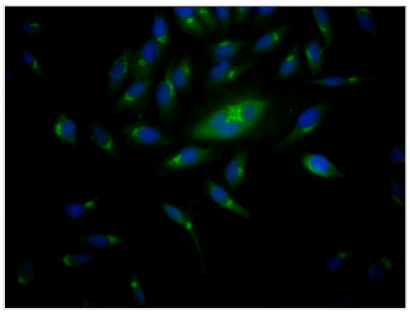
RPS6KB1 Recombinant Monoclonal Antibody

Product Code	CSB-RA299200A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P23443
Immunogen	A synthesized peptide derived from human P70 S6 Kinase alpha
Species Reactivity	Human
Tested Applications	ELISA, IF; Recommended dilution: IF:1:20-1:200
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.	7D4

Image



Immunofluorescence staining of Hela Cells with CSB-RA299200A0HU at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% TritonX-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).

Description

The synthesis of the RPS6KB1 recombinant monoclonal antibody involves a meticulous and well-defined 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 P70 S6 Kinase alpha serving as the immunogen. RNA is then extracted from the B cells and converted into cDNA through reverse transcription. The RPS6KB1 antibody genes are amplified using specific primers targeting the antibody constant regions and inserted into an expression vector. This vector is subsequently introduced into host cells via transfection, enabling the production of the RPS6KB1 recombinant monoclonal antibody. Following a period of cell culture, the antibody is harvested from the cell culture supernatant and subjected to a meticulous purification process utilizing affinity chromatography. This ensures the obtainment of a highly purified form of the RPS6KB1 recombinant monoclonal antibody suitable for various applications. Rigorous characterization assays, including ELISA and IF analysis, are performed to validate the antibody's specificity and functionality in detecting human RPS6KB1 protein. The rigorous production process guarantees the development of a reliable and effective RPS6KB1 recombinant monoclonal antibody, serving as an invaluable tool in diverse research related to RPS6KB1.