SIR1 is one of four Silent Information Regulator genes in yeast. It encodes a nuclear protein that helps silence transcription of the cryptic mating type loci HML and HMR. Unlike repressors that act by binding to promoters, the Sir proteins help repress transcription by creating a silent chromatin stucture in a gene- and promoter-independent manner. The Sir proteins do not bind DNA directly, but rather seem to act via histones and other DNA binding proteins. The exact means by which the Sir proteins create a silenced domain is unknown. Silencing at HML and HMR depends on the presence of a regulatory chromosomal domain that contains binding sites for such multifunctional nuclear proteins as the Origin Recognition Complex, Abf1p, and Rap1p, which are in turn thought to be recognized by silencing-specific proteins such as Sir1p, Sir2p, Sir3p, and Sir4p. The congregation of all these factors leads to the assembly of a chromatin silencing complex, and a domain of silenced chromatin. Sir1p seems to be involved in the establishment rather than the maintenance of a silenced state at HML and HMR. Sir1p likely recognizes a silencer element in the DNA through its interactions with ORC, because a small region of Sir1p found to be necessary for recognizing the HMR silencer was the same region of Sir1p required for interacting with Orc1p. Also, a Gal4-Sir1p fusion tethered at HMR bypassed the requirement for both the silencer element and ORC in silencing that locus, but still required passage through S phase and the presence of the other Sir proteins for silencing. Sir1p is the only Sir protein that appears not to be involved in telomeric silencing