

Recombinant Human RPS6KB1 Protein (R2-L525), GST tagged

Cat. No. RPS6KB1-1153H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human GST-TEV-GG-P70S6K(R2-L525 end) Protein was expressed in Insect cell.
Species	Human
Source	Insect Cells
ProteinLength	R2-L525
Description	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. Regulates protein synthesis through phosphorylation of EIF4B, RPS6 and EEF2K, and contributes to cell survival by repressing the pro-apoptotic function of BAD. Under conditions of nutrient depletion, the inactive form associates with the EIF3 translation initiation complex. Upon mitogenic stimulation, phosphorylation by the mammalian target of rapamycin complex 1 (mTORC1) leads to dissociation from the EIF3 complex and activation. 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. Also controls translation initiation by phosphorylating a negative regulator of EIF4A, PDCD4, targeting it for ubiquitination and subsequent proteolysis. Promotes initiation of the pioneer round of protein synthesis by phosphorylating POLDIP3/SKAR. In response to IGF1, activates translation elongation by phosphorylating EEF2 kinase (EEF2K), which leads to its inhibition and thus activation of EEF2. Also plays a role in feedback regulation of

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mTORC2 by mTORC1 by phosphorylating RICTOR, resulting in the inhibition of mTORC2 and AKT1 signaling. Mediates cell survival by phosphorylating the pro-apoptotic protein BAD and suppressing its pro-apoptotic function. Phosphorylates mitochondrial URI1 leading to dissociation of a URI1-PPP1CC complex. 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. Mediates TNF-alpha-induced insulin resistance by phosphorylating IRS1 at multiple serine residues, resulting in accelerated degradation of IRS1. In cells lacking functional TSC1-2 complex, constitutively phosphorylates and inhibits GSK3B. May be involved in cytoskeletal rearrangement through binding to neurabin. Phosphorylates and activates the pyrimidine biosynthesis enzyme CAD, downstream of MTOR. 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.

Form	Liquid
Endotoxin	< 0.01 EU per µg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

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GENE INFORMATION

Gene Name	RPS6KB1 ribosomal protein S6 kinase, 70kDa, polypeptide 1 [Homo sapiens (human)]
Official Symbol	RPS6KB1
Synonyms	RPS6KB1; ribosomal protein S6 kinase, 70kDa, polypeptide 1; ribosomal protein S6 kinase, 70kD, polypeptide 1, STK14A; ribosomal protein S6 kinase beta-1; p70(S6K) alpha; PS6K; S6K1; P70S6K1; p70 S6KA; S6K-beta-1; p70 S6K-alpha; p70 S6 kinase, alpha 1; p70 S6 kinase, alpha 2; ribosomal protein S6 kinase I; serine/threonine kinase 14 alpha; serine/threonine-protein kinase 14A; 70 kDa ribosomal protein S6 kinase 1; S6K; STK14A; p70-S6K; p70-alpha; p70(S6K)-alpha;
Gene ID	6198
mRNA Refseq	NM_003161
Protein Refseq	NP_003152
MIM	608938
UniProt ID	P23443

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