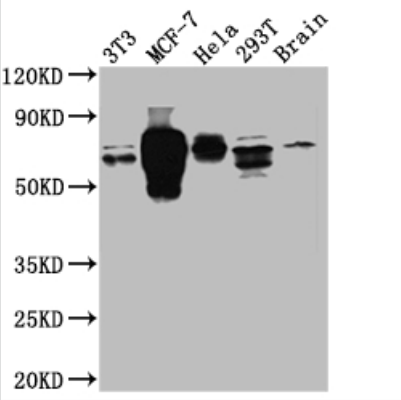
RPS6KB1 Recombinant Monoclonal Antibody

Product Code	CSB-RA779090A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P23443
Immunogen	A synthesized peptide derived from human S6K1
Species Reactivity	Human, Mouse
Tested Applications	ELISA, WB; Recommended dilution: WB:1:500-1:5000
Relevance	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 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.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG

Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling; Cell biology; Metabolism; Signal transduction
Gene Names	RPS6KB1
Clone No.	1H8

Image



Western Blot
Positive WB detected in: NIH/3T3 whole cell lysate, MCF-7 whole cell lysate, Hela whole cell lysate, 293T whole cell lysate, Mouse Brain whole cell lysate
All lanes: S6K1 antibody at 1:1000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 60, 57, 53, 57, 52 kDa
Observed band size: 70 kDa

Description

The RPS6KB1 recombinant monoclonal antibody is produced through a carefully orchestrated process to ensure its exceptional quality and specificity. Initially, B cells are isolated from the spleen of an immunized animal, with the synthesized peptide derived from human S6K1 used as the immunogen. RNA is then extracted from these B cells and converted into cDNA through reverse transcription. Amplification of the RPS6KB1 antibody genes is achieved using specific primers targeting the antibody constant regions, followed by their insertion into an expression vector. The expression vector is introduced into host cells via transfection, enabling the production of the RPS6KB1 recombinant monoclonal antibody. After an appropriate incubation period, the antibody is harvested from the cell culture supernatant and meticulously purified using affinity chromatography, ensuring the acquisition of a highly purified form of the RPS6KB1 recombinant monoclonal antibody suitable for diverse applications. To validate its specificity and functionality in detecting human and mouse RPS6KB1 proteins, the antibody undergoes rigorous characterization assays including ELISA and WB analysis. This comprehensive production process guarantees the development of a reliable and effective RPS6KB1 recombinant monoclonal antibody, serving as a valuable tool in various research associated with RPS6KB1.