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RPS6KA1 Antibody
Mouse Monoclonal Antibody (Mab)
Catalog # AM1882b

Specification

RPS6KA1 Antibody - Product Information

Application	**WB,E**
Primary Accession	Q15418
Other Accession	NP_001006666.1, NP_002944.2
Reactivity	**Human, Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1,K**

RPS6KA1 Antibody - 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
This RPS6KA1 monoclonal antibody is generated from mouse immunized with RPS6KA1 recombinant protein.

Dilution
WB~~1:1000

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
RPS6KA1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

RPS6KA1 Antibody - 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 prolifration 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.

RPS6KA1 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

RPS6KA1 Antibody - Images

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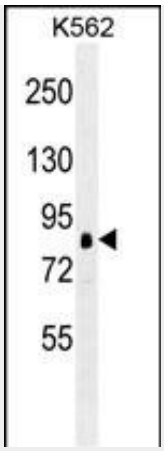
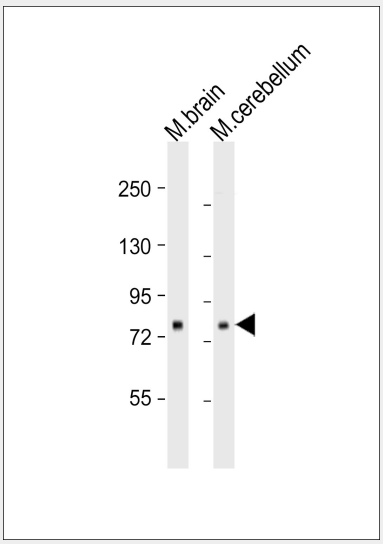


RPS6KA1 antibody (Cat. #AM1882b) western blot analysis in K562 cell line lysates (35µg/lane).This demonstrates the RPS6KA1 antibody detected the RPS6KA1 protein (arrow).



"All lanes : Anti-RPS6KA1 Antibody at 1:1000 dilution Lane 1: mouse brain lysate Lane 2: mouse cerebellum lysate Secondary Goat Anti-mouse IgG, (H+L),Peroxidase conjugated at 1/10000 dilution. Predicted band size : 82723 Da Blocking/Dilution buffer: 5% NFDM/TBST."

RPS6KA1 Antibody - Background

This gene encodes 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. Alternate transcriptional splice variants, encoding different isoforms, have been characterized.

RPS6KA1 Antibody - References

Bailey, S.D., et al. Diabetes Care (2010) In press :
Gao, X., et al. J. Biol. Chem. 285(10):6970-6979(2010)
Gao, X., et al. J. Biol. Chem. 284(48):33070-33078(2009)
Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)
Doehn, U., et al. Mol. Cell 35(4):511-522(2009)