

KD-Validated Anti-RPS6KA1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody

Catalog # AGI1049

Product Information

Application	WB, FC, ICC
Primary Accession	Q15418
Reactivity	Human
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB 2080
Calculated MW	82723
Gene Name	RPS6KA1
Aliases	RPS6KA1; Ribosomal Protein S6 Kinase A1; RSK1; MAPKAPK1; HU-1; MAP Kinase-Activated Protein Kinase 1a; 90 kDa Ribosomal Protein S6 Kinase 1; Ribosomal Protein S6 Kinase Alpha-1; MAPK-Activated Protein Kinase 1a; Ribosomal S6 Kinase 1; MAPKAP Kinase 1a; EC 2.7.11.1; MAPKAPK-1a; MAPKAPK1A; P90-RSK 1; P90RSK1; P90Rsk; P90S6K; RSK-1; DJ590P13.1 (Ribosomal Protein S6 Kinase, 90kD, Polypeptide 1); Ribosomal Protein S6 Kinase, 90kDa, Polypeptide 1; Ribosomal Protein S6 Kinase, 90kD, Polypeptide 1; S6K-Alpha 1; S6K-Alpha-1; EC 2.7.11; P90RSK; RSK
Immunogen	A synthesized peptide derived from human RSK1 p90

Additional Information

Gene ID	6195
Other Names	Ribosomal protein S6 kinase alpha-1, S6K-alpha-1, 2.7.11.1, 90 kDa ribosomal protein S6 kinase 1, p90-RSK 1, p90RSK1, p90S6K, MAP kinase-activated protein kinase 1a, MAPK-activated protein kinase 1a, MAPKAP kinase 1a, MAPKAPK-1a, Ribosomal S6 kinase 1, RSK-1, RPS6KA1, MAPKAPK1A, RSK1

Protein Information

Name	RPS6KA1
Synonyms	MAPKAPK1A, RSK1
Function	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 (PubMed: 10679322 , PubMed: 12213813 , PubMed: 15117958 , PubMed: 16223362 , PubMed: 17360704 , PubMed: 18722121 , PubMed: 26158630 , PubMed: 35772404 , PubMed: 9430688). In fibroblast, is

required for EGF-stimulated phosphorylation of CREB1, which results in the subsequent transcriptional activation of several immediate-early genes (PubMed:[18508509](#), PubMed:[18813292](#)). In response to mitogenic stimulation (EGF and PMA), phosphorylates and activates NR4A1/NUR77 and ETV1/ER81 transcription factors and the cofactor CREBBP (PubMed:[12213813](#), PubMed:[16223362](#)). Upon insulin-derived signal, acts indirectly on the transcription regulation of several genes by phosphorylating GSK3B at 'Ser-9' and inhibiting its activity (PubMed:[18508509](#), PubMed:[18813292](#)). Phosphorylates RPS6 in response to serum or EGF via an mTOR-independent mechanism and promotes translation initiation by facilitating assembly of the pre-initiation complex (PubMed:[17360704](#)). In response to insulin, phosphorylates EIF4B, enhancing EIF4B affinity for the EIF3 complex and stimulating cap- dependent translation (PubMed:[16763566](#)). Is involved in the mTOR nutrient-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 (PubMed:[15342917](#)). Also involved in feedback regulation of mTORC1 and mTORC2 by phosphorylating DEPTOR (PubMed:[22017876](#)). Mediates cell survival by phosphorylating the pro- apoptotic proteins BAD and DAPK1 and suppressing their pro-apoptotic function (PubMed:[10679322](#), PubMed:[16213824](#)). Promotes the survival of hepatic stellate cells by phosphorylating CEBPB in response to the hepatotoxin carbon tetrachloride (CCl4) (PubMed:[11684016](#)). Mediates induction of hepatocyte proliferation by TGFA through phosphorylation of CEBPB (PubMed:[18508509](#), PubMed:[18813292](#)). 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 (PubMed:[18508509](#), PubMed:[18813292](#)). Phosphorylates EPHA2 at 'Ser-897', the RPS6KA-EPHA2 signaling pathway controls cell migration (PubMed:[26158630](#)). In response to mTORC1 activation, phosphorylates EIF4B at 'Ser-406' and 'Ser-422' which stimulates bicarbonate cotransporter SLC4A7 mRNA translation, increasing SLC4A7 protein abundance and function (PubMed:[35772404](#)).

Cellular Location

Nucleus. Cytoplasm.

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