

## S6K1 polyclonal antibody

Catalog: BS67597

Host: Rabbit

Reactivity: Human

### 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 (1). 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.

### Product:

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.

### Molecular Weight:

~ 70 kDa

### Swiss-Prot:

P23443

### Purification&Purity:

The antibody was purified by immunogen affinity chromatography.

### Applications:

WB (1/500 - 1/1000), IHC (1/50 - 1/200)

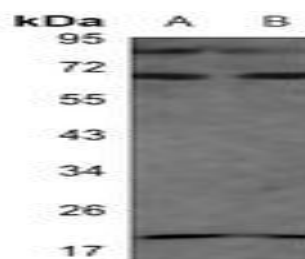
### Storage&Stability:

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

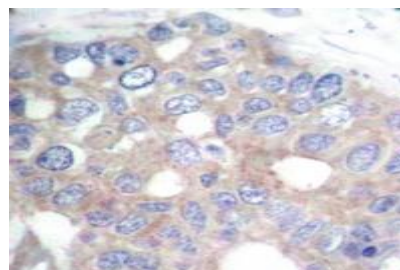
### Specificity:

Recognizes endogenous levels of S6K1 protein.

### DATA:



Western blot analysis of S6K1 expression in MCF7 (A), HCT116 (B) whole cell lysates.



Immunohistochemical analysis of S6K1 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate

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## PRODUCT DATA SHEET

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buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then

counterstained with haematoxylin and mounted with DPX.

**Note:**

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

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