

**Anti-p70 S6 Kinase (RABBIT) Antibody**  
**p70 S6 Kinase Antibody**  
**Catalog # ASR5363**

**Specification**

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**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](http://www.uniprot.org/citations/11500364)), PubMed: [12801526](http://www.uniprot.org/citations/12801526)), PubMed: [14673156](http://www.uniprot.org/citations/14673156)), PubMed: [15071500](http://www.uniprot.org/citations/15071500)), PubMed: [15341740](http://www.uniprot.org/citations/15341740)), PubMed: [16286006](http://www.uniprot.org/citations/16286006)), PubMed: [17052453](http://www.uniprot.org/citations/17052453)), PubMed: [17053147](http://www.uniprot.org/citations/17053147)), PubMed: [17936702](http://www.uniprot.org/citations/17936702)), PubMed: [18952604](http://www.uniprot.org/citations/18952604)), PubMed: [19085255](http://www.uniprot.org/citations/19085255)), PubMed: [19720745](http://www.uniprot.org/citations/19720745)), PubMed: [19935711](http://www.uniprot.org/citations/19935711)), PubMed: [19995915](http://www.uniprot.org/citations/19995915)), PubMed: [22017876](http://www.uniprot.org/citations/22017876)), PubMed: [23429703](http://www.uniprot.org/citations/23429703)), PubMed: [28178239](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/11500364)), PubMed: [12801526](http://www.uniprot.org/citations/12801526)), PubMed: [14673156](http://www.uniprot.org/citations/14673156)), PubMed: [15071500](http://www.uniprot.org/citations/15071500)), PubMed: [15341740](http://www.uniprot.org/citations/15341740)), PubMed: [16286006](http://www.uniprot.org/citations/16286006)), PubMed: [17052453](http://www.uniprot.org/citations/17052453)), PubMed: [17053147](http://www.uniprot.org/citations/17053147)), PubMed: [17936702](http://www.uniprot.org/citations/17936702)), PubMed: [18952604](http://www.uniprot.org/citations/18952604)), PubMed: [19085255](http://www.uniprot.org/citations/19085255)), PubMed: [19720745](http://www.uniprot.org/citations/19720745)), PubMed: [19935711](http://www.uniprot.org/citations/19935711)), PubMed: [19995915](http://www.uniprot.org/citations/19995915)), PubMed: [22017876](http://www.uniprot.org/citations/22017876)), PubMed: [23429703](http://www.uniprot.org/citations/23429703)), PubMed: [28178239](http://www.uniprot.org/citations/28178239)). Under conditions of nutrient depletion, the inactive form associates with the EIF3 translation initiation complex (PubMed: [16286006](http://www.uniprot.org/citations/16286006)), PubMed: [16286006](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/16286006)), PubMed: [16286006](http://www.uniprot.org/citations/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: <a href="http://www.uniprot.org/citations/16286006" target="\_blank">16286006</a>). Also controls translation initiation by phosphorylating a negative regulator of EIF4A, PDCD4, targeting it for ubiquitination and subsequent proteolysis (PubMed: <a href="http://www.uniprot.org/citations/17053147" target="\_blank">17053147</a>). Promotes initiation of the pioneer round of protein synthesis by phosphorylating POLDIP3/SKAR (PubMed: <a href="http://www.uniprot.org/citations/15341740" target="\_blank">15341740</a>). In response to IGF1, activates translation elongation by phosphorylating EEF2 kinase (EEF2K), which leads to its inhibition and thus activation of EEF2 (PubMed: <a href="http://www.uniprot.org/citations/11500364" target="\_blank">11500364</a>). Also plays a role in feedback regulation of mTORC2 by mTORC1 by phosphorylating MAPKAP1/SIN1, MTOR and RICTOR, resulting in the inhibition of mTORC2 and AKT1 signaling (PubMed: <a href="http://www.uniprot.org/citations/15899889" target="\_blank">15899889</a>, PubMed: <a href="http://www.uniprot.org/citations/19720745" target="\_blank">19720745</a>, PubMed: <a href="http://www.uniprot.org/citations/19935711" target="\_blank">19935711</a>, PubMed: <a href="http://www.uniprot.org/citations/19995915" target="\_blank">19995915</a>). Also involved in feedback regulation of mTORC1 and mTORC2 by phosphorylating DEPTOR (PubMed: <a href="http://www.uniprot.org/citations/22017876" target="\_blank">22017876</a>). 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: <a href="http://www.uniprot.org/citations/17936702" target="\_blank">17936702</a>). 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: <a href="http://www.uniprot.org/citations/17936702" target="\_blank">17936702</a>). Mediates TNF-alpha-induced insulin resistance by phosphorylating IRS1 at multiple serine residues, resulting in accelerated degradation of IRS1 (PubMed: <a href="http://www.uniprot.org/citations/18952604" target="\_blank">18952604</a>). In cells lacking functional TSC1-2 complex, constitutively phosphorylates and inhibits GSK3B (PubMed: <a href="http://www.uniprot.org/citations/17052453" target="\_blank">17052453</a>). May be involved in cytoskeletal rearrangement through binding to neurabin (By similarity). Phosphorylates and activates the pyrimidine biosynthesis enzyme CAD, downstream of MTOR (PubMed: <a href="http://www.uniprot.org/citations/23429703" target="\_blank">23429703</a>). 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: <a href="http://www.uniprot.org/citations/28178239" target="\_blank">28178239</a>).

#### 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 Cytometry](#)
- [Cell Culture](#)

#### Anti-p70 S6 Kinase (RABBIT) Antibody - Images



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.