ABF1 encodes the multifunctional global regulator ARS-Binding Factor 1. Abf1p is a site-specific DNA binding protein that binds to the consensus site, 5-TnnCGTnnnnnnTGAT-3, which is found at numerous locations in the yeast genome including the silent mating type loci, ARSs, telomeric X-regions, and the promoter regions of many genes. Abf1p binding to these sites directly mediates a number of different chromatin-related events such as DNA replication, gene silencing, chromatin remodeling, nucleotide excision repair, and gene activation and repression. The genes that Abf1p transcriptionally regulates are involved in a diverse range of cellular processes including carbon source regulation, nitrogen utilization, sporulation, meiosis, and ribosomal function.The structure of Abf1p is similar to that of many other site-specific transcription factors. It has a bipartite N-terminal DNA-binding domainand a C-terminal activation domain, with both domains being essential for cell viability. Within the activation domain are two regions named CS1and CS2that are responsible for mediating nuclear localization and chromatin remodeling, respectively.Abf1p levels are abundant in the cell and Abf1p binding sites in the genome are occupied in vivo under all conditions studied thus far. Nevertheless, it has been shown that Abf1p is able to repress its own transcription via binding at a consensus site in the ABF1 promoter. The binding activity of Abf1p is stimulated by Cdc6p, a protein involved in DNA replication. Abf1p activity also appears to depend on its phosphorylation state. Abf1p can be phosphorylated at multiple sites, partially through the action of serine/threonine kinase, and the extent of Abf1p phosphorylation depends on growth conditions and carbon source. Changes in Abf1p phosphorylation have been shown to correlate with regulation of expression of the Abf1p target gene COX6, linking Abf1p phosphorylation with carbon-source control of COX6. Dephosphorylation requires the presence of functional Cyc8p. Nuclear import of Abf1p is dependent on the Ran guanine nucleotide exchange factor Srm1p, but Abf1p is also found to bind to the importin protein Pse1p, suggesting that import may be mediated by more than one pathway. Abf1p also interacts with the mRNA export factor Yra1p.