URA6 encodes uridine-monophosphate kinase, an enzyme involved in pyrimidine biosynthesis. The structure and mechanism of nucleoside-monophosphate kinases has been extensively reviewed in. The URA6 gene was first isolated as a uracil auxotroph. In addition, URA6 was independently isolated as SOC8, a partial suppressor of cdc8 mutations. CDC8 encodes a thymidylate kinase; when overexpressed, Ura6p can provide enough thymidylate kinase activity to compensate for the loss of Cdc8p. Ura6p can also phosphorylate other nucleosides, but not as efficiently as UMP.