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KD-Validated Anti-RPS6KA1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1049

Specification

KD-Validated Anti-RPS6KA1 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	Q15418
Reactivity	**Human**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 83 kDa, observed, 83 kDa KDa**
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**

KD-Validated Anti-RPS6KA1 Rabbit Monoclonal Antibody - 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

KD-Validated Anti-RPS6KA1 Rabbit Monoclonal 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).

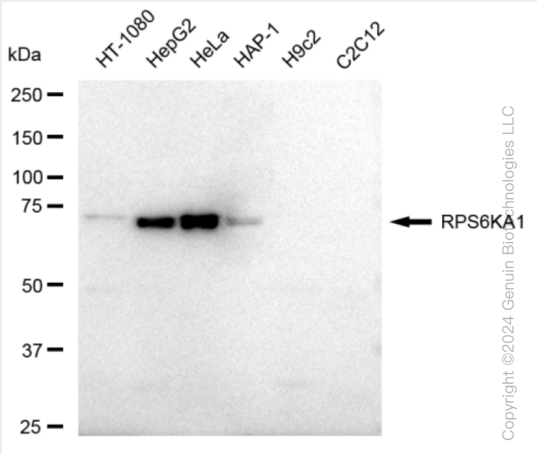
Cellular Location
Nucleus. Cytoplasm.

KD-Validated Anti-RPS6KA1 Rabbit Monoclonal Antibody - Protocols

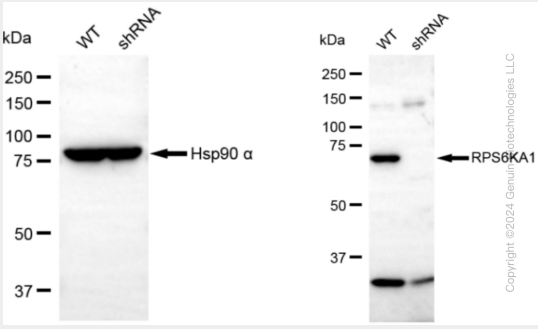
Provided below are standard protocols that you may find useful for product applications.

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

KD-Validated Anti-RPS6KA1 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-RPS6KA1 antibody (Cat#AGI1049). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-RPS6KA1 antibody (Cat#AGI1049, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-RPS6KA1 antibody (Cat#AGI1049). RPS6KA1 expression in wild type (WT) and RPS6KA1 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-RPS6KA1 antibody (Cat#AGI1049, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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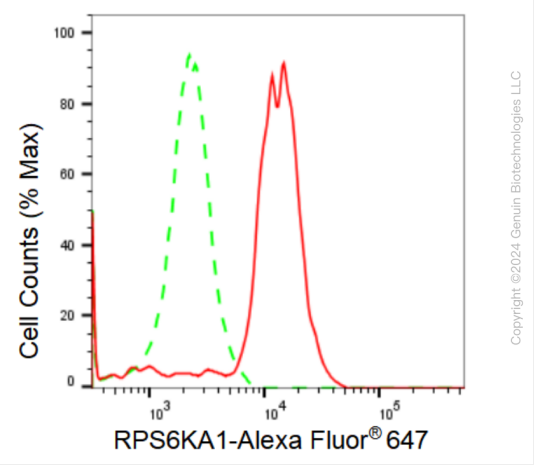
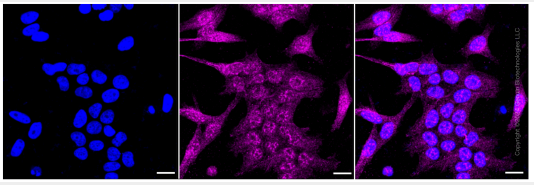


Flow cytometric analysis of RPS6KA1 expression in HeLa cells using RPS6KA1 antibody (Cat#AGI1049, 1:2,000). Green, isotype control; red, RPS6KA1.



Immunocytochemical staining of Hela cells with RPS6KA1 antibody (Cat#AGI1049, 1:1,000). Nuclei were stained blue with DAPI; RPS6KA1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.