DBF20 is a putative serine/threonine-specific protein kinase with a role in cell cycle progression. It has 80% identity to DBF2, and was first isolated via low-stringency hybridization of a DBF2 probe to a yeast genomic DNA library. Deletion of DBF20 has no growth phenotype by itself, but is lethal in a strain that lacks DBF2. DBF2p and DBF20p carry out at least one essential late-mitotic function. Although a deletion of DBF2 is viable, several alleles of DBF2 are not; the lethality of these alleles can be overcome by overexpression of Spo12p, a factor that interacts with both Dbf2p and Dbf20p. Spo12p may therefore be the limiting cofactor that regulates the activities of these two kinases. Dbf20p may also have a role in the regulation of transcription, due to its similarity to Dbf2p which associates with Mob1p and the Ccr4p regulatory complex.