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P70 S6 Kinase alpha Antibody

Rabbit mAb
Catalog # AP91751

Product Information

Application	WB, IHC, IF, FC, ICC, IHF
Primary Accession	P23443
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	p70 alpha; P70 beta 1; p70 S6K; P70S6K; P70S6K1; p70S6Kb; PS6K; RPS6KB1; S6K; S6K1; STK14A;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	59140

Additional Information

Dilution	WB 1:500~1:1000 IHC 1:50~1:200 ICC/IF 1:50~1:200 FC 1:200
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human P70 S6 Kinase alpha
Description	Acts to integrate nutrient and growth factor signals in regulation of protein synthesis, cell proliferation, cell growth, cell cycle progression and cell survival. Downstream effector of the mTOR signaling pathway.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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: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-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).

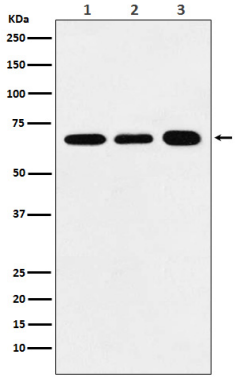
Cellular Location

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

Tissue Location

Widely expressed..

Images



Western blot analysis of P70 S6 Kinase alpha expression in (1) HeLa cell lysate; (2) Raw264.7 cell lysate; (3) PC12 cell lysate.

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