

p-p70 S6 kinase α (Ser 411)-R: sc-7983-R

BACKGROUND

In studies to elucidate key regulatory pathways in signal transduction, several protein serine/threonine (Ser/Thr) kinases have been identified. Included among such kinases are 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.
- Pelech, S.L., et al. 1990. Protein kinase cascades in meiotic and mitotic cell cycle control. *Biochem. Cell Biol.* 68: 1297-1330.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: RPS6KB1 (human) mapping to 17q23.1; Rps6kb1 (mouse) mapping to 11 C.

SOURCE

p-p70 S6 kinase α (Ser 411)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 411 phosphorylated p70 S6 kinase α isoform 2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-7983 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

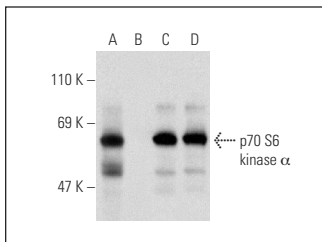
p-p70 S6 kinase α (Ser 411)-R is recommended for detection of Ser 411 phosphorylated p70 S6 kinase α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for p70 S6 kinase α siRNA (h): sc-36165, p70 S6 kinase α siRNA (m): sc-36166, p70 S6 kinase α shRNA Plasmid (h): sc-36165-SH, p70 S6 kinase α shRNA Plasmid (m): sc-36166-SH, p70 S6 kinase α shRNA (h) Lentiviral Particles: sc-36165-V and p70 S6 kinase α shRNA (m) Lentiviral Particles: sc-36166-V.

Molecular Weight of p-p70 S6 kinase α : 70 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or MCF7 whole cell lysate: sc-2206.

DATA



Western blot analysis of p70 S6 kinase α phosphorylation in untreated (A,C) and lambda protein phosphatase (sc-200312A) treated (B,D) MCF7 whole cell lysates. Antibodies tested include p-p70 S6 kinase α (Ser 411)-R: sc-7983-R (A,B) and p70 S6 kinase α (C-18): sc-230 (C,D).

SELECT PRODUCT CITATIONS

- Hou, Z. and He, L. 2007. Regulation of S6 kinase 1 activation by phosphorylation at Ser 411. *J. Biol. Chem.* 282: 6922-6928.
- Kurabe, N., et al. 2009. The death effector domain-containing DEDD supports S6K1 activity via preventing Cdk1-dependent inhibitory phosphorylation. *J. Biol. Chem.* 284: 5050-5055.
- Lokireddy, S., et al. 2012. Myostatin is a novel tumoral factor that induces cancer cachexia. *Biochem. J.* 446: 23-36.

RESEARCH USE

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


 MONOS
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Try **p-p70 S6 kinase α (A-6): sc-8416**, our highly recommended monoclonal alternative to p-p70 S6 kinase α (Ser 411).