

# Rsk-4 (JS-31): sc-100424

## 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  $\beta$ , 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

1. 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.
2. Sweet, L.J., et al. 1990. Identification of mitogen-responsive ribosomal protein S6 kinase pp90<sup>rsk</sup>, a homolog of *Xenopus* S6 kinase II, in chicken embryo fibroblasts. Mol. Cell. Biol. 10: 2413-2417.

## CHROMOSOMAL LOCATION

Genetic locus: RPS6KA6 (human) mapping to Xq21.1; Rps6ka6 (mouse) mapping to X E1.

## SOURCE

Rsk-4 (JS-31) is a mouse monoclonal antibody raised against recombinant Rsk-4 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Rsk-4 (JS-31) is recommended for detection of Rsk-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for Rsk-4 siRNA (h): sc-39212, Rsk-4 siRNA (m): sc-39213, Rsk-4 shRNA Plasmid (h): sc-39212-SH, Rsk-4 shRNA Plasmid (m): sc-39213-SH, Rsk-4 shRNA (h) Lentiviral Particles: sc-39212-V and Rsk-4 shRNA (m) Lentiviral Particles: sc-39213-V.

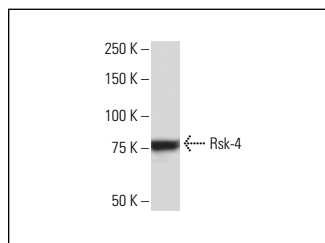
Molecular Weight of Rsk-4: 84 kDa.

Positive Controls: PC-12 cell lysate: sc-2250.

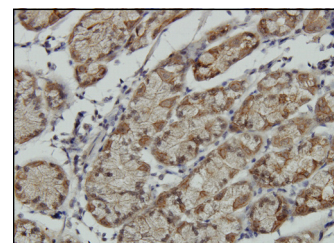
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Rsk-4 (JS-31): sc-100424. Western blot analysis of Rsk-4 expression in PC-12 whole cell lysate.



Rsk-4 (JS-31): sc-100424. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human stomach tissue showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Sun, Y., et al. 2013. Basic anatomy and tumor biology of the RPS6KA6 gene that encodes the p90 ribosomal S6 kinase-4. Oncogene 32: 1794-1810.
2. Roffé, M., et al. 2015. Two widely used Rsk inhibitors, BI-D1870 and SL0101, alter mTORC1 signaling in a Rsk-independent manner. Cell. Signal. 27: 1630-1642.
3. Anagnostopoulos, A.K., et al. 2015. Proteomic studies of pediatric medulloblastoma tumors with 17p deletion. J. Proteome Res. 14: 1076-1088.
4. Nett, I.R., et al. 2018. Negative feedback via Rsk modulates Erk-dependent progression from naïve pluripotency. EMBO Rep. 19: e45642.
5. Hajj, G.N., et al. 2020. Aberrant expression of RSK1 characterizes high-grade gliomas with immune infiltration. Mol. Oncol. 14: 159-179.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.