

S6K2 monoclonal antibody

Catalog: MB67236

Host: Mouse

Reactivity: Human, Mouse

Background:

p70 S6 kinase is a mitogen activated Ser/Thr protein kinase that is required for cell growth and G1 cell cycle progression. p70 S6 kinase phosphorylates the S6 protein of the 40S ribosomal subunit and is involved in translational control of 5' oligopyrimidine tract mRNAs. A second isoform, p85 S6 kinase, is derived from the same gene and is identical to p70 S6 kinase except for 23 extra residues at the amino terminus, which encode a nuclear localizing signal. Both isoforms lie on a mitogen activated signaling pathway downstream of phosphoinositide-3 kinase (PI-3K) and the target of rapamycin, FRAP/mTOR, a pathway distinct from the Ras/MAP kinase cascade. The activity of p70 S6 kinase is controlled by multiple phosphorylation events located within the catalytic, linker and pseudosubstrate domains. Phosphorylation of Thr229 in the catalytic domain and Thr389 in the linker domain are most critical for kinase function. Phosphorylation of Thr389, however, most closely correlates with p70 kinase activity in vivo. Prior phosphorylation of Thr389 is required for the action of phosphoinositide 3-dependent protein kinase 1 (PDK1) on Thr229. Phosphorylation of this site is stimulated by growth factors such as insulin, EGF and FGF, as well as by serum and some G-protein-coupled receptor ligands, and is blocked by wortmannin, LY294002 (PI-3K inhibitor) and rapamycin (FRAP/mTOR inhibitor). Ser411, Thr421 and Ser424 lie within a Ser-Pro-rich region located in the pseudosubstrate region. Phosphorylation at these sites is thought to activate p70 S6 kinase via relief of pseudosubstrate suppression. Another LY294002 and rapamycin sensitive phosphorylation site, Ser371, is an in vitro substrate for mTOR and correlates well with the activity of a partially rapamycin resistant mutant p70 S6 kinase. p70 S6 kinase 2 (S6K2) exhibits high homology in the kinase domain and adjacent regulatory region with p70 S6 ki-

nase (S6K1). Similar to S6K1, S6K2 displays both mitogen-dependent and rapamycin-sensitive S6 kinase activity. S6K2 has been shown to have redundant as well as distinct functions from S6K1. Research studies show that S6K2 is commonly expressed at higher levels in tumor samples than in corresponding normal tissues, and may promote cancer cell survival via AKT activation.

Product:

Mouse IgG1 kappa. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 70 kDa

Swiss-Prot:

Q9UBS0

Purification&Purity:

This antibody is purified through a protein G column.

Applications:

WB (1/500 - 1/1000)

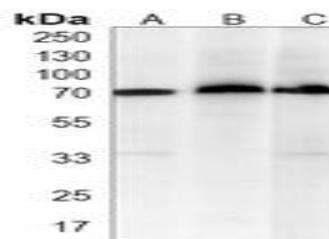
Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

Specificity:

Recognizes endogenous levels of S6K2 protein.

DATA:



Western blot analysis of S6K2 expression in Jurkat (A), MCF7 (B), NIH3T3 (C) whole cell lysates.

Note:

For research use only, not for use in diagnostic procedure.

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