

p-Rsk-1 (Ser 363): sc-135634

BACKGROUND

The family of ribosomal S6 kinases (Rsk), designated Rsk-1, Rsk-2 and Rsk-3, are important signaling intermediates that mediate responses to a broad range of ligand-activated receptor tyrosine kinases. It has been established that Rsk-3 is not activated by MAP kinase *in vitro*, unlike Rsk-1 and Rsk-2. A unique feature common to the three members of the Rsk family is that each possesses two non-identical complete kinase catalytic domains. The Rsk family amino-terminal kinase domain is phosphorylated on Ser 227 by 3-phosphoinositide-dependent protein kinase-1 (PDK1), which increases the kinase activity of Rsk. In the carboxy-terminal kinase domain, Rsk-1 and Rsk-2 are autophosphorylated on Ser 380 and Ser 386, respectively, which mediates the docking of PDK1 to Rsk in order to promote phosphorylation of substrates, such as Histone H3. Human, rat and mouse Rsk-1 are activated by phosphorylation on threonine and serine residues, such as Ser 363.

REFERENCES

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3. Moller, D.E., et al. 1994. Human Rsk isoforms: cloning and characterization of tissue-specific expression. Am. J. Physiol. 266: C351-C359.
4. Zhao, Y., et al. 1995. Rsk-3 encodes a novel pp90Rsk isoform with a unique N-terminal sequence: growth factor-stimulated kinase function and nuclear translocation. Mol. Cell. Biol. 15: 4353-4363.
5. Bjorbaek, C., et al. 1995. Divergent functional roles for p90Rsk kinase domains. J. Biol. Chem. 270: 18848-18852.
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7. Jensen, C.J., et al. 1999. 90 kDa ribosomal S6 kinase is phosphorylated and activated by 3-phosphoinositide-dependent protein kinase-1. J. Biol. Chem. 274: 27168-27176.
8. Frodin, M., et al. 2000. A phosphoserine-regulated docking site in the protein kinase Rsk-2 that recruits and activates PDK1. EMBO J. 19: 2924-2934.
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CHROMOSOMAL LOCATION

Genetic locus: RPS6KA1 (human) mapping to 1p36.11; Rps6ka1 (mouse) mapping to 4 D3.

STORAGE

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

SOURCE

p-Rsk-1 (Ser 363) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 363 of Rsk-1 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

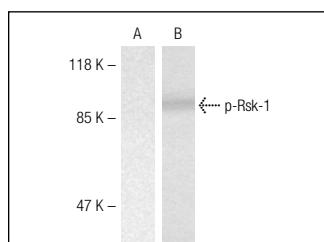
p-Rsk-1 (Ser 363) is recommended for detection of Ser 363 phosphorylated Rsk-1 of human and rat origin and correspondingly phosphorylated Ser 352 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of p-Rsk-1: 90 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



p-Rsk-1 (Ser 363): sc-135634. Western blot analysis of phosphorylated Rsk-1 expression in untreated (A) and insulin-treated (B) HUVEC cell extracts.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.