Abstract
TOR („Target of rapamycin“) protein, a highly conserved Ser/Thr protein kinase, is a central component of signalling network that controls cell growth in diverse eukaryotic organism, ranging from yeast to man. TOR proteins were first identified in yeast Saccharomyces cerevisiae in 1991 as the targets of the antifungal and immunosupressive agent rapamycine. In contrast to most eukaryotes, yeast contains two TOR homologues , Tor1p and Tor2p. These proteins are components of multiprotein complexes TORC1 and TORC2. TORC1 is specifically inhibited by rapamycine and controls cell growth in response to quality of the available nutrients. TORC2, which is insensite to rapamycine, regulates actin polymerization, sphingolipid biosynthesis and endocytosis. This work is focused on description of both TOR complexes, especially on downstream and upstream regulation of TORC1.