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Mouse Rps6kb1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP14292b

Specification

Mouse Rps6kb1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q8BSK8

Mouse Rps6kb1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 72508

Other Names
Ribosomal protein S6 kinase beta-1, S6K-beta-1, S6K1, 70 kDa ribosomal protein S6 kinase 1, P70S6K1, p70-S6K 1, Ribosomal protein S6 kinase I, S6K, p70 ribosomal S6 kinase alpha, p70 S6 kinase alpha, p70 S6K-alpha, p70 S6KA, Rps6kb1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Rps6kb1 Antibody (C-term) Blocking Peptide - Protein Information

Name Rps6kb1

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:11493700, PubMed:15060135). 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:11493700). Under conditions of nutrient depletion, the inactive form associates with the EIF3 translation initiation complex (By similarity). Upon mitogenic stimulation, phosphorylation by the mechanistic target of rapamycin complex 1 (mTORC1) leads to dissociation from the EIF3 complex and activation (By similarity). 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 (By similarity). Also controls translation initiation by phosphorylating a negative regulator of EIF4A, PDCD4, targeting it for ubiquitination and subsequent proteolysis (By similarity). Promotes

initiation of the pioneer round of protein synthesis by phosphorylating POLDIP3/SKAR (By similarity). 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 (By similarity). Also involved in feedback regulation of mTORC1 and mTORC2 by phosphorylating DEPTOR (By similarity). Mediates cell survival by phosphorylating the pro-apoptotic protein BAD and suppressing its pro- apoptotic function (PubMed:11493700). Phosphorylates mitochondrial URI1 leading to dissociation of a URI1-PPP1CC complex (By similarity). 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 (By similarity). 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 (By similarity). May be involved in cytoskeletal rearrangement through binding to neurabin (By similarity). Phosphorylates and activates the pyrimidine biosynthesis enzyme CAD, downstream of MTOR (By similarity). 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
Cytoplasm. Synapse, synaptosome. Mitochondrion outer membrane. Mitochondrion
Note=Colocalizes with URI1 at mitochondrion.

Mouse Rps6kb1 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

Mouse Rps6kb1 Antibody (C-term) Blocking Peptide - Images

Mouse Rps6kb1 Antibody (C-term) Blocking Peptide - Background

Rps6kb1 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. Phosphorylates specifically ribosomal protein S6 in response to insulin or several classes of mitogens. During translation initiation, the inactive form associatess with the eIF-3 complex under conditions of nutrient depletion. Mitogenic stimulation leads to phosphorylation and dissociation from the eIF-3 complex and the free activated form can phosphorylate other translational targets including EIF4B. Promotes protein synthesis by phosphorylating PDCD4 at 'Ser-67' and targeting it for degradation. Phosphorylates RICTOR leading to regulation of mammalian target of rapamycin complex 2 (mTORC2) signaling; probably phosphorylates RICTOR at 'Thr-1135'. Phosphorylates IRS1 at multiple serine residues coupled with insulin resistance; probably phosphorylates IRS1 at 'Ser-270'. Required for TNF-alpha induced IRS-1 degradation. Phosphorylates EEF2K in response to IGF1 and inhibits EEF2K activity. Phosphorylates BAD at 'Ser-136' in response to IGF1 leading to BAD inactivation and inhibition of BAD-induced apoptosis. Phosphorylates mitochondrial RMP leading to dissociation of a RMP:PPP1CC complex; probably phosphorylates RMP at 'Ser-136'. The free mitochondrial PPP1CC can dephosphorylate RPS6KB1 at Thr-412 which is proposed to be a negative feed back mechanism for the RPS6KB1 antiapoptotic function. Phosphorylates POLDIP3 (By similarity).

Mouse Rps6kb1 Antibody (C-term) Blocking Peptide - References

Lai, K.P., et al. EMBO J. 29(17):2994-3006(2010)Michels, A.A., et al. Mol. Cell. Biol. 30(15):3749-3757(2010)Witkowski, S., et al. FEBS Lett. 584(13):2891-2895(2010)Carnevalli, L.S., et al. Dev. Cell 18(5):763-774(2010)Hamilton, D.L., et al. BMC Cell Biol. 11, 37 (2010) :