

Recombinant Human RPS6KA3 Protein (Q400-L740), Tag Free

Cat. No. RPS6KA3-1146H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human RSK2(Q400-L740) Protein was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	Q400-L740
Description	Serine/threonine-protein kinase that acts downstream of ERK (MAPK1/ERK2 and MAPK3/ERK1) signaling and mediates mitogenic and stress-induced activation of the transcription factors CREB1, ETV1/ER81 and NR4A1/NUR77, regulates translation through RPS6 and EIF4B phosphorylation, and mediates cellular proliferation, survival, and differentiation by modulating mTOR signaling and repressing pro-apoptotic function of BAD and DAPK1. In fibroblast, is required for EGF-stimulated phosphorylation of CREB1 and histone H3 at 'Ser-10', which results in the subsequent transcriptional activation of several immediate-early genes (). In response to mitogenic stimulation (EGF and PMA), phosphorylates and activates NR4A1/NUR77 and ETV1/ER81 transcription factors and the cofactor CREBBP. Upon insulin-derived signal, acts indirectly on the transcription regulation of several genes by phosphorylating GSK3B at 'Ser-9' and inhibiting its activity. Phosphorylates RPS6 in response to serum or EGF via an mTOR-independent mechanism and promotes translation initiation by facilitating assembly of the preinitiation complex. In response to insulin, phosphorylates EIF4B, enhancing EIF4B affinity for the EIF3 complex and stimulating cap-dependent translation. Is involved in the mTOR nutrient-

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sensing pathway by directly phosphorylating TSC2 at 'Ser-1798', which potently inhibits TSC2 ability to suppress mTOR signaling, and mediates phosphorylation of RPTOR, which regulates mTORC1 activity and may promote rapamycin-sensitive signaling independently of the PI3K/AKT pathway. Mediates cell survival by phosphorylating the pro-apoptotic proteins BAD and DAPK1 and suppressing their pro-apoptotic function. Promotes the survival of hepatic stellate cells by phosphorylating CEBPB in response to the hepatotoxin carbon tetrachloride (CCl₄). Is involved in cell cycle regulation by phosphorylating the CDK inhibitor CDKN1B, which promotes CDKN1B association with 14-3-3 proteins and prevents its translocation to the nucleus and inhibition of G1 progression. In LPS-stimulated dendritic cells, is involved in TLR4-induced macropinocytosis, and in myeloma cells, acts as effector of FGFR3-mediated transformation signaling, after direct phosphorylation at Tyr-529 by FGFR3. Negatively regulates EGF-induced MAPK1/3 phosphorylation via phosphorylation of SOS1. Phosphorylates SOS1 at 'Ser-1134' and 'Ser-1161' that create YWHAB and YWHAЕ binding sites and which contribute to the negative regulation of MAPK1/3 phosphorylation. Phosphorylates EPHA2 at 'Ser-897', the RPS6KA-EPHA2 signaling pathway controls cell migration. Acts as a regulator of osteoblast differentiation by mediating phosphorylation of ATF4, thereby promoting ATF4 transactivation activity.

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

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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.

GENE INFORMATION

Gene Name RPS6KA3 ribosomal protein S6 kinase, 90kDa, polypeptide 3 [Homo sapiens (human)]

Official Symbol RPS6KA3

Synonyms RPS6KA3; ribosomal protein S6 kinase, 90kDa, polypeptide 3; CLS, Coffin Lowry syndrome, mental retardation, X linked 19, MRX19, ribosomal protein S6 kinase, 90kD, polypeptide 3; ribosomal protein S6 kinase alpha-3; HU 3; RSK; RSK2; RSK-2; p90-RSK 3; MAPKAPK-1b; S6K-alpha-3; MAPKAP kinase 1b; ribosomal S6 kinase 2; MAPK-activated protein kinase 1b; insulin-stimulated protein kinase 1; MAP kinase-activated protein kinase 1b; CLS; HU-3; MRX19; ISPK-1; p90-RSK2; pp90RSK2; MAPKAPK1B; S6K-alpha3;

Gene ID 6197

mRNA Refseq NM_004586

Protein Refseq NP_004577

MIM 300075

UniProt ID P51812

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