UBC4 encodes a ubiquitin conjugating enzyme that links ubiquitinto lysine residues of target proteins. This function may be performed in conjunction with an E3, ubiquitin-protein ligase. Ubc4p interacts with the ubiquitin ligase E3-CaM in ubiquitinating calmodulinand also interacts with several SCF ubiquitin ligase complexes in vitro. Ubc4p plays a role in both protein polyubiquitinationand protein monoubiquitination, and is also a central component of the cellular stress response. Indeed, expression of Ubc4p is heat-inducible and its interaction with the proteasome complex is strongly induced by heat stress. UBC4 is also involved in sporulation. A related ubiquitin conjugating enzyme,, shows strong sequence similarity to UBC4 and both are complementary in function. Together, Ubc4p and Ubc5p mediate the selective degradation of short-lived and abnormal proteins. Loss of UBC4 and UBC5 results in cell growth defects, temperature sensitivity, inviability in the presence of an amino acid analog, and the induction of the stress response.