

Factor Name	Activate/ Repress	type	Involved in	Target Genes	Function	Motif	Binding Elmnt
CBF1		cell cycle	Cell cycle	Centromeres	Chromosome segregation	TCACGTGC	
Fkh1,2		cell cycle	Cell cycle	G2/M genes		ASGTAAACAA	
Mbp1/Swi6 (MCB)		cell cycle	Cell cycle	G1/S genes	MCB complex (not SBF - SBF is Swi4 and Swi6)	ACGCGT ACGCGAAA	MCB
Ndt80p	activator	cell cycle	Meiosis		Induces sporulation		
ORC	Origin of Replication	cell cycle	Replication	Not a Transcription factor	Initiates replication at specific sequences (ARS)	??	Ars - **not a TF site but is the replication origin - you should find this sequence
SFF (mcm1, fkh2)		cell cycle	Cell cycle	CLB2 cluster genes	early mitosis peak	GTMAACAA	Switch Five Factor
Swi4-Swi6	activator	cell cycle	Cell cycle	G1/S genes		CGCGAAA	SCB
Ume6	both	cell cycle	Meiosis/ Mitosis	spo11,13, ime2,h3,h4, car1,2,fox3, phr1	represses mitosis, induces meiosis	TCGGCGGCTA	URS1 = unscheduled meiotic gene expression
Xbp1	repressor	cell cycle	Meiosis	cyclins	delays spore formation	MCTCGARRRNR	
MatALPHA1/2	repressor	development	mating type	represses mating type-specific genes		YCRTGTNNWNNTACATCA	
Ste12	activator	development	Mating and Development	fus3,ste12	Mating (dimerizes with itself), Mating type genes (acts with MatALPHA repressors), Invasion (acts with Tec1)	ATGAAACA	PRE = Pheromone Response Element
Tec1	activator	development	Development	haploid invasion genes	acts with Ste12p to trigger haploid invasion/pseudohyphal growth	GAATG	
AFT1	activator	metabolism	Iron response			YRCACCCR	
Bas1	activator	metabolism	purine biosynthesis	adenine and histidine genes	Purine	TGACTC	
Bas2/Pho2	activator	metabolism	accessory protein for Pho4p and Bas1p				
CREB		metabolism	Carbon response?			TGACGTCA	
Crz1	activator	metabolism	Calcium/ calcineurin response	(identified in a recent JBC paper by M. Cyert)		GNGGCKCA	

GAL4	activator	metabolism	Metabolism	Gal1,2,7,10	Main regulator of galactose metabolism pathway	CGGNNNNNNNNNNCCG	
GATA	activator	metabolism	Starvation		Nitrogen starvation	GATAAG	
GATA factors (Gln3, Dal80)	both (competition)	metabolism	Nitrogen source response	genes involved in nitrogen utilization		GATAAK	
GCN4	activator	metabolism	Starvation		General amino acid starvation	aTGACTCat	
GCR1	activator	metabolism	glycolysis genes	glycolysis genes - acts with Rap1p		CTTCC	
Ino2,4	activator	metabolism	synthesis	ino1	Phospholipid biosynthesis (inositol)	CATGTGAAAT	UASINO/ICRE
Lys14	activator?	metabolism	lysine biosynthesis	lysine genes		TCCRNYGGA	
MAL6	activator	metabolism	Metabolism	Maltose genes			
Met31,32 w/ CBF	coactivator	metabolism	S-adenosyl methionine availability	methionine genes		AAACTGTG	
Mig1	repressor	metabolism	Metabolism	gal1,4,cat8, suc2, mal61,2,3	Catabolite repressor - represses many carbon metabolism genes in the presence of glucose	CCCCRnnWWWW	
Sin3p	repressor	metabolism	synthesis	ino1,cho1,2, opi3	Phospholipid biosynthesis (inositol)		UASINO
Stp1 and Stp2	activator	metabolism	Amino acid response	specific amino acid permeases		??	
Hap1p	activator	respiration	Oxygen levels	Oxygen-dependent genes (respiration, ergosterol and Heme biosynthesis)		CGGNNNNNCCG	
Hap4	activator	respiration	Respiration	Respiration genes	Induces oxidative phosphorylation		
Rox1	repressor	respiration	Oxygen levels	(recent paper by Kurt Kwast identified targets)	represses hypoxic genes in the presence of oxygen		
?	activator	starvation	Starvation		Histidine		
IME1		starvation	sporulation			TRGSCGSCKA	
Met31,32 w/ CBF		starvation	Starvation		Methionine regulation w/ CBF1	GCCACAG	
Met4,28	activator	starvation	Starvation		Methionine regulation w/ CBF1	GATA	

Zap1	activator	starvation	Zinc starvation	genes involved in zinc utilization		CCYTNARGG	
Hac1p	activator	stress	UPR = Unfolded ER protein response	ER-specific chaperones and other ER proteins	Unfolded ER protein response	CAGCGTG	UPRE
HSF1	activator	stress	stress response	Protein folding chaperones	heat shock response - refold proteins	TTCNNGAA	
Msn2/Msn4	activator	stress	Stress Response	300 iESR	Activates 300 genes	CCCCT	STRE
rESR1	???unknown	stress	Stress Response	600 rESR & 300 iESR	Represses or activates ~600 genes, many of which are involved in protein synthesis	AAAAWTTTT	RRPE
rESR2	???unknown	stress	Stress Response	601 rESR & 300 iESR	Represses or activates ~600 genes, many of which are involved in protein synthesis	GATGAG	
RLM1	activator	stress	Cell wall integrity	a few cell wall genes	activated in response to osmolarity changes and cell wall damaging drugs	TAWWWWTAG	
RPN4	activator	stress	Proteasome	proteasome components		GGTGGCAAA	
War1	activator	stress	weak acid response	Pdr genes		CGNNNNNNNNNNNNNNNNNNNNNNNNNNCCG	
Yap1	activator	stress	Stress Response		Oxidative stress response	TTACTAA	
ABF1	promoter			78 RiboProteins		TCANNNNNNACG	
ACE2						GCTGGT	
ADR1							
Aft1						CAGGGTGCA	
Aft2						YRCACCCR	
ARN1						AGGGTGCA	
Cst6						TGACGTCA	
ECM22	activator?		(ergosterol genes I think)			TATACGA	
Hap2						TGATTGGC	
Leu3					Leucine	CCGGNNCCGG	
Mac1						TTTGCTCA	
MCM1						CCNNNWWRGG	
MSE						CRCAA	

