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Anti-p70 S6 Kinase (RABBIT) Antibody

p70 S6 Kinase Antibody
Catalog # ASR5363

Specification

Anti-p70 S6 Kinase (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Mouse**
Clonality	**Polyclonal**
Application	**WB, E, IP, I, LCI**
Application Note	**This affinity purified antibody has been tested for use in ELISA, immunoprecipitation and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a predominant band approximately 70 kDa in size corresponding to p70S6K by western blotting in the appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.1 M Tris Chloride, 0.5 M Sodium Chloride, pH 8.0**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to the carboxy terminal end of human p70S6K protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-p70 S6 Kinase (RABBIT) Antibody - Additional Information

Gene ID 6198

Other Names
6198

Purity
This affinity-purified antibody is directed against the human p70S6K protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest cross reactivity with p70S6K proteins from human, rat and mouse. Reactivity against homologues from other sources is not known.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-p70 S6 Kinase (RABBIT) Antibody - Protein Information

Name RPS6KB1

Synonyms STK14A

Function
Serine/threonine-protein kinase that acts downstream of mTOR signaling in response to growth factors and nutrients to promote cell proliferation, cell growth and cell cycle progression (PubMed:11500364, PubMed:12801526, PubMed:14673156, PubMed:15071500, PubMed:15341740, PubMed:16286006, PubMed:17052453, PubMed:17053147, PubMed:17936702, PubMed:18952604, PubMed:19085255, PubMed:19720745, PubMed:19935711, PubMed:19995915, PubMed:22017876, PubMed:23429703, PubMed:28178239). Regulates protein synthesis through phosphorylation of EIF4B, RPS6 and EEF2K, and contributes to cell survival by repressing the pro-apoptotic function of BAD (PubMed:11500364, PubMed:12801526, PubMed:14673156, PubMed:15071500, PubMed:15341740, PubMed:16286006, PubMed:17052453, PubMed:17053147, PubMed:17936702, PubMed:18952604, PubMed:19085255, PubMed:19720745, PubMed:19935711, PubMed:19995915, PubMed:22017876, PubMed:23429703, PubMed:28178239). Under conditions of nutrient depletion, the inactive form associates with the EIF3 translation initiation complex (PubMed:16286006). Upon mitogenic stimulation, phosphorylation by the mechanistic target of rapamycin complex 1 (mTORC1) leads to dissociation from the EIF3 complex and activation (PubMed:16286006). The active form then phosphorylates and activates several substrates in the pre-initiation complex, including the EIF2B complex and the cap-binding complex

component EIF4B (PubMed:16286006). Also controls translation initiation by phosphorylating a negative regulator of EIF4A, PDCD4, targeting it for ubiquitination and subsequent proteolysis (PubMed:17053147). Promotes initiation of the pioneer round of protein synthesis by phosphorylating POLDIP3/SKAR (PubMed:15341740). In response to IGF1, activates translation elongation by phosphorylating EEF2 kinase (EEF2K), which leads to its inhibition and thus activation of EEF2 (PubMed:11500364). Also plays a role in feedback regulation of mTORC2 by mTORC1 by phosphorylating RICTOR, resulting in the inhibition of mTORC2 and AKT1 signaling (PubMed:19720745, PubMed:19935711, PubMed:19995915). Also involved in feedback regulation of mTORC1 and mTORC2 by phosphorylating DEPTOR (PubMed:22017876). Mediates cell survival by phosphorylating the pro- apoptotic protein BAD and suppressing its pro-apoptotic function (By similarity). Phosphorylates mitochondrial URI1 leading to dissociation of a URI1-PPP1CC complex (PubMed:17936702). The free mitochondrial PPP1CC can then dephosphorylate RPS6KB1 at Thr-412, which is proposed to be a negative feedback mechanism for the RPS6KB1 anti-apoptotic function (PubMed:17936702). Mediates TNF-alpha-induced insulin resistance by phosphorylating IRS1 at multiple serine residues, resulting in accelerated degradation of IRS1 (PubMed:18952604). In cells lacking functional TSC1-2 complex, constitutively phosphorylates and inhibits GSK3B (PubMed:17052453). May be involved in cytoskeletal rearrangement through binding to neurabin (By similarity). Phosphorylates and activates the pyrimidine biosynthesis enzyme CAD, downstream of MTOR (PubMed:23429703). Following activation by mTORC1, phosphorylates EPRS and thereby plays a key role in fatty acid uptake by adipocytes and also most probably in interferon-gamma-induced translation inhibition (PubMed:28178239).

Cellular Location
Synapse, synaptosome. Mitochondrion outer membrane. Mitochondrion. Note=Colocalizes with URI1 at mitochondrion [Isoform Alpha II]: Cytoplasm.

Tissue Location
Widely expressed..

Anti-p70 S6 Kinase (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-p70 S6 Kinase (RABBIT) Antibody - Images

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Western blot using Rockland's Affinity Purified anti-p70S6K antibody shows detection of a predominant band corresponding to p70S6K in mouse brain extract (right lane) after immunoprecipitation. The left lane shows mock immunoprecipitation.

Anti-p70 S6 Kinase (RABBIT) Antibody - Background

The protein p70 S6 kinase is critical for cell cycle progression and cell survival. In response to mitogen stimulation, p70 S6 kinase activation up-regulates ribosomal biosynthesis and enhances the translational capacity. p70S6K phosphorylates the S6 protein of the 40S subunit of the ribosome. This kinase was first characterized as an insulin/mitogen-activated protein kinase, whose major known substrate is the 40S ribosomal subunit protein S6. p70S6K is activated by diverse stimuli through multi-site phosphorylation at positions such as Thr-252 and Ser-434. In Alzheimer's Disease, p70S6K activation is associated with PHF-tau (hyperphosphorylated tau) accumulation. In non-neuronal cells, p70S6K has been shown to regulate actin polymerization.