cdc37 was originally isolated in a mutant screen to identify genes required for the completion of start in the cell division cycle of yeast. Cdc37p plays a critical role in activating cyclin-dependent kinases. After the connection between Hsp82p and Cdc37p was made, several experiments were done to tie the functions of these proteins together. cdc37 hsp82 double mutants were shown to exhibit synthetic growth defects in yeast, and both mammalian Cdc37 and Hsp90 co-immunoprecipitate with the cell cycle regulator Cdk4. Cdc37p was then shown to be the 50 kDa protein found in complexes with several Hsp90 kinase targets. Because Cdc37p was only found in Hsp90 kinase complexes and not with other Hsp90 substrates, it was inititally proposed that Cdc37p may serve to target the Hsp90 chaperone complex specifically to its kinase substrates. Other work, however, has shown that Cdc37p affects some substrates independently of Hsp90, and Cdc37 itself acts as a chaperone in vitro; thus, its proposed function as just a targeting molecule may be an oversimplified model.