SANTA CRUZ BIOTECHNOLOGY, INC.

p70 S6 kinase α (H-9): sc-8418

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 α (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 429-441 at the C-terminus of p70 S6 kinase α of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p70 S6 kinase α (H-9) is available conjugated to agarose (sc-8418 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8418 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8418 PE), fluorescein (sc-8418 FITC), Alexa Fluor® 488 (sc-8418 AF488), Alexa Fluor® 546 (sc-8418 AF546), Alexa Fluor® 594 (sc-8418 AF594) or Alexa Fluor® 647 (sc-8418 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8418 AF680) or Alexa Fluor® 790 (sc-8418 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, p70 S6 kinase α (H-9) is available conjugated to Alexa Fluor® 405 (sc-8418 AF405), 100 µg/2 ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-8418 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

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 for detailed protocols and support products.

APPLICATIONS

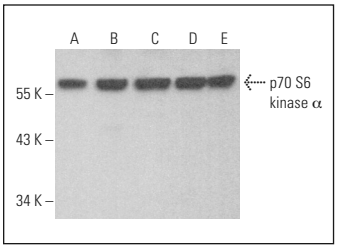
p70 S6 kinase α (H-9) is recommended for detection of p70 S6 kinase α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) 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.

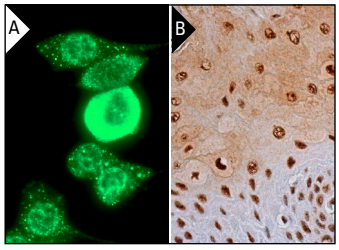
Molecular Weight of p70 S6 kinase α: 70 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or KNRK whole cell lysate: sc-2214.

DATA



p70 S6 kinase α (H-9): sc-8418. Western blot analysis of p70 S6 kinase α expression in HeLa (**A**), Jurkat (**B**), MDA-MB-231 (**C**), KNRK (**D**) and NIH/3T3 (**E**) whole cell lysates.



p70 S6 kinase α (H-9): sc-8418. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear, or nuclear and cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Xiao, H., et al. 2002. Specificity of interleukin-2 receptor γ chain superfamily cytokines is mediated by Insulin receptor substrate-dependent pathway. J. Biol. Chem. 277: 8091-8098.
2. ElHady, A.K., et al. 2017. Development of selective Clk1 and -4 inhibitors for cellular depletion of cancer-relevant proteins. J. Med. Chem. 60: 5377-5391.
3. Dionne, L.K., et al. 2018. Centrosome amplification disrupts renal development and causes cystogenesis. J. Cell Biol. 217: 2485-2501.
4. Chen, T., et al. 2019. p53 mediates PEDF-induced autophagy in human umbilical vein endothelial cells through sestrin2 signaling. Mol. Med. Rep. 20: 1443-1450.

RESEARCH USE

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