

RSK3 Rabbit monoclonal antibody

Catalog: MB66411

Host: Rabbit

Reactivity: Human, Hamster

BackGround:

The 90 kDa ribosomal S6 kinases (RSK1-4) are a family of widely expressed Ser/Thr kinases characterized by two nonidentical, functional kinase domains and a carboxy-terminal docking site for extracellular signal-regulated kinases (ERKs). Several sites both within and outside of the RSK kinase domain, including Ser380, Thr359, Ser363, and Thr573, are important for kinase activation. RSK1-3 are activated via coordinated phosphorylation by MAPKs, autophosphorylation, and phosphoinositide-3-OH kinase (PI3K) in response to many growth factors, polypeptide hormones, and neurotransmitters.

Upon mitogenic stimulation, p44/42 ERK1/2 and ERK5 MAP kinases cooperatively phosphorylate p90RSK Thr573 (p90RSK1 numbering) located within the C-terminal kinase domain and Thr359/Ser363 in the linker region between the two kinase domains. Phosphorylation of Thr573 within the activation loop of the p90RSK C-terminal kinase domain promotes activation and directs phosphorylation of Ser380 within the hydrophobic stretch of the linker region. The phosphorylated p90RSK Ser380 acts as a docking site for the constitutively active Ser/Thr kinase PDK1, which in turn phosphorylates Ser221 within the N-terminal kinase domain activation loop, resulting in full enzymatic activation of the p90RSK. Antibodies against these phosphorylation sites are useful for understanding the kinetics and regulation of p90RSK activation. For more information regarding the phospho-regulatory sites within each RSK isoform, including more information regarding the seminal studies demonstrating the complex phosphorylation cascades involved, please see the references herein and PhosphoSitePlus.

Product:

Liquid in 50mM Tris-Glycine (pH 7.4), 0.15M NaCl,

50% Glycerol, 0.01% Sodium azide and 0.05% BSA.

Molecular Weight:

~ 83 kDa

Swiss-Prot:

Q15349

Purification&Purity:

The antibody was purified by immunogen affinity chromatography.

Applications:

WB (1/500 - 1/1000), IHC (1/50 - 1/100), IF/ICC (1/50 - 1/100), IP (1/10 - 1/50)

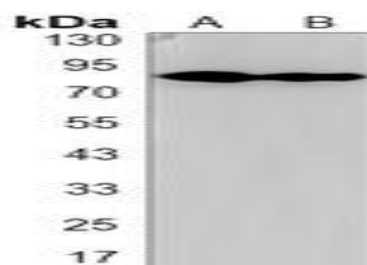
Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

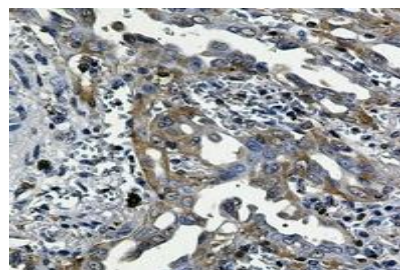
Specificity:

Recognizes endogenous levels of RSK3 protein.

DATA:



Western blot analysis of RSK3 expression in CHOK1 (A), HeLa (B) whole cell lysates.



Immunohistochemical analysis of RSK3 staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate

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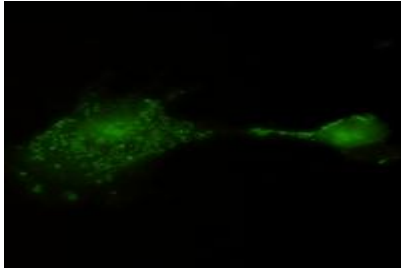
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buffer (pH 6.89). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of RSK3 staining in U87MG cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated sec-

ondary antibody (green) in PBS at room temperature in the dark.

Note:

For research use only, not for use in diagnostic procedure.

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