

Transcription Factor binding motifs in YER067W promoter	Functional Description	Evidence
<i>Energetic Metabolism</i>		
Adr1p	Carbon source-responsive zinc-finger transcription factor, required for transcription of the glucose-repressed gene ADH2, of peroxisomal protein genes, and of genes required for ethanol, glycerol, and fatty acid utilization	<i>(Direct: ChIP-on-chip)</i> Workman CT et al., Science, 2006;312(5776):1054-59
Cat8p	derepression of a variety of genes under non-fermentative growth conditions, active after diauxic shift, binds carbon source responsive elements	<i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Young ET et al., J Biol Chem, 2003;78(28):26146-58
Hap4p	Subunit of the heme-activated, glucose-repressed Hap2p/3p/4p/5p CCAAT-binding complex, a transcriptional activator and global regulator of respiratory gene expression; provides the principal activation function of the complex	<i>Indirect: Microarrays - Wild type vs. TF mutant)</i> Lascaris R et al., Microbiology, 2004 Apr;150(0):929-34
Stp1/Stp2	Homologous transcription factors, activated by proteolytic processing in response to signals from the SPS sensor system for external amino acids; activates transcription of amino acid permease genes and may have a role in tRNA processing	<i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Eckert-Boulet N et al., Yeast, 2004;1(8):635-48
<i>Stress Response</i>		

Hsf1p	Trimeric heat shock transcription factor, activates multiple genes in response to stresses	<i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Yamamoto et al., J Biol Chem., 2005 Mar 25;280(12):11911-9 <i>(Indirect: Proteome - Wild type vs. TF mutant)</i> Boy-Marcotte et al., Mol Microbiol, 1999; (2): 274-283.
Msn2/Msn4	Homologous zinc finger transcriptional factors activated in several stress conditions, which results in translocation from the cytoplasm to the nucleus.	<i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Gasch et al., Mol Biol Cell, 2000; (11): 4241-4257. <i>(Indirect: Proteome - Wild type vs. TF mutant)</i> Boy-Marcotte et al., Mol Microbiol, 1999; (2): 274-283.
Yap1p	Basic leucine zipper (bZIP) transcription factor required for oxidative stress tolerance; activated by H <sub>2</sub> O <sub>2</sub> through the multistep formation of disulfide bonds and transit from the cytoplasm to the nucleus; mediates resistance to cadmium	<i>(Direct: ChIP-on-chip)</i> Workman CT et al., Science, 2006;312(5776):1054-59 <i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Horan et al., Yeast, 2006;23(7):519-535 Thorsen et al., Physiol Genomics, 2007 Jun 19;30(1):35-43
<i>Other</i>		
Fkh2p	Forkhead family transcription factor with a major role in the expression of G2/M phase genes; positively regulates transcriptional elongation; negative role in chromatin silencing at HML and HMR; substrate of the Cdc28p/Clb5p kinas	<i>(Direct: ChIP-on-chip)</i> Workman CT et al., Science, 2006;312(5776):1054-59 <i>(Direct: ChIP-on-chip)</i>
Aft1p	Transcription factor involved in iron utilization and homeostasis; activates	<i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Pagani et al., Mol

the expression of target genes in response to changes in iron availability

Microbiol, 2007  
Jul;65(1):521-537

Transcription Factor binding motifs in YIL057C promoter	Functional Description	Evidence
<i>Energetic Metabolism</i>		
Adr1p	Carbon source-responsive zinc-finger transcription factor, required for transcription of the glucose-repressed gene ADH2, of peroxisomal protein genes, and of genes required for ethanol, glycerol, and fatty acid utilization	<i>(Direct: ChIP-on-chip)</i> Tachibana C et al., Mol Cell Biol, 2005;25(6):2138-46 <i>(Direct: ChIP)</i> Young ET et al., J Biol Chem, 2003;78(28):26146-58
Stp1/Stp2	Homologous transcription factors, activated by proteolytic processing in response to signals from the SPS sensor system for external amino acids; activates transcription of amino acid permease genes and may have a role in tRNA processing	<i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Eckert-Boulet N et al., Yeast, 2004;1(8):635-48
<i>Stress Response</i>		
Arr1p	Transcriptional activator of the bZIP family, required for transcription of genes involved in resistance to arsenic compounds	<i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Haugen AC et al., Genome Biol, 2004;5(12):R95
Sfp1p	Transcription factor that controls expression of many ribosome biogenesis genes in response to nutrients and stress, regulates G2/M transitions during mitotic cell cycle and DNA-damage	<i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Cipollina et al, Microbiology, ;154(1):337-46

response, involved in cell size modulation

*Cell Cycle*

Fhl1p	Transcriptional activator with similarity to DNA-binding domain of <i>Drosophila</i> forkhead but unable to bind DNA in vitro; required for rRNA processing; isolated as a suppressor of splicing factor prp4	( <i>Direct: ChIP-on-chip</i> ) Kasahara et al, Mol Cell Biol, ;27(19):6686-705
Rap1p	DNA-binding protein involved in either activation or repression of transcription, depending on binding site context; also binds telomere sequences and plays a role in telomeric position effect (silencing) and telomere structure	( <i>Direct: ChIP-on-chip</i> ) Kasahara et al, Mol Cell Biol, ;27(19):6686-705
Xbp1p	Transcriptional repressor that binds to promoter sequences of the cyclin genes, CYS3, and SMF2; expression is induced by stress or starvation during mitosis, and late in meiosis; member of the Swi4p/Mbp1p family; potential Cdc28p substrate	( <i>Indirect: Microarrays - Wild type vs. TF mutant</i> ) Chua G et al., PNAS, 2006;103(32):12045-50
Yhp1p	One of two homeobox transcriptional repressors (see also Yox1p), that bind to Mcm1p and to early cell cycle box (ECB) elements of cell cycle regulated genes, thereby restricting ECB-mediated transcription to the M/G1 interval	( <i>Indirect: Microarrays - Wild type vs. TF mutant</i> ) Chua G et al., PNAS, 2006;103(32):12045-50
Yox1p	Homeodomain-containing transcriptional repressor, binds to Mcm1p and to	( <i>Indirect: Microarrays - Wild type vs. TF mutant</i> ) Chua G et al., PNAS,

	early cell cycle boxes (ECBs) in the promoters of cell cycle-regulated genes expressed in M/G1 phase; expression is cell cycle-regulated; potential Cdc28p substrate	2006;103(32):12045-50
Tos8p	Homeodomain-containing transcription factor; SBF regulated target gene that in turn regulates expression of genes involved in G1/S phase events such as bud site selection, bud emergence and cell cycle progression; similarity to Cup9p	<i>(Indirect: Microarrays - Wild type vs. TF mutant)</i> Chua G et al., PNAS, 2006;103(32):12045-
	<i>Pseudohyphal growth</i>	
Flo8p	Transcription factor required for flocculation, diploid filamentous growth, and haploid invasive growth; genome reference strain S288C and most laboratory strains have a mutation in this gene	<i>(Direct: ChIP-on-chip)</i> Borneman AR et al., Genes and Development, 2006;20(4):435-448
Mga1p	Protein similar to heat shock transcription factor; multicopy suppressor of pseudohyphal growth defects of ammonium permease mutants	<i>(Direct: ChIP-on-chip)</i> Borneman AR et al., Genes and Development, 2006;20(4):435-448
Phd1p	Transcriptional activator that enhances pseudohyphal growth; regulates expression of FLO11, an adhesin required for pseudohyphal filament formation; similar to StuA, an <i>A. nidulans</i> developmental regulator; potential Cdc28p substrate	<i>(Direct: ChIP-on-chip)</i> Borneman AR et al., Genes and Development, 2006;20(4):435-448
Sok2p	Nuclear protein that plays a	<i>(Direct: ChIP-on-chip)</i>

regulatory role in the cyclic AMP (cAMP)-dependent protein kinase (PKA) signal transduction pathway; negatively regulates pseudohyphal differentiation; homologous to several transcription factors

Borneman AR et al., *Genes and Development*, 2006;20(4):435-448

---