

# RSK1 p90 Rabbit mAb

Catalog # AP76042

## Product Information

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<b>Application</b>	WB, IHC-P, FC, IP
<b>Primary Accession</b>	<a href="#">Q15418</a>
<b>Reactivity</b>	Rat, Human, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Monoclonal Antibody
<b>Isotype</b>	IgG
<b>Conjugate</b>	Unconjugated
<b>Purification</b>	Affinity Purified
<b>Calculated MW</b>	82723

## Additional Information

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<b>Gene ID</b>	6195
<b>Other Names</b>	RPS6KA1
<b>Dilution</b>	WB~~1/500-1/1000 IHC-P~~N/A FC~~1:10~50 IP~~N/A
<b>Format</b>	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

## Protein Information

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<b>Name</b>	RPS6KA1
<b>Synonyms</b>	MAPKAPK1A, RSK1
<b>Function</b>	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="#">10679322</a> , PubMed: <a href="#">12213813</a> , PubMed: <a href="#">15117958</a> , PubMed: <a href="#">16223362</a> , PubMed: <a href="#">17360704</a> , PubMed: <a href="#">18722121</a> , PubMed: <a href="#">26158630</a> , PubMed: <a href="#">35772404</a> , PubMed: <a href="#">9430688</a> ). In fibroblast, is required for EGF-stimulated phosphorylation of CREB1, which results in the subsequent transcriptional activation of several immediate-early genes (PubMed: <a href="#">18508509</a> , PubMed: <a href="#">18813292</a> ). In response to mitogenic stimulation (EGF and PMA), phosphorylates and activates NR4A1/NUR77 and ETV1/ER81

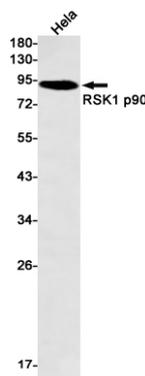
transcription factors and the cofactor CREBBP (PubMed:[12213813](#), PubMed:[16223362](#)). Upon insulin-derived signal, acts indirectly on the transcription regulation of several genes by phosphorylating GSK3B at 'Ser-9' and inhibiting its activity (PubMed:[18508509](#), PubMed:[18813292](#)). Phosphorylates 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 proliferation 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](#)).

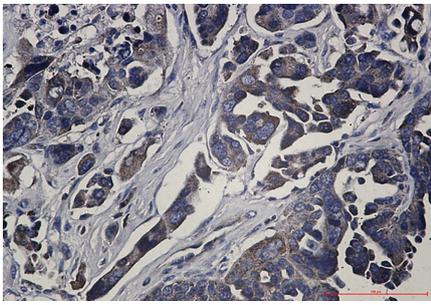
**Cellular Location** Nucleus. Cytoplasm.

## Background

Rsk1 is a member of a family of 90kDa ribosomal protein S6 kinases, which includes Rsk1, Rsk2 and Rsk3. These are broadly expressed serine / threonine protein kinases activated in response to mitogenic stimuli, including extracellular signal regulated protein kinases Erk1 and Erk2. Rsk1 is activated by MAPK in vitro and in vivo via phosphorylation. Active Rsks appear to play a major role in transcriptional regulation by translocating to the nucleus and phosphorylating c-Fos and CREB.

## Images





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