CAT8 encodes a zinc-finger cluster protein that mediates derepression of a number of genes during the diauxic shift, which is the transition between fermentative and nonfermentative metabolism. Genomic studies have shown that least 30 genes, encoding proteins involved in gluconeogenesis, ethanol utilization, and the glyoxylate cycle, are regulated by Cat8p. In addition, Cat8p and the transcription factor Adr1p coregulate a number of genes.Under conditions in which glucose is plentiful, expression of CAT8 is repressed by the DNA binding protein Mig1p, which recruits the repressor complex Ssn6p-Tup1p and binds to a site in the CAT8 promoter. When availability of glucose decreases, Mig1p is phosphorylated and transported to the cytoplasm, relieving repression of Cat8p and likely recruiting a transcription activator of CAT8 expression as well. Cat8p functions to derepress transcription of target genes by binding to the CSREupstream of these genes. At least some of the genes activated by Cat8p encode additional transcription factors such as Sip4p, which functions in later steps of the derepression process.While glucose regulates transcription of CAT8, it also appears to regulate Cat8p activity; Cat8p is phosphorylated in derepressed cells and addition of glucose triggers dephosphorylation.