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Goat Anti-p70S6K / RPS6KB1 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1773a

Specification

Goat Anti-p70S6K / RPS6KB1 Antibody - Product Information

Application	**WB, IHC**
Primary Accession	P23443
Other Accession	NP_003152, 6198, 72508 (mouse), 83840 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**59140**

Goat Anti-p70S6K / RPS6KB1 Antibody - Additional Information

Gene ID 6198

Other Names
Ribosomal protein S6 kinase beta-1, S6K-beta-1, S6K1, 2.7.11.1, 70 kDa ribosomal protein S6 kinase 1, P70S6K1, p70-S6K 1, Ribosomal protein S6 kinase I, Serine/threonine-protein kinase 14A, p70 ribosomal S6 kinase alpha, p70 S6 kinase alpha, p70 S6K-alpha, p70 S6KA, RPS6KB1, STK14A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-p70S6K / RPS6KB1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-p70S6K / RPS6KB1 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 MAPKAP1/SIN1, MTOR and RICTOR, resulting in the inhibition of mTORC2 and AKT1 signaling (PubMed:15899889, PubMed:19720745, PubMed:19935711, PubMed:<a

href="http://www.uniprot.org/citations/19995915" target="_blank">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..

Goat Anti-p70S6K / RPS6KB1 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

Goat Anti-p70S6K / RPS6KB1 Antibody - Images

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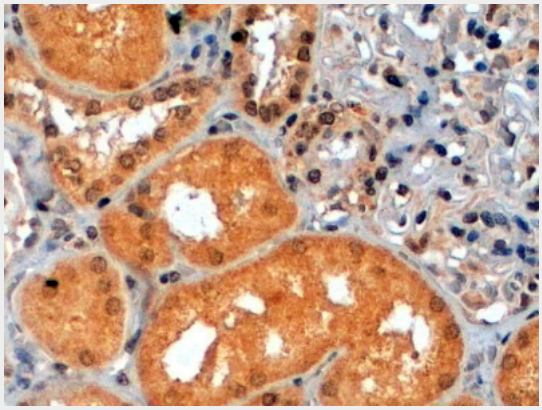
AF1773a staining (0.05 µg/ml) of Human Placenta lysate (RIPA buffer, 35 µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.



AF1773a (2 µg/ml) staining of paraffin embedded Human Kidney. Steamed antigen retrieval with citrate buffer pH 6, HRP-staining.

Goat Anti-p70S6K / RPS6KB1 Antibody - Background

This gene encodes a member of the RSK (ribosomal S6 kinase) family of serine/threonine kinases. This kinase contains 2 non-identical kinase catalytic domains and phosphorylates several residues of the S6 ribosomal protein. The kinase activity of this protein leads to an increase in protein synthesis and cell proliferation. Amplification of the region of DNA encoding this gene and overexpression of this kinase are seen in some breast cancer cell lines. Alternate translational start sites have been described and alternate transcriptional splice variants have been observed but have not been thoroughly characterized.

Goat Anti-p70S6K / RPS6KB1 Antibody - References

Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
S6K1 is acetylated at lysine 516 in response to growth factor stimulation. Fenton TR, et al. Biochem Biophys Res Commun, 2010 Jul 30. PMID 20599721.
P70S6K 1 regulation of angiogenesis through VEGF and HIF-1alpha expression. Bian CX, et al. Biochem Biophys Res Commun, 2010 Jul 30. PMID 20599538.
Osteopontin selectively regulates p70S6K/mTOR phosphorylation leading to NF-kappaB dependent AP-1-mediated ICAM-1 expression in breast cancer cells. Ahmed M, et al. Mol Cancer, 2010 May 7. PMID 20459645.

Targeting p70S6K prevented lung metastasis in a breast cancer xenograft model. Akar U, et al. Mol Cancer Ther, 2010 May. PMID 20423989.