SWI5 encodes a transcription factor that activates transcription of genes expressed at the M/G1 boundary and in G1 phase of the cell cycle. The DNA binding domain of Swi5p is very similar to that of another G1-specific transcription activator, Ace2p. Swi5p and Ace2p bind the same DNA sequences in vitro with similar affinites, and regulate a shared set of genes in vivo; however, the two proteins also show distinct promoter specificities in some instances. For example, Swi5p activates transcription of the HO endonuclease gene, whereas Ace2p does not; conversely, CTS1 is activated by Ace2p and not by Swi5p. Distinct regions of Swi5p and Ace2p that are involved in promoter-specific transcription activation have been identified. SWI5 is transcribed in G2 phase; cell cycle specific SWI5 expression requires Mcm1p and the uncloned \"Swi Five Factor\". The localization of Swi5p is regulated by phosphorylation; dephosphorylated Swi5p is found in the nucleus, and therefore active, early in G1 phase.