CDC26 is a subunit of the anaphase-promoting complex, an E3 ubiquitin ligase in the ubiquitin-mediated proteolysis pathway. The APC ubiquitin ligase helps regulate the metaphase/anaphase transition and exit from mitosis/G1 entry through ubiquitination of various substrates. These include mitotic cyclins, the sister chromatid separation inhibitor Pds1p, the Kip1p and Cin8p motor proteins, Cdc5p, and the spindle disassemblyfactor, Ase1p.Cdc26p, although a nonessential APC subunit, seems to be important for assembly of the complete APC particle. In immunoprecipitates from cdc26 strains, the amounts of Cdc16p, Cdc27p, and Apc9p are reduced, whereas the other APC subunits are still associated with each other. Thus, Cdc26p appears to stabilize the interaction of three core subunitswith the rest of the APC complex.Cdc26p is also a heat shock protein whose function is only required for growth at high temperatures. At 37 degrees celsius, cdc26 mutants arrest as large, budded cells containing a short mitotic spindle in an undivided nucleus positioned at the bud neck. In addition, G1-arrested cdc26 mutants are also defective in ubiquitination of the mitotic cyclins Clb2p and Clb3p, two substrates of the APC. CDC26 orthologs have been identified in various species including worms, mice, rats, and humans.