

RPS6KA3 / RSK2 Antibody (clone 4E10)
Mouse Monoclonal Antibody
Catalog # ALS16875**Specification****RPS6KA3 / RSK2 Antibody (clone 4E10) - Product Information**

Application	IHC, IF, WB, E
Primary Accession	P51812
Other Accession	6197
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	83736

RPS6KA3 / RSK2 Antibody (clone 4E10) - Additional Information**Gene ID** 6197**Other Names**

RPS6KA3, Coffin-Lowry syndrome, HU-2, ISPK1, MAPKAP kinase 1B, MAPKAPK-1b, MRX19, Ribosomal S6 kinase 2, RSK-2, p90-RSK 3, p90RSK3, RSK, RSK2, S6K-alpha-3, S6K-alpha3, CLS, ISPK-1, MAPKAPK1B, p90-RSK2, Pp90RSK2

Target/Specificity

Human RPS6KA3 / RSK2

Reconstitution & Storage

Ascites, 0.03% sodium azide. Long term: -20°C; Short term: +4°C; Avoid freeze-thaw cycles.

Precautions

RPS6KA3 / RSK2 Antibody (clone 4E10) is for research use only and not for use in diagnostic or therapeutic procedures.

RPS6KA3 / RSK2 Antibody (clone 4E10) - 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:9770464, PubMed:16223362, PubMed:16223362, PubMed:16223362)

[17360704](http://www.uniprot.org/citations/17360704), PubMed: [16213824](http://www.uniprot.org/citations/16213824)). 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: [9770464](http://www.uniprot.org/citations/9770464), PubMed: [10436156](http://www.uniprot.org/citations/10436156)). In response to mitogenic stimulation (EGF and PMA), phosphorylates and activates NR4A1/NUR77 and ETV1/ER81 transcription factors and the cofactor CREBBP (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: [8250835](http://www.uniprot.org/citations/8250835)). 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: [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: [18508509](http://www.uniprot.org/citations/18508509), PubMed: [18813292](http://www.uniprot.org/citations/18813292)). Is involved in the mTOR nutrient-sensing pathway by directly phosphorylating TSC2 at 'Ser-1798', which potentially 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: [18722121](http://www.uniprot.org/citations/18722121)). Mediates cell survival by phosphorylating the pro- apoptotic proteins BAD and DAPK1 and suppressing their pro-apoptotic function (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: [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 (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 YWHAЕ 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: [26158630](http://www.uniprot.org/citations/26158630)). 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

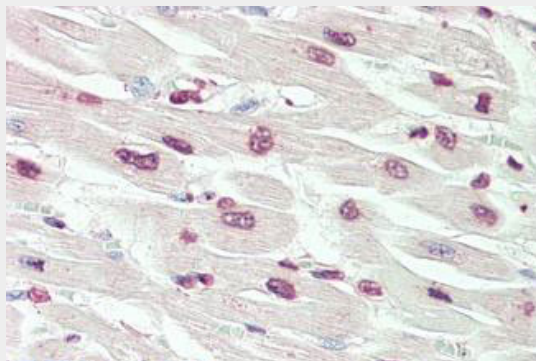
RPS6KA3 / RSK2 Antibody (clone 4E10) - Protocols

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

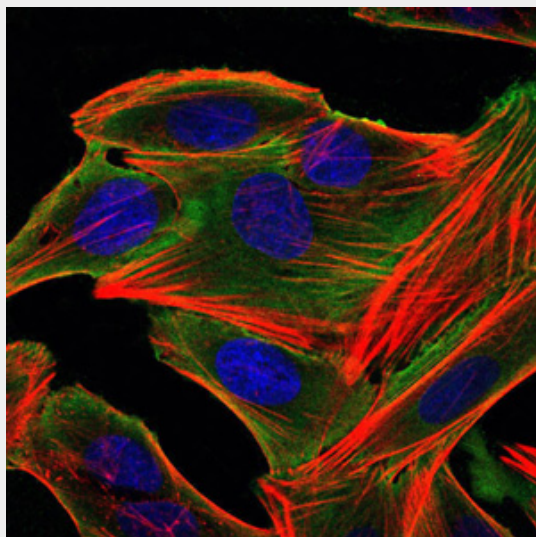
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

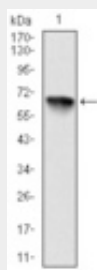
RPS6KA3 / RSK2 Antibody (clone 4E10) - Images



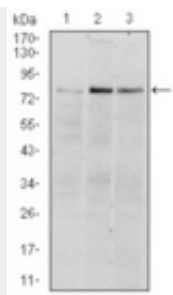
Anti-RPS6KA3 / RSK2 antibody IHC staining of human heart.



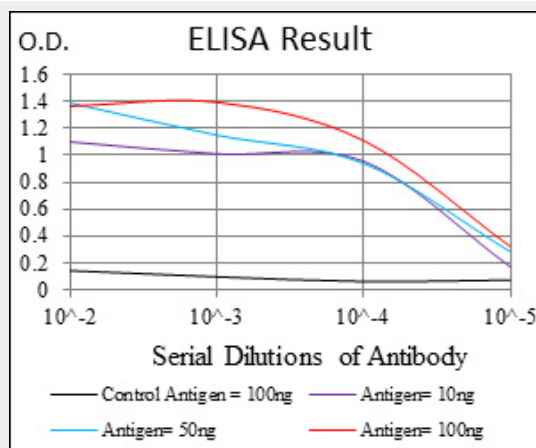
Immunofluorescence of HepG2 cells using RSK2 mouse monoclonal antibody (green).



Western blot using RSK2 monoclonal antibody against human RSK2 (AA: 1-212) recombinant protein.



Western blot using RSK2 mouse monoclonal antibody against HeLa (1), MCF-7 (2), and HepG2 (3)...



Red: Control Antigen (100ng); Purple: Antigen (10ng); Green: Antigen (50ng); Blue: Antigen (100ng);

RPS6KA3 / RSK2 Antibody (clone 4E10) - Background

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. 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. In response to mitogenic stimulation (EGF and PMA), phosphorylates and activates NR4A1/NUR77 and ETV1/ER81 transcription factors and the cofactor CREBBP. Upon insulin-derived signal, acts indirectly on the transcription regulation of several genes by phosphorylating GSK3B at 'Ser-9' and inhibiting its activity. Phosphorylates RPS6 in response to serum or EGF via an mTOR- independent mechanism and promotes translation initiation by facilitating assembly of the preinitiation complex. In response to insulin, phosphorylates EIF4B, enhancing EIF4B affinity for the EIF3 complex and stimulating cap-dependent translation. 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. Mediates cell survival by phosphorylating the pro-apoptotic proteins BAD and DAPK1 and suppressing their pro- apoptotic function. Promotes the survival of hepatic stellate cells by phosphorylating CEBPB in response to the hepatotoxin carbon tetrachloride (CCl₄). 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. 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. Phosphorylates DAPK1.

RPS6KA3 / RSK2 Antibody (clone 4E10) - References

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Ota T.,et al.Nat. Genet. 36:40-45(2004).
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