

Phospho-S6K1 (Thr421/Ser424) Rabbit mAb

Catalog # AP78599

Product Information

Application	WB, IP
Primary Accession	P23443
Reactivity	Rat, Human
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human Phospho-S6K1 (T421 + S424)
Purification	Affinity Chromatography
Calculated MW	59140

Additional Information

Gene ID	6198
Other Names	RPS6KB1
Dilution	WB~~1/500-1/1000 IP~~N/A
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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-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..

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.