

RPS6KA1 Antibody (S732) Blocking Peptide
Synthetic peptide
Catalog # BP7941e**Specification**

RPS6KA1 Antibody (S732) Blocking Peptide - Product InformationPrimary Accession [Q15418](#)**RPS6KA1 Antibody (S732) Blocking Peptide - Additional Information****Gene ID** 6195**Other Names**

Ribosomal protein S6 kinase alpha-1, S6K-alpha-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

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP7941e](/product/products/AP7941e) was selected from the S732 region of human RPS6KA1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

RPS6KA1 Antibody (S732) Blocking Peptide - 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](http://www.uniprot.org/citations/10679322), PubMed:[12213813](http://www.uniprot.org/citations/12213813), PubMed:[15117958](http://www.uniprot.org/citations/15117958), PubMed:

[16223362](http://www.uniprot.org/citations/16223362), PubMed: [17360704](http://www.uniprot.org/citations/17360704), PubMed: [18722121](http://www.uniprot.org/citations/18722121), PubMed: [26158630](http://www.uniprot.org/citations/26158630), PubMed: [35772404](http://www.uniprot.org/citations/35772404), PubMed: [9430688](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/18508509), PubMed: [18813292](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/12213813), PubMed: [16223362](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/18508509), PubMed: [18813292](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/17360704)). In response to insulin, phosphorylates EIF4B, enhancing EIF4B affinity for the EIF3 complex and stimulating cap- dependent translation (PubMed: [16763566](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/15342917)). Also involved in feedback regulation of mTORC1 and mTORC2 by phosphorylating DEPTOR (PubMed: [22017876](http://www.uniprot.org/citations/22017876)). Mediates cell survival by phosphorylating the pro- apoptotic proteins BAD and DAPK1 and suppressing their pro-apoptotic function (PubMed: [10679322](http://www.uniprot.org/citations/10679322), PubMed: [16213824](http://www.uniprot.org/citations/16213824)). Promotes the survival of hepatic stellate cells by phosphorylating CEBPB in response to the hepatotoxin carbon tetrachloride (CCl4) (PubMed: [11684016](http://www.uniprot.org/citations/11684016)). Mediates induction of hepatocyte proliferation by TGFA through phosphorylation of CEBPB (PubMed: [18508509](http://www.uniprot.org/citations/18508509), PubMed: [18813292](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/18508509), PubMed: [18813292](http://www.uniprot.org/citations/18813292)). Phosphorylates EPHA2 at 'Ser-897', the RPS6KA-EPHA2 signaling pathway controls cell migration (PubMed: [26158630](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/35772404)).

Cellular Location

Nucleus. Cytoplasm.

RPS6KA1 Antibody (S732) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

RPS6KA1 Antibody (S732) Blocking Peptide - Images

RPS6KA1 Antibody (S732) Blocking Peptide - Background

RPS6KA1 is a member of the RSK (ribosomal S6 kinase) family of serine/threonine kinases. This kinase contains 2 nonidentical kinase catalytic domains and phosphorylates various substrates, including members of the mitogen-activated kinase (MAPK) signalling pathway. The activity of this protein has been implicated in controlling cell growth and differentiation.

RPS6KA1 Antibody (S732) Blocking Peptide - References

Cavet, M.E., et al., J. Biol. Chem. 278(20):18376-18383 (2003).Versteeg, H.H., et al., J. Biol. Chem. 277(30):27065-27072 (2002).Fingar, D.C., et al., Genes Dev. 16(12):1472-1487 (2002).Lu, H., et al., J. Pharmacol. Exp. Ther. 300(3):818-823 (2002).Saitoh, M., et al., J. Biol. Chem. 277(22):20104-20112 (2002).