

p70 S6 kinase β (4B11): sc-293269

BACKGROUND

In studies to elucidate key regulatory pathways in signal transduction, several protein Serine/Threonine (Ser/Thr) kinases have been identified, including two distinct families of 40S Ribosomal Protein S6 Ser/Thr kinases present in somatic animal cells, designated p70 S6 kinase and p90 Rsk kinase. p90 Rsk kinase is maximally activated within minutes of addition of growth factors or phorbol ester to cultured cells followed by activation of p70 S6 kinase. Both enzymes are regulated by Serine/Threonine phosphorylation, suggesting that specific kinases may exist upstream in the signaling pathway that regulate these kinases. In fact, evidence suggests that one such family of activating enzymes includes the members of the ERK MAP kinase family. The ERK MAP kinases are, in turn, regulated by phosphorylation at Threonine and Tyrosine residues by a protein kinase designated MEK.

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.
- Moller, D.E., et al. 1994. Human rsk isoforms: cloning and characterization of tissue-specific expression. *Am. J. Physiol.* 266: C351-C359.
- Zhao, Y., et al. 1995. RSK3 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.
- Bjorbaek, C., et al. 1995. Divergent functional roles for p90rsk kinase domains. *J. Biol. Chem.* 270: 18848-18852.
- Gout, I., et al. 1998. Molecular cloning and characterization of a novel p70 S6 kinase, p70 S6 kinase β containing a proline-rich region. *J. Biol. Chem.* 273: 30061-30064.
- New, L., et al. 1999. Cloning and characterization of RLPK, a novel RSK-related protein kinase. *J. Biol. Chem.* 274: 1026-1032.

CHROMOSOMAL LOCATION

Genetic locus: RPS6KB2 (human) mapping to 11q13.2.

SOURCE

p70 S6 kinase β (4B11) is a mouse monoclonal antibody raised against amino acids 1-100 of p70 S6 kinase β of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p70 S6 kinase β (4B11) is recommended for detection of p70 S6 kinase β of 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).

Suitable for use as control antibody for p70 S6 kinase β siRNA (h): sc-39209, p70 S6 kinase β shRNA Plasmid (h): sc-39209-SH and p70 S6 kinase β shRNA (h) Lentiviral Particles: sc-39209-V.

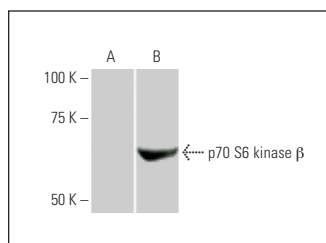
Molecular Weight of p70 S6 kinase β : 70 kDa.

Positive Controls: p70 S6 kinase β transfected 293T whole cell lysate.

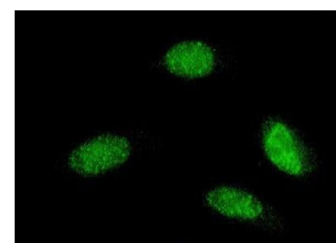
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



p70 S6 kinase β (4B11): sc-293269. Western blot analysis of p70 S6 kinase β expression in non-transfected (A) and p70 S6 kinase β transfected (B) 293T whole cell lysates.



p70 S6 kinase β (4B11): sc-293269. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

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 for detailed protocols and support products.