RSK2 Protein, Human (His)

Cat. No.:	HY-P701774
Synonyms:	RPS6KA3; Ribosomal protein S6 kinase alpha-3; S6K-alpha-3; 90 kDa ribosomal protein S6 kinase 3; p90-RSK 3; p90RSK3; Insulin-stimulated protein kinase 1; ISPK-1; MAP kinase-activated protein kinase 1b; MAPK-activated protein kinase 1b; MAPKAP kinase 1b; MAPKAPK-1b; Ribosomal S6 kinase 2; RSK-2; pp90RSK2
Species:	Human
Source:	E. coli
Accession:	P51812 (Q400-L740)
Gene ID:	6197
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	RSK2, a serine/threonine-protein kinase, operates downstream of ERK (MAPK1/ERK2 and MAPK3/ERK1) signaling, orchestrating mitogenic and stress-induced cellular responses. It plays a pivotal role in the activation of transcription factors such as CREB1, ETV1/ER81, and NR4A1/NUR77, contributing to cellular proliferation, survival, and differentiation. RSK2 modulates translation by phosphorylating RPS6 and EIF4B, facilitating the assembly of the preinitiation complex. Additionally, it intricately regulates mTOR signaling, represses the pro-apoptotic functions of BAD and DAPK1, and is involved in cell survival mechanisms. In fibroblasts, RSK2 is essential for EGF-stimulated phosphorylation of CREB1 and histone H3, leading to the transcriptional activation of immediate-early genes. Upon mitogenic stimulation, it phosphorylates and activates NR4A1/NUR77 and ETV1/ER81 transcription factors. In response to insulin-derived signals, RSK2 indirectly influences the transcriptional regulation of genes by phosphorylating GSK3B. Additionally, RSK2 participates in the mTOR nutrient-sensing pathway, mediating TSC2 phosphorylation and regulating mTORC1 activity. Furthermore, RSK2 plays diverse roles, including promoting the survival of hepatic stellate cells, regulating the cell cycle by phosphorylating CDKN1B, and acting as a regulator of osteoblast differentiation by mediating phosphorylation of ATF4. In various cellular contexts, RSK2 engages in intricate regulatory networks, negatively regulating EGF-induced MAPK1/3 phosphorylation, phosphorylating SOS1, and controlling the RPS6KA-EPHA2 signaling pathway to influence cell migration.

Caution: Product has not been fully validated for medical applications. For research use only.

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