

## Rsk-4 (C-20): sc-17178

### 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

- 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.
- Kozma, S.C., et al. 1990. Cloning of the mitogen-activated S6 kinase from rat liver reveals an enzyme of the second messenger subfamily. *Proc. Natl. Acad. Sci. USA* 87: 7365-7369.
- Banerjee, P., et al. 1990. Molecular structure of a major Insulin/mitogen-activated 70 kDa S6 protein kinase. *Proc. Natl. Acad. Sci. USA* 87: 8550-8554.
- Bjorbaek, C., et al. 1995. Divergent functional roles for p90rsk kinase domains. *J. Biol. Chem.* 270: 18848-18852.
- Dummler, B.A., et al. 2005. Functional characterization of human Rsk-4, a new 90 kDa ribosomal S6 kinase, reveals constitutive activation in most cell types. *J. Biol. Chem.* 280: 13304-13314

### CHROMOSOMAL LOCATION

Genetic locus: RPS6KA6 (human) mapping to Xq21.1.

### SOURCE

Rsk-4 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Rsk-4 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17178 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### RESEARCH USE

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

### APPLICATIONS

Rsk-4 (C-20) is recommended for detection of Rsk-4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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-4 (C-20) is also recommended for detection of Rsk-4 in additional species, including canine and porcine.

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

Molecular Weight of Rsk-4: 84 kDa.

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

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

- Dummler, B.A., et al. 2005. Functional characterization of human Rsk-4, a new 90 kDa ribosomal S6 kinase, reveals constitutive activation in most cell types. *J. Biol. Chem.* 280: 13304-13314.
- López-Vicente, L., et al. 2009. Regulation of replicative and stress-induced senescence by Rsk-4, which is downregulated in human tumors. *Clin. Cancer Res.* 15: 4546-4553.

### STORAGE

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

### PROTOCOLS

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



Try **Rsk-4 (JS-31): sc-100424**, our highly recommended monoclonal alternative to Rsk-4 (C-20).