

Rsk-2 (E-1): sc-9986

BACKGROUND

The family of ribosomal S6 kinases (Rsk), designated Rsk-1 (or MAPKAP kinase-1), Rsk-2 and Rsk-3, are intracellular serine/threonine kinases that are important signaling intermediates in response to a broad range of ligand activated receptor tyrosine kinases. A unique feature common to the members of the Rsk family is that each possesses two non-identical complete kinase catalytic domains. An additional Rsk protein, Rsk-4, shows a high level of homology to the three previously isolated members of the human Rsk family. Rsk-4 is most abundantly expressed in brain and kidney and plays a role in normal neuronal development. The family of ribosomal S6 kinases includes p70 S6 kinase and p70 S6 kinase β , which are thought to have similar regulatory functions. MSK1 (also designated RLPK) is a novel Rsk-related protein, which, like the p90 Rsk family members, contains two non-identical complete kinase catalytic domains.

REFERENCES

- Alcorta, D.A., et al. 1989. Sequence and expression of chicken and mouse Rsk: homologs of *Xenopus laevis* ribosomal S6 kinase. *Mol. Cell. Biol.* 9: 3850-3859.
- Sweet, L.J., et al. 1990. Identification of mitogen-responsive ribosomal protein S6 kinase pp90rsk, a homolog of *Xenopus* S6 kinase II, in chicken embryo fibroblasts. *Mol. Cell. Biol.* 10: 2413-2417.

CHROMOSOMAL LOCATION

Genetic locus: RPS6KA3 (human) mapping to Xp22.12; Rps6ka3 (mouse) mapping to X F4.

SOURCE

Rsk-2 (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 718-740 at the C-terminus of Rsk-2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rsk-2 (E-1) is available conjugated to agarose (sc-9986 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9986 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9986 PE), fluorescein (sc-9986 FITC), Alexa Fluor[®] 488 (sc-9986 AF488), Alexa Fluor[®] 546 (sc-9986 AF546), Alexa Fluor[®] 594 (sc-9986 AF594) or Alexa Fluor[®] 647 (sc-9986 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-9986 AF680) or Alexa Fluor[®] 790 (sc-9986 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-9986 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Rsk-2 (E-1) is recommended for detection of Rsk-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

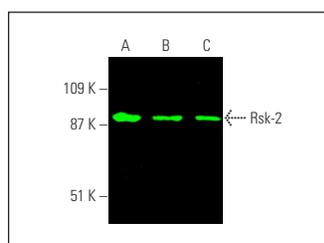
Rsk-2 (E-1) is also recommended for detection of Rsk-2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Rsk-2 siRNA (h): sc-36441, Rsk-2 siRNA (m): sc-36442, Rsk-2 shRNA Plasmid (h): sc-36441-SH, Rsk-2 shRNA Plasmid (m): sc-36442-SH, Rsk-2 shRNA (h) Lentiviral Particles: sc-36441-V and Rsk-2 shRNA (m) Lentiviral Particles: sc-36442-V.

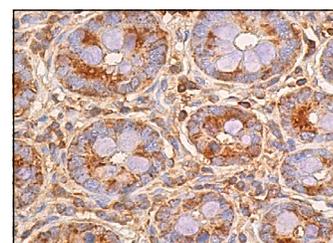
Molecular Weight of Rsk-2: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or A-431 whole cell lysate: sc-2201.

DATA



Rsk-2 (E-1): sc-9986. Near-infrared western blot analysis of Rsk-2 expression in HeLa (A), MCF7 (B) and A-431 (C) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGk BP-CFL 680: sc-516180.



Rsk-2 (E-1): sc-9986. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Ho, N., et al. 2000. Impaired synaptic plasticity and cAMP response element-binding protein activation in Ca²⁺/calmodulin-dependent protein kinase type IV/Gr-deficient mice. *J. Neurosci.* 20: 6459-6472.
- Mayer, A.M.S., et al. 2021. RSK1 vs. RSK2 inhibitory activity of the marine β -carboline alkaloid manzamine A: a biochemical, cervical cancer protein expression, and computational study. *Mar. Drugs* 19: 506.
- Kang, J., et al. 2022. EGFR-phosphorylated GDH1 harmonizes with RSK2 to drive CREB activation and tumor metastasis in EGFR-activated lung cancer. *Cell Rep.* 41: 111827.
- Jeung, D., et al. 2024. Ribosomal S6 kinase 2-forkhead box protein O4 signaling pathway plays an essential role in melanogenesis. *Sci. Rep.* 14: 9440.

RESEARCH USE

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