

# p70 S6 kinase $\alpha$ (D-4): sc-514501

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

p70 S6 kinase  $\alpha$  (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 481-502 at the C-terminus of p70 S6 kinase  $\alpha$  of rat origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-514501 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

p70 S6 kinase  $\alpha$  (D-4) is recommended for detection of p70 S6 kinase  $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

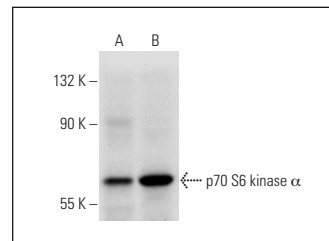
Molecular Weight of p70 S6 kinase  $\alpha$ : 70 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

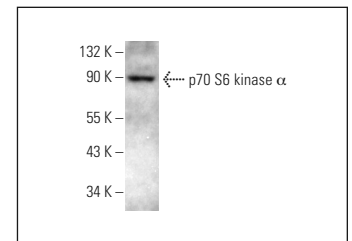
## RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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.

## DATA



p70 S6 kinase  $\alpha$  (D-4): sc-514501. Western blot analysis of p70 S6 kinase  $\alpha$  expression in NIH/3T3 (A) and HeLa (B) whole cell lysates.



p70 S6 kinase  $\alpha$  (D-4): sc-514501. Western blot analysis of p70 S6 kinase  $\alpha$  expression in Jurkat whole cell lysate.

## 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.



See **p70 S6 kinase  $\alpha$  (H-9): sc-8418** for p70 S6 kinase  $\alpha$  antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.