -1.1 | ribosomal protein S30A |
| MRPL15 | -1.4 | mitochondrial ribosomal protein of the large subunit |
| RPL38 | -1.0 | ribosomal protein L38 |
| RPS29A | -1.1 | ribosomal protein S29A (S36A) (YS29) |
| MRPL39 | -1.2 | mitochondrial ribosomal protein of the large subunit |
| TRM9 | -0.9 | mcm5U/mcm5s2U tRNA carboxyl methyltransferase |
| RPS18B | -0.9 | ribosomal protein S18B |
| MRPS8 | -1.2 | mitochondrial ribosomal protein of the small subunit |
| MRPS17 | -0.9 | mitochondrial ribosomal protein of the small subunit |
| MRPL44 | -1.3 | mitochondrial ribosomal protein of the large subunit |
| TIF11 | -1.2 | translation initiation factor eIF1A |
| MRPL33 | -1.6 | mitochondrial ribosomal protein of the large subunit |
| RLP7 | -1.3 | nucleolar protein related to ribosomal protein L7 |
| NOP15 | -1.4 | ribosome biogenesis |
| SUI1 | -1.7 | translation initiation factor eIF1 |
| MRPL50 | -1.2 | mitochondrial ribosomal protein of the large subunit, not essential for mitochondrial translation |
| RSM19 | -1.0 | mitochondrial ribosome small subunit component |
| RPS28A | -1.3 | ribosomal protein S28A (S33A) (YS27) |
| RPS30B | -1.3 | ribosomal protein S30B |
| RPL33B | -1.2 | ribosomal protein L33B (L37B) (rp47) (YL37) |
| RRS1 | -1.2 | regulator for ribosome synthesis |
| TIF6 | -1.0 | translation initiation factor 6 (eIF6) |
| MRPL51 | -1.1 | mitochondrial ribosomal protein of the large subunit |
| YPR143W MRP2 | -1.3 | protein required for cell viability |
| WRP2 | -0.9 | mitochondrial ribosomal protein, small subunit |
| Protein fate | | |
| PEX22 | -1.6 | product of gene unknown |
| LDB7 | -0.9 | protein involved in mannosylphosphorylation of cell wall mannoproteins |
| PRE7 | -0.9 | proteasome subunit |
| KTI11 | -1.2 | similar to Hemiascomycetous yeast protein |
| RER2 | -0.9 | cis-prenyltransferase |
| MRS5 | -1.0 | involved in mitochondrial biogenesis |
| ATG14 | -1.5 | required for autophagy |
| YSY6 | -3.4 | protein that participates in secretory pathway |
| UBS1 | -1.0 | general positive regulator of CDC34 |
| DER1 | -1.1 | endoplasmic reticulum membrane protein, required for the protein degradation process associated with the ER, involved in the retrograde transport of misfolded or unassembled proteins |
| ATG12 | -2.3 | component of the autophagic system |
| SHG1 | -1.5 | compass (complex proteins associated with Set1p) component |
| MAK31 | -1.8 | member of the Sm protein family |
| YCR060W | -1.5 | questionable protein |
| APC11 | -1.2 | anaphase promoting complex (APC) subunit |
| PEX19 | -1.2 | 40 kDa farnesylated protein associated with peroxisomes |
| | | |

| Gene name | Fold change | Gene Product |
|---------------|--------------|--|
| COX9 | -2.0 | cytochrome c oxidase subunit VIIa |
| SRP14 | -1.4 | signal recognition particle subunit |
| MSS2 | -1.1 | cox2 pre-mRNA splicing factor |
| OST4 | -0.9 | oligosaccharyltransferase subunit |
| TFB5 | -1.9 | Component of general transcription and DNA repair factor TFIIH |
| SSS1 | -1.6 | ER protein-translocase complex subunit |
| RUB1 | -1.3 | ubiquitin-like protein |
| TAF10 | -1.3 -1.2 | TFIID subunit |
| UBC1 | | |
| CSN9 | -1.2 | ubiquitin-conjugating enzyme |
| | -2.7 | COP9 signalosome (CSN) subunit |
| YDR185C | -1.1 | questionable protein |
| GPI11 | -1.3 | protein involved in glycosylphosphatidylinositol (GPI) biosynthesis |
| TIM11 | -1.7 | mitochondrial F1F0-ATPase subunit e |
| SEM1 | -2.6 | Regulator of exocytosis and pseudohyphal differentiation |
| ADA2 | -1.4 | general transcriptional adaptor or co-activator |
| YDR459C | -1.2 | likely functions in pathway(s) outside Ras |
| FPR2 | -1.0 | FKBP13 (FK506 binding protein) peptidyl-prolyl cis-trans isomerase (PPlase) |
| QCR7 | -1.1 | ubiquinol cytochrome C oxidoreductase subunit 7 |
| GIM4 | -2.0 | bovine prefoldin subunit 2 homolog (putative) |
| UBC8 | -1.0 | ubiquitin-conjugating enzyme; ubiquitin-protein ligase |
| ГІМ9 | -1.8 | essential subunit of the TIM22-complex for mitochondrial protein import |
| SBH2 | -1.5 | Sbh1p homolog |
| PET117 | -1.5 | protein required for assembly of cytochrome c oxidase |
| YPT1 | -0.9 | GTP-binding protein; ras homolog |
| YPI1 | -1.0 | PP1 phosphatase inhibitor |
| LYS5 | -1.0 | alpha aminoadipate reductase phosphopantetheinyl transferase |
| BRR6 | -1.5 | nuclear envelope protein |
| SMD1 | -1.1 | homolog of human core snRNP protein D1, involved in snRNA maturation |
| VMA21 | -1.7 | protein involved in vacuolar H-ATPase assembly or function |
| TRX2 | -1.0 | thioredoxin |
| PEX21 | -1.3 | peroxin |
| MRS11 | -1.4 | subunit of the Tim22-complex |
| VMA22 | -1.9 | required for V-ATPase activity |
| WSS1 | -1.6 | weak suppressor of smt3 |
| SSP1 | -1.2 | essential for meiosis and spore formation |
| URM1 | -1.5 | ubiquitin-like protein |
| YRB2 | -0.9 | nuclear protein that interacts with Gsp1p and Crm1p |
| FMC1 | -1.2 | assembly factor of ATP synthase in heat stress |
| IST3 | -2.1 | U2 snRNP associated protein |
| MSL1 | -1.2 | U2 snRNP component |
| STS1 | -1.1 | restores protein transport when overexpressed and rRNA stability to a sec23 mutation |
| YJL104W | -0.9 | presequence translocase-asssociated motor, constituent of the mitochondrial import motor PAM |
| PFD1 | -1.3 | bovine prefoldin subunit 1 homolog (putative) |
| GON7 | -1.4 | protein proposed to be involved in the transfer of mannosylphosphate |
| | | groups onto N-linked oligosaccharides |
| SPC1 | -2.5 | homolog of the SPC12 subunit of mammalian signal peptidase complex |
| 4 <i>P</i> S2 | -1.0 | clathrin associated protein complex small subunit |
| YJR097W | -1.5 | protein that may function as a cochaperone |
| TIM8 | -1.0 | mitochondrial protein import machinery subunit |
| VPS24 | -1.3 | involved in secretion |
| VPH2 | -1.0 | 25.2 kDa protein involved in assembly of vacuolar H(+) ATPase |
| SRP21 | -1.7 | signal recognition particle component |
| | | |

| Gene name | Fold change | Gene Product |
|-----------|-------------|--|
| COX17 | -1.5 | cysteine-rich protein |
| ATG10 | -1.5 | protein-conjugating enzyme |
| COX12 | -1.1 | cytochrome c oxidase subunit VIb |
| TRX1 | -1.0 | thioredoxin |
| SRN2 | -1.1 | suppressor of rna1-1 mutation |
| APS1 | -1.0 | clathrin associated protein complex small subunit |
| YKE2 | -1.1 | Gim complex component |
| YLR243W | -1.1 | protein required for cell viability |
| UBC12 | -1.7 | ubiquitin-conjugating enzyme |
| VPS71 | -0.9 | component of the Swr1p complex that incorporates Htz1p into chromatin, required for vacuolar protein sorting |
| MFT1 | -1.2 | mitochondrial targeting protein |
| COX14 | -1.2 | mitochondrial membrane protein |
| IMP2 | -1.0 | protease |
| TAF9 | -1.2 | TFIID subunit |
| COX7 | -2.2 | cytochrome c oxidase subunit VII |
| SAP30 | -1.7 | subunit of the histone deacetylase B complex |
| GOT1 | -1.2 | membrane protein |
| GPI15 | -1.6 | human Pig-H homolog |
| ТОМ7 | -0.9 | translocase of the outer mitochondrial membrane |
| YPT53 | -1.0 | GTP-binding protein; rab family |
| GIM3 | -1.4 | bovine prefoldin subunit 4 homolog (putative) |
| ATX1 | -1.4 | copper binding homeostasis protein (putative) |
| HUB1 | -1.5 | ubiquitin-like modifier |
| HRT1 | -1.1 | Skp1-Cullin-F-box ubiquitin protein ligase (SCF) subunit |
| YSP3 | -1.0 | subtilisin-like protease III |
| HSP10 | -1.6 | heat shock protein 10 |
| PEP12 | -1.0 | syntaxin (T-SNARE), vacuolar |
| ТОМ6 | -2.1 | mitochondrial outer membrane import receptor subunit, 6 kD |
| YNG1 | -1.0 | histone acetyltransferase complex component |
| ARF3 | -1.1 | GTP-binding ADP-ribosylation factor |
| OST2 | -1.4 | oligosaccharyltransferase epsilon subunit |
| SAS5 | -1.0 | involved in silencing at telomeres, HML and HMR |
| MGE1 | -0.9 | GrpE homolog |
| NAT5 | -2.4 | N-acetyltransferase |
| ARL3 | -0.9 | ADP-ribosylation factor-like protein, member of the arf-sar family in the ras superfamily |
| VPS28 | -1.0 | protein involved in vacuolar traffic |
| SPP1 | -0.9 | compass (complex proteins associated with Set1p) component |
| PPT2 | -2.1 | phosphopantetheine:protein transferase (PPTase) |
| ATG5 | -1.6 | Involved in autophagy |
| TFP3 | -1.1 | vacuolar ATPase V0 domain subunit c' (17 kDa) vacuolar H(+) ATPase 17 kDa subunit C |
| MAK3 | -1.1 | N-acetyltransferase |
| BRR1 | -0.9 | spliceosomal snRNP component |

| Regulation | of metabolism a | nd protein function |
|------------|-----------------|---------------------|
| | | |

| NRG2 | -1.6 | NRG1 homolog |
|-----------|------|--|
| POL30 | -1.1 | proliferating Cell Nuclear Antigen (PCNA) |
| HMLALPHA1 | -1.6 | mating type regulatory protein, silenced copy at HML |
| HMLALPHA2 | -2.7 | mating type regulatory protein, silenced copy at HML |
| MATALPHA2 | -3.0 | mating type regulatory protein, expressed copy at MAT locus |
| MATALPHA1 | -1.5 | mating type regulatory protein, expressed copy at MAT locus |
| HMRA1 | -2.0 | mating type regulatory protein, silenced copy at HMR locus |
| INH1 | -1.4 | ATPase inhibitor |
| NCB2 | -1.6 | Negative Cofactor B2 is the beta subunit of a negative regulator of RNA polymerase II holoenzyme |

| Gene name | Fold change | Gene Product |
|----------------|--------------|---|
| ADA2 | -1.4 | general transcriptional adaptor or co-activator |
| BUR6 | -2.0 | transcriptional regulator |
| YPI1 | -1.0 | PP1 phosphatase inhibitor |
| PEX21 | -1.3 | peroxin |
| YNG2 | -1.2 | NuA4 histone acetyltransferase complex component |
| SPL2 | -1.7 | suppressor of plc1-delta |
| KTI12 | -1.1 | elongator associated protein |
| BUB2 | -0.9 | protein required for cell cycle arrest in response to loss of microtubule function |
| MBF1 | -1.9 | multiprotein bridging factor |
| ERI1 | -1.2 | ER-associated Ras Inhibitor |
| Callular trans | | |
| PEX22 | -1.6 | cilities and transport routes product of gene unknown |
| YBR043C | -1.0 | protein of unknown function, may have a role in drug resistance |
| MRS5 | -1.0 -1.0 | involved in mitochondrial biogenesis |
| YMC2 | -1.0 -1.0 | mitochondrial carrier protein |
| YSY6 | | protein that participates in secretory pathway |
| | -3.4 | |
| UBS1 ATG12 | -1.0 | general positive regulator of CDC34 |
| | -2.3 | component of the autophagic system |
| TRS20 | -1.9 | trapp subunit of 20 kDa |
| YPT10 | -1.0 | similar to Rab proteins and other small GTP-binding proteins |
| CTP1 | -1.2 | citrate tranporter |
| GRX1 | -1.1 | glutaredoxin |
| TRX3 | -0.9 | thioredoxin |
| PEX19 | -1.2 | 40 kDa farnesylated protein associated with peroxisomes |
| COX9 | -2.0 | cytochrome c oxidase subunit VIIa |
| SRP14 | -1.4 | signal recognition particle subunit |
| MSS2 | -1.1 | cox2 pre-mRNA splicing factor |
| INH1 | -1.4 | ATPase inhibitor |
| SSS1 | -1.6 | ER protein-translocase complex subunit |
| UBC1 | -1.2 | ubiquitin-conjugating enzyme |
| TIM11 | -1.7 | mitochondrial F1F0-ATPase subunit e |
| SEM1 | -2.6 | Regulator of exocytosis and pseudohyphal differentiation |
| DYN2 | -2.1 | dynein light chain (putative) |
| TIM9 | -1.8 | essential subunit of the TIM22-complex for mitochondrial protein import |
| SBH2 | -1.5 | Sbh1p homolog |
| YPT1 | -0.9 | GTP-binding protein; ras homolog |
| LOC1 | -2.0 | nuclear protein involved in asymmetric localization of ASH1 mRNA |
| ERV14 | -0.9 | 14 kDa protein found on ER-derived vesicles |
| BRR6 | -1.5 | nuclear envelope protein |
| VMA7 | -1.2 | vacuolar ATPase V1 domain subunit F (14 kDa) |
| LST7 | -1.1 | required for amino acid permease transport from the Golgi to the cell surface |
| YGR131W | -1.7 | questionable protein |
| TRX2 | -1.0 | thioredoxin |
| PEX21 | -1.3 | peroxin |
| MRS11 | -1.4 | subunit of the Tim22-complex |
| VMA10 | -1.2 | vacuolar ATPase V1 domain subunit G (13 kDa) |
| BET1 | -1.6 | membrane protein required for vesicular transport between the endoplasmic reticulum and Golgi complex |
| YIL040W | -1.0 | protein of unknown function, localizes to the endoplasmic reticulum |
| YRB2 | -0.9 | nuclear protein that interacts with Gsp1p and Crm1p |
| QDR1 | -0.9 | multidrug resistance transporter |
| FLX1 | -0.9 | FAD carrier protein |
| STS1 | -1.1 | restores protein transport when overexpressed and rRNA stability to a |
| - , | ••• | sec23 mutation |

| Gene name | Fold change | Gene Product |
|---------------|-------------|--|
| SYS1 | -1.0 | multicopy suppressor of ypt6 null mutation |
| YJL104W | -0.9 | presequence translocase-asssociated motor, constituent of the mitochondrial import motor PAM |
| NCE101 | -1.4 | involved in secretion of proteins that lack classical secretory signal sequences |
| CYC1 | -0.9 | iso-1-cytochrome c |
| APS2 | -1.0 | clathrin associated protein complex small subunit |
| TIM8 | -1.0 | mitochondrial protein import machinery subunit |
| SFT1 | -1.5 | v-SNARE |
| /PS24 | -1.3 | involved in secretion |
| SRP21 | -1.7 | signal recognition particle component |
| MTR2 | -1.8 | mRNA transport regulator |
| DID2 | -1.2 | class E vacuolar-protein sorting and endocytosis factor |
| BET3 | -0.9 | transport protein particle (TRAPP) component |
| COX17 | -1.5 | cysteine-rich protein |
| ATG10 | -1.5 | protein-conjugating enzyme |
| YLR004C | -1.0 | questionable protein |
| YLR016C | -1.3 | questionable protein |
| COX12 | -1.1 | cytochrome c oxidase subunit VIb |
| TRX1 | -1.0 | thioredoxin |
| SRN2 | -1.1 | suppressor of rna1-1 mutation |
| ZRT2 | -0.9 | low affinity zinc transport protein |
| APS1 | -1.0 | clathrin associated protein complex small subunit |
| ARV1 | -1.0 | protein involved in sterol distribution |
| COX8 | -1.0 | cytochrome c oxidase chain VIII |
| ERV25 | -1.0 | vesicle coat component |
| /PS71 | -0.9 | component of the Swr1p complex that incorporates Htz1p into chromatin, required for vacuolar protein sorting |
| MFT1 | -1.2 | mitochondrial targeting protein |
| A <i>TP18</i> | -1.7 | ATP synthase associated protein |
| YML107C | -1.3 | protein of unknown function; GFP-fusion protein localizes to the nuclear periphery |
| VPS20 | -0.9 | vaculolar protein sorting (putative) |
| GFD1 | -1.2 | protein of the nuclear pore complex |
| COX7 | -2.2 | cytochrome c oxidase subunit VII |
| GOT1 | -1.2 | membrane protein |
| JNM1 | -1.1 | coiled-coil domain protein required for proper nuclear migration during mitosis |
| YMR299C | -1.3 | protein of unknown function; GFP-fusion protein localizes to the cytoplasm |
| VCE103 | -1.4 | carbonic anhydrase-like protein |
| ГОМ7 | -0.9 | translocase of the outer mitochondrial membrane |
| YPT53 | -1.0 | GTP-binding protein; rab family |
| CYB5 | -1.1 | cytochrome b5 |
| ATX1 | -1.4 | copper binding homeostasis protein (putative) |
| A <i>TP19</i> | -1.2 | ATP synthase subunit k homolog |
| PEP12 | -1.0 | syntaxin (T-SNARE), vacuolar |
| ГОМ6 | -2.1 | mitochondrial outer membrane import receptor subunit, 6 kD |
| ARF3 | -1.1 | GTP-binding ADP-ribosylation factor |
| ORT1 | -1.0 | Mitochondrial ornithine carrier - member of the mitochondrial carrier family |
| MGE1 | -0.9 | GrpE homolog |
| RET3 | -0.9 | vesicle coat component |
| ARL3 | -0.9 | ADP-ribosylation factor-like protein, member of the arf-sar family in the ras superfamily |
| VPS28 | -1.0 | protein involved in vacuolar traffic |
| PPT2 | -2.1 | phosphopantetheine:protein transferase (PPTase) |
| 4 <i>TG5</i> | -1.6 | Involved in autophagy |
| OYE3 | -1.8 | NADPH dehydrogenase |

| Gene name | Fold change | Gene Product |
|-----------|-------------------|---|
| TFP3 | -1.1 | vacuolar ATPase V0 domain subunit c' (17 kDa) vacuolar H(+) ATPase 17 kDa subunit C |
| ATP15 | -1.3 | ATP synthase epsilon subunit |
| ATP20 | -1.5 | ATP synthase subunit g homolog |
| | | • |
| | | I transduction mechanism |
| MFA1 | -2.0 | a-factor mating pheromone precursor |
| STE18 | -1.6 | G protein gamma subunit; coupled to mating factor receptor |
| MFA2 | -1.7 | a-factor mating pheromone precursor |
| ZEO1 | -2.1 | Mid2p-interacting protein, modulates the PKC1-MPK1 cell integrity pathway |
| ERI1 | -1.2 | ER-associated Ras Inhibitor |
| | efense and virule | |
| YBR043C | -1.0 1.4 | protein of unknown function, may have a role in drug resistance |
| GPX2 | -1.4 1.1 | phospholipid hydroperoxide glutathione peroxidase |
| GRX1 | -1.1 1.5 | glutaredoxin |
| YCR060W | -1.5 | questionable protein |
| TRX3 | -0.9 | thioredoxin |
| NOP6 | -1.8 | protein with similarity to hydrophilins, which are involved in the adaptive response to hyperosmotic conditions |
| RAD57 | -1.2 | RecA homolog; interacts with Rad 55p |
| NRG1 | -1.6 | binds to UAS-1 in the STA1 promoter and can interact with Ssn6; transcriptional repressor |
| PET100 | -1.5 | cytochrome c oxidase-specific assembly factor |
| CTA1 | -1.8 | catalase A |
| TSA2 | -1.0 | thioredoxin-peroxidase |
| FPR2 | -1.0 | FKBP13 (FK506 binding protein) peptidyl-prolyl cis-trans isomerase (PPlase) |
| TIM9 | -1.8 | essential subunit of the TIM22-complex for mitochondrial protein import |
| YER187W | -2.1 | questionable protein |
| SNO3 | -0.9 | protein is related with B(1) biosynthesis during the exponential phase |
| TRX2 | -1.0 | thioredoxin |
| MRS11 | -1.4 | subunit of the Tim22-complex |
| DOG2 | -0.9 | 2-deoxyglucose-6-phosphate phosphatase |
| CUP1-1 | -2.0 | copper binding metallothionein |
| CUP1-2 | -2.1 | copper binding metallothionein |
| VMA22 | -1.9 | required for V-ATPase activity |
| LRP1 | -1.6 | like rRNA Processing protein involved in regulation of DNA repair and recombination |
| SPL2 | -1.7 | suppressor of plc1-delta |
| EST3 | -1.8 | Subunit of the telomerase |
| QDR1 | -0.9 | multidrug resistance transporter |
| ASF1 | -1.1 | anti-silencing protein that causes depression of silent loci when overexpressed |
| RPB4 | -1.0 | RNA polymerase II fourth largest subunit |
| PFD1 | -1.3 | bovine prefoldin subunit 1 homolog (putative) |
| GON7 | -1.4 | protein proposed to be involved in the transfer of mannosylphosphate groups onto N-linked oligosaccharides |
| KTI12 | -1.1 | elongator associated protein |
| YKR049C | -1.0 | protein localized to the mitochondria |
| RPS21A | -1.2 | ribosomal protein S21A (S26A) (YS25) |
| TRX1 | -1.0 | thioredoxin |
| ASP3-1 | -1.2 | nitrogen catabolite-regulated cell-wall L-asparaginase II |
| ASP3-2 | -1.0 | nitrogen catabolite-regulated cell-wall L-asparaginase II |
| ASP3-3 | -1.0 | nitrogen catabolite-regulated cell-wall L-asparaginase II |
| ASP3-4 | -1.2 | nitrogen catabolite-regulated cell-wall L-asparaginase II |
| | · · - | |

| Gene name | Fold change | Gene Product |
|-----------|-------------|---|
| PDR8 | -1.1 | zinc finger transcription factor |
| TRM9 | -0.9 | mcm5U/mcm5s2U tRNA carboxyl methyltransferase |
| HUG1 | -1.3 | protein involved in the Mec1p-mediated checkpoint pathway that responds to DNA damage or replication arrest |
| SIP18 | -1.1 | salt-Induced Protein |
| HOR7 | -1.2 | hyperosmolarity-responsive gene |
| ATX1 | -1.4 | copper binding homeostasis protein (putative) |
| ZEO1 | -2.1 | Mid2p-interacting protein, modulates the PKC1-MPK1 cell integrity pathway |
| HSP10 | -1.6 | heat shock protein 10 |
| CIN5 | -1.1 | transcriptional activator |
| MGE1 | -0.9 | GrpE homolog |
| RFM1 | -1.0 | DNA-binding protein |
| ARR2 | -1.9 | arsenate reductase |

| ARR2 | -1.9 | arsenate reductase |
|----------------------|------|--|
| | | |
| Interaction with the | | |
| YBL028C | -2.1 | questionable protein |
| SRB6 | -2.1 | part of Srb/Mediator complex; transcription factor |
| HMLALPHA1 | -1.6 | mating type regulatory protein, silenced copy at HML |
| HMLALPHA2 | -2.7 | mating type regulatory protein, silenced copy at HML |
| MATALPHA2 | -3.0 | mating type regulatory protein, expressed copy at MAT locus |
| MATALPHA1 | -1.5 | mating type regulatory protein, expressed copy at MAT locus |
| HMRA2 | -3.0 | mating type regulatory protein, silenced copy at HMR locus |
| HMRA1 | -2.0 | mating type regulatory protein, silenced copy at HMR locus |
| CDC36 | -1.1 | basal transcription inhibitor; transcriptional regulator |
| RAD57 | -1.2 | RecA homolog; interacts with Rad 55p |
| NRG1 | -1.6 | binds to UAS-1 in the STA1 promoter and can interact with Ssn6; transcriptional repressor |
| SNF11 | -1.4 | SWI/SNF global transcription activator complex component |
| CSN9 | -2.7 | COP9 signalosome (CSN) subunit |
| MFA1 | -2.0 | a-factor mating pheromone precursor |
| SLF1 | -1.1 | La motif-containing proteins that modulate mRNA translation |
| FAR7 | -1.0 | protein involved in G1 cell cycle arrest in response to pheromone, in a pathway different from the Far1p-dependent pathway |
| AGA2 | -1.4 | a-agglutinin adhesion subunit |
| VMA7 | -1.2 | vacuolar ATPase V1 domain subunit F (14 kDa) |
| SNF6 | -0.9 | chromatin remodeling Snf/Swi complex subunit |
| VMA10 | -1.2 | vacuolar ATPase V1 domain subunit G (13 kDa) |
| VMA22 | -1.9 | required for V-ATPase activity |
| SPL2 | -1.7 | suppressor of plc1-delta |
| STE18 | -1.6 | G protein gamma subunit; coupled to mating factor receptor |
| VPH2 | -1.0 | 25.2 kDa protein involved in assembly of vacuolar H(+) ATPase |
| COX17 | -1.5 | cysteine-rich protein |
| ZRT2 | -0.9 | low affinity zinc transport protein |
| KAR5 | -1.1 | coiled-coil membrane protein |
| SAP30 | -1.7 | subunit of the histone deacetylase B complex |
| MFA2 | -1.7 | a-factor mating pheromone precursor |
| KAR1 | -1.0 | involved in spindle pole body duplication and karyogamy |
| ATX1 | -1.4 | copper binding homeostasis protein (putative) |
| HUB1 | -1.5 | ubiquitin-like modifier |
| YOL101C | -0.9 | questionable protein |
| CIN5 | -1.1 | transcriptional activator |
| ISU1 | -1.1 | iron-sulfur cluster nifU-like protein |
| TFP3 | -1.1 | vacuolar ATPase V0 domain subunit c' (17 kDa) vacuolar H(+) ATPase 17 kDa subunit C |
| ATP15 | -1.3 | ATP synthase epsilon subunit |
| RDS3 | -2.0 | protein required for cell viability |
| | | • |

| | Fold change | Gene Product |
|--|--|---|
| Transposable | elements, viral a | and plasmid proteins |
| MAK31 | -1.8 | member of the Sm protein family |
| RTT102 | -0.9 | regulator of Ty1 Transposition |
| | | |
| Cell fate | | |
| NHP6B | -1.2 | 11 kDa nonhistone chromosomal protein |
| SPR6 | -1.3 | sporulation-specific protein |
| ASF1 | -1.1 | anti-silencing protein that causes depression of silent loci when overexpressed |
| YKL082C | -0.9 | required for normal pre-rRNA Processing |
| KTI12 | -1.1 | elongator associated protein |
| DAD2 | -1.3 | outer kinetochore protein - part of Dam1 complex |
| BUB2 | -0.9 | protein required for cell cycle arrest in response to loss of microtubule function |
| SAP30 | -1.7 | subunit of the histone deacetylase B complex |
| YMR269W | -2.2 | protein possibly involved in protein synthesis |
| HUB1 | -2.2 -1.5 | ubiquitin-like modifier |
| 1001 | -1.0 | andamining monnie |
| Development (| (Systemic) | |
| HMLALPHA1 | -1.6 | mating type regulatory protein, silenced copy at HML |
| HMLALPHA2 | -2.7 | mating type regulatory protein, silenced copy at HML |
| MATALPHA2 | -3.0 | mating type regulatory protein, expressed copy at MAT locus |
| MATALPHA1 | -1.5 | mating type regulatory protein, expressed copy at MAT locus |
| HMRA1 | -2.0 | mating type regulatory protein, silenced copy at HMR locus |
| AGA2 | -1.4 | a-agglutinin adhesion subunit |
| KAR5 | -1.1 | coiled-coil membrane protein |
| KAR1 | -1.0 | involved in spindle pole body duplication and karyogamy |
| HUB1 | -1.5 | ubiquitin-like modifier |
| | | |
| ACS1 ECM1 | cellular compon -1.5 -1.7 -0.9 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis |
| ACŠ1 ECM1 LDB7 | -1.5 -1.7 -0.9 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins |
| ACŠ1 ECM1 LDB7 RER2 | -1.5 -1.7 -0.9 -0.9 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase |
| ACŠ1 ECM1 LDB7 RER2 MRS5 | -1.5 -1.7 -0.9 -0.9 -1.0 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis |
| ACŠ1 ECM1 LDB7 RER2 MRS5 ATG12 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL37 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL37 CTP1 MRPL32 PET18 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 IMG2 PEX19 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 -2.2 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit 40 kDa farnesylated protein associated with peroxisomes |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 IMG2 PEX19 RAD57 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 -2.2 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit 40 kDa farnesylated protein associated with peroxisomes RecA homolog; interacts with Rad 55p |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 IMG2 PEX19 RAD57 DAD1 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 -2.2 -1.1 -1.2 -1.7 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit 40 kDa farnesylated protein associated with peroxisomes RecA homolog; interacts with Rad 55p Duo1 and Dam1 interacting; localized to intranuclear spindles and spindle pole bodies |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 IMG2 PEX19 RAD57 DAD1 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 -2.2 -1.1 -1.2 -1.7 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit 40 kDa farnesylated protein associated with peroxisomes RecA homolog; interacts with Rad 55p Duo1 and Dam1 interacting; localized to intranuclear spindles and spindle pole bodies involved in telomere length regulation |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 IMG2 PEX19 RAD57 DAD1 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 -2.2 -1.1 -1.2 -1.7 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit 40 kDa farnesylated protein associated with peroxisomes RecA homolog; interacts with Rad 55p Duo1 and Dam1 interacting; localized to intranuclear spindles and spindle pole bodies |
| Biogenesis of ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 IMG2 PEX19 RAD57 DAD1 STN1 YDR115W TAF10 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 -2.2 -1.1 -1.2 -1.7 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit 40 kDa farnesylated protein associated with peroxisomes RecA homolog; interacts with Rad 55p Duo1 and Dam1 interacting; localized to intranuclear spindles and spindle pole bodies involved in telomere length regulation |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 IMG2 PEX19 RAD57 DAD1 STN1 YDR115W | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 -2.2 -1.1 -1.2 -1.7 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit 40 kDa farnesylated protein associated with peroxisomes RecA homolog; interacts with Rad 55p Duo1 and Dam1 interacting; localized to intranuclear spindles and spindle pole bodies involved in telomere length regulation questionable protein |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 IMG2 PEX19 RAD57 DAD1 STN1 YDR115W TAF10 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 -2.2 -1.1 -1.2 -1.7 -1.2 -1.4 -1.2 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit 40 kDa farnesylated protein associated with peroxisomes RecA homolog; interacts with Rad 55p Duo1 and Dam1 interacting; localized to intranuclear spindles and spindle pole bodies involved in telomere length regulation questionable protein TFIID subunit |
| ACS1 ECM1 LDB7 RER2 MRS5 ATG12 SHG1 YPT10 MRPL37 MRPL27 CTP1 MRPL32 PET18 IMG2 PEX19 RAD57 DAD1 STN1 YDR115W TAF10 SPC19 | -1.5 -1.7 -0.9 -0.9 -1.0 -2.3 -1.5 -1.0 -1.3 -1.7 -1.2 -1.7 -2.2 -1.1 -1.2 -1.7 -1.2 -1.7 | acetyl CoA synthetase putative transmembrane domain protein involved in cell wall biogenesis protein involved in mannosylphosphorylation of cell wall mannoproteins cis-prenyltransferase involved in mitochondrial biogenesis component of the autophagic system compass (complex proteins associated with Set1p) component similar to Rab proteins and other small GTP-binding proteins mitochondrial ribosomal protein of the large subunit mitochondrial ribosomal protein of the large subunit citrate tranporter ribosomal protein (YmL32) protein required for respiratory growth and stability of the mitochondrial genome mitochondrial ribosomal protein of the small subunit 40 kDa farnesylated protein associated with peroxisomes RecA homolog; interacts with Rad 55p Duo1 and Dam1 interacting; localized to intranuclear spindles and spindle pole bodies involved in telomere length regulation questionable protein TFIID subunit spindle pole component |

| Gene name | Fold change | Gene Product |
|-----------|-------------|---|
| TIM9 | -1.8 | essential subunit of the TIM22-complex for mitochondrial protein import |
| BIM1 | -2.0 | binding to microtubules |
| RSM18 | -1.1 | mitochondrial ribosome small subunit component |
| SPR6 | -1.3 | sporulation-specific protein |
| MDM39 | -1.2 | spore wall formation. Mitochondrial distribution and morphology |
| CGR1 | -2.3 | coiled-coil protein |
| BRR6 | -1.5 | nuclear envelope protein |
| MRPL25 | -1.3 | mitochondrial ribosomal protein of the large subunit |
| TRX2 | -1.0 | thioredoxin |
| RSM27 | -2.0 | mitochondrial ribosome small subunit component |
| PEX21 | -1.3 | peroxin |
| MRS11 | -1.4 | subunit of the Tim22-complex |
| EST3 | -1.8 | Subunit of the telomerase |
| YRB2 | -0.9 | nuclear protein that interacts with Gsp1p and Crm1p |
| SYS1 | -1.0 | multicopy suppressor of ypt6 null mutation |
| MRPL49 | -0.9 | mitochondrial ribosomal protein of the large subunit |
| YJL104W | -0.9 | presequence translocase-associated motor, constituent of the mitochondrial import motor PAM |
| RPA34 | -1.5 | RNA polymerase I subunit A34.5 |
| PFD1 | -1.3 | bovine prefoldin subunit 1 homolog (putative) |
| GON7 | -1.4 | protein proposed to be involved in the transfer of mannosylphosphate |
| | | groups onto N-linked oligosaccharides |
| ABM1 | -2.0 | protein of unknown function, required for normal microtubule organization |
| MRP17 | -1.5 | ribosomal protein MRP17 |
| YKL082C | -0.9 | required for normal pre-rRNA Processing |
| MRPL31 | -1.0 | mitochondrial ribosomal protein of the large subunit |
| DAD2 | -1.3 | outer kinetochore protein - part of Dam1 complex |
| TEN1 | -2.3 | protein involved in Telomeric pathways in association with Stn1 |
| TRX1 | -1.0 | thioredoxin |
| YKE2 | -1.1 | Gim complex component |
| MRPL15 | -1.4 | mitochondrial ribosomal protein of the large subunit |
| MRPL39 | -1.2 | mitochondrial ribosomal protein of the large subunit |
| BUB2 | -0.9 | protein required for cell cycle arrest in response to loss of microtubule function |
| KAR5 | -1.1 | coiled-coil membrane protein |
| ABF2 | -1.0 | HMG-1 homolog |
| CIN4 | -1.0 | GTP-binding protein |
| MRPS8 | -1.2 | mitochondrial ribosomal protein of the small subunit |
| MRPS17 | -0.9 | mitochondrial ribosomal protein of the small subunit |
| MRPL44 | -1.3 | mitochondrial ribosomal protein of the large subunit |
| TAF9 | -1.2 | TFIID subunit |
| MRPL33 | -1.6 | mitochondrial ribosomal protein of the large subunit |
| JNM1 | -1.1 | coiled-coil domain protein required for proper nuclear migration during mitosis |
| YMR299C | -1.3 | protein of unknown function; GFP-fusion protein localizes to the cytoplasm |
| GIM3 | -1.4 | bovine prefoldin subunit 4 homolog (putative) |
| KAR1 | -1.0 | involved in spindle pole body duplication and karyogamy |
| YNL213C | -1.2 | questionable protein |
| MRPL50 | -1.2 | mitochondrial ribosomal protein of the large subunit, not essential for |
| DOMAG | 4.0 | mitochondrial translation |
| RSM19 | -1.0 | mitochondrial ribosome small subunit component |
| MDM12 | -1.2 | mitochondrial outer membrane protein |
| ZEO1 | -2.1 | Mid2p-interacting protein, modulates the PKC1-MPK1 cell integrity pathway |
| HSP10 | -1.6 | heat shock protein 10 |
| YNG1 | -1.0 | histone acetyltransferase complex component |
| SPC29 | -1.3 | spindle pole body component |
| | | |

| Gene name | Fold change | Gene Product |
|--------------------|--------------|---|
| SPP1 | -0.9 | compass (complex proteins associated with Set1p) component |
| ATG5 | -1.6 | Involved in autophagy |
| YPL250C | -1.3 | Protein that interacts with the cytoskeleton and is involved in chromatin organization and nuclear transport |
| MRPL51 | -1.1 | mitochondrial ribosomal protein of the large subunit |
| MRP2 | -0.9 | mitochondrial ribosomal protein, small subunit |
| Cell type diffe | rentiation | |
| NRG2 | -1.6 | NRG1 homolog |
| NHP6B | -1.2 | 11 kDa nonhistone chromosomal protein |
| SRB6 | -2.1 | part of Srb/Mediator complex; transcription factor |
| BUD23 | -1.0 | protein involved in bud-site selection |
| NRG1 | -1.6 | binds to UAS-1 in the STA1 promoter and can interact with Ssn6; transcriptional repressor |
| UBC1 | -1.2 | ubiquitin-conjugating enzyme |
| SEM1 | -2.6 | Regulator of exocytosis and pseudohyphal differentiation |
| EMI1 | -1.5 | early meiotic induction |
| SP073 | -1.4 | meiosis-specific protein of unknown function, required for spore wall formation during sporulation |
| SPR6 | -1.3 | sporulation-specific protein |
| ISC10 | -1.7 | meiosis-specific protein required for spore formation |
| ERV14 | -0.9 | 14 kDa protein found on ER-derived vesicles |
| SPO12 | -1.5 | sporulation protein |
| SPO16 | -1.0 | sporulation protein |
| SSP1 | -1.2 | essential for meiosis and spore formation |
| YKL082C | -0.9 | required for normal pre-rRNA Processing |
| DAD2 | -1.3 | outer kinetochore protein - part of Dam1 complex |
| BUD20 | -1.8 | protein involved in bud-site selection |
| ADY4 | -0.9 | component of the meiotic outer plaque |
| BUB2 | -0.9 | protein required for cell cycle arrest in response to loss of microtubule function |
| SAP30 | -1.7 | subunit of the histone deacetylase B complex |
| SPO1 | -0.9 | similar to phospholipase B |
| SPR1 | -1.1 | exo-1,3-beta-glucanase, sporulation-specific |
| YOR304C-A | -1.1 | protein of unknown function; GFP-fusion protein localizes to the cell periphery, cytoplasm, bud, and bud neck |
| SPS4 | -1.6 | sporulation-specific protein |
| Unclassfied p | roteins | |
| YAL037W | -1.3 | questionable protein |
| YAL044W-A | -1.0 | similar to pombe uvi31, putative DNA repair protein |
| YAR023C YAR069C | -1.3 -1.0 | putative integral membrane protein, member of DUP240 gene family questionable protein |
| YBL029C-A | -1.4 | protein of unknown function; GFP-fusion protein localizes to the cell periphery |
| МОН1 | -0.9 | questionable protein |
| YBL059W | -1.1 | questionable protein |
| YBL107C | -1.4 | questionable protein |
| YBL107C | -1.1 | questionable protein |
| YBR062C | -1.2 | questionable protein |
| YBR262C | -2.1 | protein localized to the mitochondria |
| YCL056C | -1.7 | protein of unknown function; GFP-fusion protein localizes to the cytoplasm |
| YCR007C | -1.4 | putative integral membrane protein, member of DUP240 gene family |
| YCR016W | -1.0 | questionable protein |
| YCR022C | -1.1 | questionable protein |
| YCR097W-A | -1.6 | questionable protein |
| | | |

| Gene name | Fold change | Gene Product |
|--------------------|--------------|---|
| YDL099W | -1.1 | protein of unknown function; GFP-fusion protein localizes to the cytoplasm |
| YDL114W-A | -1.7 | questionable protein |
| YDL121C | -1.2 | questionable protein |
| YDL133W | -1.3 | questionable protein |
| YDL156W | -1.1 | questionable protein |
| YDL157C | -1.1 | questionable protein |
| YDL159W-A | -1.1 | questionable protein |
| YDL177C | -1.6 | questionable protein |
| YDL240C-A | -1.4 | questionable protein |
| YDL247W-A | -1.7 | questionable protein |
| DOS2 | -1.1 | protein of unknown function, GFP-fusion protein localizes to the cytoplasm |
| SHU2 | -1.7 | suppressor of hydroxy-urea sensitivity |
| YDR210W | -1.4 | protein of unknown function; GFP-fusion protein localizes to the cell periphery |
| BSC2 | -1.3 | transcript encoded by this ORF shows a high level of stop codon bypass |
| PHM6 | -2.2 | protein of unknown function, expression is regulated by phosphate levels |
| YDR336W | -1.0 | questionable protein |
| YDR339C | -1.2 | protein required for cell viability |
| YDR357C | -1.2 | protein of unknown function; GFP-fusion protein localizes to the cytoplasm |
| BCP1 | -0.9 | questionable protein |
| YDR379C-A | -1.2 | questionable protein |
| YDR381C-A | -2.1 | questionable protein |
| NKP1 | -1.3 | non-essential kinetochore protein |
| CWC21 | -1.2 | component of a complex containing Cef1p, putatively involved in pre- |
| | | mRNA splicing |
| YDR532C | -1.5 | questionable protein |
| YEL018W | -1.2 | stable stochiometric subunit of the NuA4 complex |
| YEL028W | -1.3 | questionable protein |
| IES6 | -1.7 | protein that associates with the INO80 chromatin remodeling complex under low-salt conditions |
| YEL048C | -2.1 | questionable protein |
| RMD6 | -1.9 | required for meiotic nuclear division |
| YEL073C | -0.9 | questionable protein |
| YER030W | -1.5 | questionable protein |
| YER039C-A | -1.1 | questionable protein |
| YER071C | -0.9 | protein of unknown function; GFP-fusion protein localizes to the cytoplasm |
| IES5 | -1.1 | protein that associates with the INO80 chromatin remodeling complex under low-salt conditions |
| YER093C-A | -1.3 | questionable protein |
| YER121W | -1.7 | questionable protein |
| YER137C | -1.7 | questionable protein |
| YER182W | -1.2 | protein localized to the mitochondria |
| YFR026C | -1.6 | questionable protein |
| YFR043C | -1.1 | questionable protein |
| YGL050W | -1.1 | questionable protein |
| YGL080W | -0.9 | protein localized to the mitochondria |
| YGL108C | -1.3 | protein of unknown function; GFP-fusion protein localizes to the cell periphery |
| YGL220W | -1.4 | questionable protein |
| YGR021W | -1.4 | questionable protein |
| YGR035C | -1.8 | protein of unknown function, potential Cdc28p substrate |
| YGR033C YGR042W | -1.6 -1.2 | questionable protein |
| YGR042W YGR153W | -1.2 -1.0 | questionable protein |
| YGR153W YGR154C | -0.9 | questionable protein |
| YGR154C YGR168C | -0.9 -1.3 | |
| | | questionable protein |
| YGR206W | -1.1 -1.9 | questionable protein |
| YGR243W | -1.9 | protein localized to mitochondria |

| Gene name | Fold change | Gene Product |
|-----------|-------------|---|
| YHL013C | -1.0 | questionable protein |
| YHL042W | -1.2 | questionable protein |
| YHL045W | -1.2 | questionable protein |
| FYV4 | -0.9 | protein of unknown function, required for survival upon exposure to K1 killer toxin |
| YHR132W-A | -0.9 | questionable protein |
| YHR162W | -1.0 | questionable protein |
| KRE27 | -1.3 | killer toxin resistant |
| YIL029C | -1.8 | questionable protein |
| YIL089W | -1.0 | questionable protein |
| YIL127C | -2.0 | questionable protein |
| YIL158W | -1.5 | questionable protein |
| YIL161W | -1.6 | questionable protein |
| YIL165C | -1.4 | questionable protein |
| SDL1 | -1.7 | L-serine dehydratase |
| YJL049W | -1.1 | questionable protein |
| CS3 | -1.3 | protein of unknown function |
| YJL118W | -0.9 | questionable protein |
| YJL122W | -1.3 | questionable protein |
| YJL156W-A | -1.3 | questionable protein |
| YJR011C | -1.1 | questionable protein |
| YJR012C | -1.1 | protein required for cell viability |
| YAE1 | -1.6 | essential protein of unknown function |
| YJR079W | -1.0 | questionable protein |
| YJR082C | -1.6 | stable subunit of the NuA4 complex |
| YJR085C | -1.3 | questionable protein |
| YKL018C-A | -1.4 | questionable protein |
| YKL061W | -1.0 | questionable protein |
| YKL133C | -1.0 | questionable protein |
| YKL137W | -1.1 | questionable protein |
| YKR075C | -1.5 | questionable protein |
| YLL014W | -2.3 | questionable protein |
| YLR036C | -0.9 | questionable protein |
| YLR051C | -1.4 | protein required for cell viability |
| YLR065C | -1.1 | questionable protein |
| YLR073C | -1.4 | questionable protein |
| YLR099W-A | -1.2 | questionable protein |
| YLR104W | -1.5 | questionable protein |
| YLR108C | -1.0 | questionable protein |
| YLR112W | -1.4 | questionable protein |
| YLR126C | -1.1 | questionable protein |
| QRI5 | -2.4 | mitochondrial protein of unknown function |
| YLR211C | -1.2 | questionable protein |
| YLR218C | -1.1 | questionable protein |
| YLR254C | -1.2 | questionable protein |
| TMA7 | -1.9 | protein putative involved in cytoplasmic ribosome function |
| YLR281C | -1.5 | questionable protein |
| YLR346C | -1.6 | protein of unknown function; expression regulated by PDR1 |
| YLR363W-A | -1.5 | questionable protein |
| YLR376C | -1.4 | platinum sensitivity protein |
| YLR408C | -1.6 | questionable protein |
| YLR456W | -1.5 | questionable protein |
| YLR460C | -1.1 | questionable protein |
| YML011C | -1.0 | questionable protein |
| YML053C | -1.0 | questionable protein |
| YML108W | -1.5 | protein of unknown function localised to cytoplasm and nucleus |
| YML119W | -0.9 | questionable protein |

| Gene name | Fold change | Gene Product |
|-----------|-------------|--|
| YMR003W | -1.3 | questionable protein |
| YMR040W | -2.5 | questionable protein |
| YMR071C | -1.1 | integral membrane protein |
| YMR114C | -2.3 | questionable protein |
| YMR132C | -1.3 | questionable protein |
| ICY1 | -1.0 | Protein that interacts with the cytoskeleton and is involved in chromatin organization and nuclear transport |
| YNL024C | -1.4 | putative S-adenosylmethionine-dependent methyltransferase of the seven beta-strand family |
| YNL046W | -1.9 | questionable protein |
| YNL056W | -1.1 | questionable protein |
| YNL100W | -0.9 | questionable protein |
| YNL122C | -1.2 | questionable protein |
| YNL149C | -1.2 | protein required for cell viability |
| YNL157W | -1.1 | questionable protein |
| YNL211C | -2.1 | questionable protein |
| YNR004W | -0.9 | questionable protein |
| YNR020C | -1.4 | questionable protein |
| YNR024W | -2.1 | questionable protein |
| YNR040W | -1.0 | questionable protein |
| YOL014W | -1.5 | questionable protein |
| YOR012W | -1.2 | questionable protein |
| YOR013W | -1.4 | questionable protein |
| YOR052C | -1.3 | questionable protein |
| FYV12 | -1.6 | protein required for survival upon exposure to K1 killer toxin |
| IES4 | -1.1 | protein that associates with the INO80 chromatin remodeling complex under low-salt conditions |
| YOR252W | -1.5 | questionable protein |
| YOR305W | -1.5 | questionable protein |
| YOR318C | -1.2 | questionable protein |
| YPL039W | -1.8 | questionable protein |
| YPL071C | -1.9 | questionable protein |
| YPL108W | -1.3 | questionable protein |
| YPL144W | -0.9 | questionable protein |
| YPL267W | -1.2 | questionable protein |
| YPR074W-A | -2.2 | questionable protein |