

# p70 S6 kinase $\alpha$ (B-5): sc-393967

## 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, RPS6KB2 (human) mapping to 11q13.2; Rps6kb1 (mouse) mapping to 11 C, Rps6kb2 (mouse) mapping to 19 A.

## SOURCE

p70 S6 kinase  $\alpha$  (B-5) is a mouse monoclonal antibody raised against amino acids 261-430 mapping within an internal region of p70 S6 kinase  $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p70 S6 kinase  $\alpha$  (B-5) is available conjugated to agarose (sc-393967 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393967 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393967 PE), fluorescein (sc-393967 FITC), Alexa Fluor® 488 (sc-393967 AF488), Alexa Fluor® 546 (sc-393967 AF546), Alexa Fluor® 594 (sc-393967 AF594) or Alexa Fluor® 647 (sc-393967 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393967 AF680) or Alexa Fluor® 790 (sc-393967 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

p70 S6 kinase  $\alpha$  (B-5) is recommended for detection of p70 S6 kinase  $\alpha$  and p70 S6 kinase  $\beta$  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).

p70 S6 kinase  $\alpha$  (B-5) is also recommended for detection of p70 S6 kinase  $\alpha$  and p70 S6 kinase  $\beta$  in additional species, including equine, canine, bovine, porcine and avian.

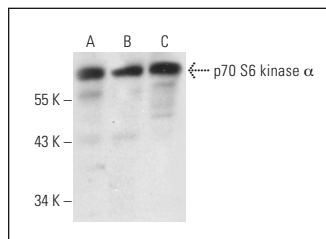
Molecular Weight of p70 S6 kinase  $\alpha$ : 70 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, PC-12 cell lysate: sc-2250 or NIH/3T3 whole cell lysate: sc-2210.

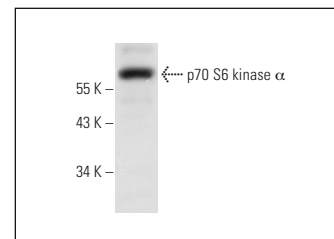
## STORAGE

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

## DATA



p70 S6 kinase  $\alpha$  (B-5): sc-393967. Western blot analysis of p70 S6 kinase  $\alpha$  expression in KNRK (A), C6 (B) and PC-12 (C) whole cell lysates.



p70 S6 kinase  $\alpha$  (B-5): sc-393967. Western blot analysis of p70 S6 kinase  $\alpha$  expression in NIH/3T3 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Yan, L., et al. 2014. Regulator of calcineurin 1-1L protects cardiomyocytes against hypoxia-induced apoptosis via mitophagy. *J. Cardiovasc. Pharmacol.* 64: 310-317.
- Tapia-Rojas, C., et al. 2015. Andrographolide activates the canonical Wnt signalling pathway by a mechanism that implicates the non-ATP competitive inhibition of GSK-3 $\beta$ : autoregulation of GSK-3 $\beta$  *in vivo*. *Biochem. J.* 466: 415-430.
- Fu, Y., et al. 2019. Small nucleolar RNA host gene 1 promotes development and progression of colorectal cancer through negative regulation of miR-137. *Mol. Carcinog.* 58: 2104-2117.
- Danielpour, D., et al. 2019. JAB1/COP5 is a putative oncogene that controls critical oncoproteins deregulated in prostate cancer. *Biochem. Biophys. Res. Commun.* 518: 374-380.
- Danielpour, D., et al. 2019. Early cellular responses of prostate carcinoma cells to sepantronium bromide (YM155) involve suppression of mTORC1 by AMPK. *Sci. Rep.* 9: 11541.
- Wen, Z., et al. 2019. N-myristoyltransferase deficiency impairs activation of kinase AMPK and promotes synovial tissue inflammation. *Nat. Immunol.* 20: 313-325.
- Das, H.K. and Hontiveros, S.S. 2020. Inhibition of p-mTOR represses transcription of PS1 and Notch 1-signaling. *Front. Biosci.* 25: 1172-1183.
- Mahalakshmi, R., et al. 2022. Hormetic effect of low doses of rapamycin triggers anti-aging cascades in WRL-68 cells by modulating an mTOR-mitochondria cross-talk. *Mol. Biol. Rep.* 49: 463-476.
- Silva, J.V., et al. 2022. Effects of age and lifelong moderate-intensity exercise training on rats' testicular function. *Int. J. Mol. Sci.* 23: 11619.

## RESEARCH USE

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