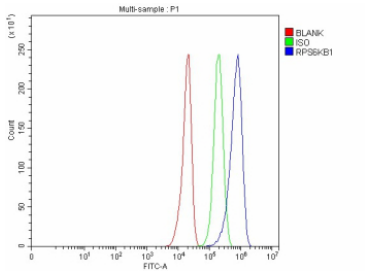
p70 S6K Antibody / RPS6KB1 (FY12243)

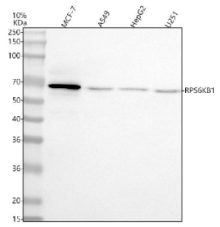
Catalog No.	Formulation	Size
FY12243	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P23443
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This p70 S6K antibody is available for research use only.



Flow Cytometry analysis of U251 cells using anti- p70 S6K antibody. Overlay histogram showing U251 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti- p70 S6K antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of p70 S6K using anti- p70 S6K antibody. Lane 1: human MCF-7 whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: human U251 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti- p70 S6K antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. The predicted band size for p70 S6K is at 59 kDa but is commonly observed at ~70 kDa.

Description

p70 S6K antibody detects Ribosomal protein S6 kinase beta-1, encoded by the RPS6KB1 gene on chromosome 17q23.1. p70 S6K antibody is widely applied in studies of cell growth, protein synthesis, and cancer biology. p70 S6K is a serine/threonine kinase activated by mTORC1 that phosphorylates the ribosomal protein S6, promoting translation of mRNAs encoding ribosomal and elongation factors. This kinase is a central effector of the PI3K-Akt-mTOR signaling pathway.

Structurally, p70 S6K is a ~70 kDa protein with a conserved kinase catalytic domain, autoinhibitory domain, and multiple phosphorylation sites. Activation requires phosphorylation at Thr389 by mTORC1, as well as additional phosphorylation by PDK1 and MAPK pathways. Alternative splicing yields isoforms p70 and p85, which differ in N-terminal extensions and subcellular localization.

Functionally, p70 S6K stimulates protein synthesis, cell cycle progression, and growth by enhancing translation efficiency. It regulates feedback inhibition of insulin receptor signaling and coordinates energy availability with biosynthetic demands. Researchers employ p70 S6K antibody to investigate translational control, mTOR signaling, and growth regulation.

Clinically, p70 S6K is implicated in metabolic disorders and cancer. Hyperactivation of mTOR-S6K signaling contributes to obesity, insulin resistance, and type 2 diabetes. In oncology, RPS6KB1 amplification and overactivation drive tumorigenesis, supporting proliferation and survival. Pharmacological inhibitors of S6K and mTOR are under development as anti-cancer and anti-metabolic disease therapies. NSJ Bioreagents supplies p70 S6K antibody for signaling and cancer research.

Experimentally, p70 S6K antibody is used in western blotting to detect the ~70 kDa protein, in immunohistochemistry to analyze tumor expression, and in immunofluorescence to examine subcellular localization. Phospho-specific antibodies complement p70 S6K antibody to study activation status.

Application Notes

Optimal dilution of the p70 S6K antibody should be determined by the researcher.

Immunogen

E.coli-derived human p70 S6K/RPS6KB1 recombinant protein (Position: R7-Q500) was used as the immunogen for the p70 S6K antibody.

Storage

After reconstitution, the p70 S6K antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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