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# RSK2 (RPS6KA3) Antibody (T365) Blocking peptide

**Synthetic peptide**
**Catalog # BP7286a**

## Specification

### RSK2 (RPS6KA3) Antibody (T365) Blocking peptide - Product Information

Primary Accession P51812

### RSK2 (RPS6KA3) Antibody (T365) Blocking peptide - Additional Information

**Gene ID** 6197

**Other Names**
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, RPS6KA3, ISPK1, MAPKAPK1B, RSK2

**Target/Specificity**
The synthetic peptide sequence used to generate the antibody <a href=/product/products/AP7286a>AP7286a</a> was selected from the T365 region of human RPS6KA3. 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.

### RSK2 (RPS6KA3) Antibody (T365) Blocking peptide - Protein Information

**Name** RPS6KA3

**Synonyms** ISPK1, MAPKAPK1B, RSK2

**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:<a href="http://www.uniprot.org/citations/9770464" target="_blank">9770464</a>, PubMed:<a href="http://www.uniprot.org/citations/16223362" target="_blank">16223362</a>, PubMed:<a

href="http://www.uniprot.org/citations/17360704" target="_blank">17360704</a>, PubMed:<a href="http://www.uniprot.org/citations/16213824" target="_blank">16213824</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/9770464" target="_blank">9770464</a>, PubMed:<a href="http://www.uniprot.org/citations/10436156" target="_blank">10436156</a>). In response to mitogenic stimulation (EGF and PMA), phosphorylates and activates NR4A1/NUR77 and ETV1/ER81 transcription factors and the cofactor CREBBP (PubMed:<a href="http://www.uniprot.org/citations/16223362" target="_blank">16223362</a>). Upon insulin-derived signal, acts indirectly on the transcription regulation of several genes by phosphorylating GSK3B at 'Ser-9' and inhibiting its activity (PubMed:<a href="http://www.uniprot.org/citations/8250835" target="_blank">8250835</a>). Phosphorylates RPS6 in response to serum or EGF via an mTOR-independent mechanism and promotes translation initiation by facilitating assembly of the preinitiation complex (PubMed:<a href="http://www.uniprot.org/citations/17360704" target="_blank">17360704</a>). In response to insulin, phosphorylates EIF4B, enhancing EIF4B affinity for the EIF3 complex and stimulating cap-dependent translation (PubMed:<a href="http://www.uniprot.org/citations/18508509" target="_blank">18508509</a>, PubMed:<a href="http://www.uniprot.org/citations/18813292" target="_blank">18813292</a>). 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:<a href="http://www.uniprot.org/citations/18722121" target="_blank">18722121</a>). Mediates cell survival by phosphorylating the pro- apoptotic proteins BAD and DAPK1 and suppressing their pro-apoptotic function (PubMed:<a href="http://www.uniprot.org/citations/16213824" target="_blank">16213824</a>). Promotes the survival of hepatic stellate cells by phosphorylating CEBPB in response to the hepatotoxin carbon tetrachloride (CCl4) (PubMed:<a href="http://www.uniprot.org/citations/18508509" target="_blank">18508509</a>, PubMed:<a href="http://www.uniprot.org/citations/18813292" target="_blank">18813292</a>). 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 (By similarity). 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 (By similarity). Negatively regulates EGF-induced MAPK1/3 phosphorylation via phosphorylation of SOS1 (By similarity). Phosphorylates SOS1 at 'Ser-1134' and 'Ser-1161' that create YWHAB and YWHAE binding sites and which contribute to the negative regulation of MAPK1/3 phosphorylation (By similarity). Phosphorylates EPHA2 at 'Ser- 897', the RPS6KA-EPHA2 signaling pathway controls cell migration (PubMed:<a href="http://www.uniprot.org/citations/26158630" target="_blank">26158630</a>). Acts as a regulator of osteoblast differentiation by mediating phosphorylation of ATF4, thereby promoting ATF4 transactivation activity (By similarity).

**Cellular Location**
Nucleus. Cytoplasm

**Tissue Location**
Expressed in many tissues, highest levels in skeletal muscle

## RSK2 (RPS6KA3) Antibody (T365) Blocking peptide - Protocols

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

- Blocking Peptides

## RSK2 (RPS6KA3) Antibody (T365) Blocking peptide - Images

## RSK2 (RPS6KA3) Antibody (T365) Blocking peptide - Background

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RPS6KA3 is a member of the RSK (ribosomal S6 kinase) family of serine/threonine kinases. This kinase contains 2 non-identical 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. Mutations in the gene for this protein have been associated with Coffin-Lowry syndrome (CLS).

**RSK2 (RPS6KA3) Antibody (T365) Blocking peptide - References**

Cho,Y.Y., J. Biol. Chem. 282 (11), 8380-8392 (2007)Wissing,J., Mol. Cell Proteomics 6 (3), 537-547 (2007)