SANTA CRUZ BIOTECHNOLOGY, INC.

# p-p70 S6 kinase α (Thr 389): sc-11759

## 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

p-p70 S6 kinase α (Thr 389) is available as either goat (sc-11759) or rabbit (sc-11759-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Thr 389 phosphorylated p70 S6 kinase α of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11759 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-p70 S6 kinase α (Thr 389) is recommended for detection of Thr 389 phosphorylated p70 S6 kinase α of mouse, rat, human and *Xenopus laevis* 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-p70 S6 kinase α (Thr 389) is also recommended for detection of correspondingly phosphorylated p70 S6 kinase α in additional species, including equine, canine, bovine, porcine and avian.

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.

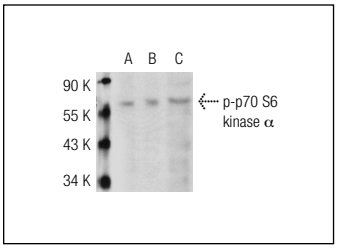
Molecular Weight of p-p70 S6 kinase α: 70 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, MCF7 whole cell lysate: sc-2206 or p70 S6 kinase α (m): 293T Lysate: sc-125770.

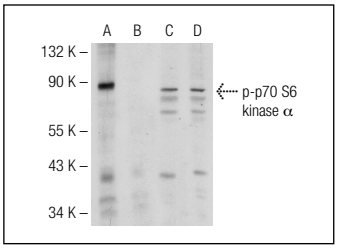
## STORAGE

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

## DATA




p-p70 S6 kinase α (Thr 389)-R: sc-11759-R. Western blot analysis of p70 S6 kinase α phosphorylation in non-transfected 293T: sc-117752 (**A**), mouse p70 S6 kinase α transfected 293T: sc-125770 (**B**) and NIH/3T3 (**C**) whole cell lysates.




Western blot analysis of p70 S6 kinase α phosphorylation in untreated (**A**, **C**), and lambda protein phosphatase (sc-200312A) treated (**B**, **D**) NIH/3T3 whole cell lysates. Antibodies tested include p-p70 S6 kinase α (Thr 389)-R: sc-11759-R (**A**, **B**) and p70 S6 kinase α (H-160): sc-9027 (**C**, **D**).

## 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. Chen, L., et al. 2010. Hydrogen peroxide inhibits mTOR signaling by activation of AMPKα leading to apoptosis of neuronal cells. Lab. Invest. 90: 762-773.
3. Liu, L., et al. 2010. Rapamycin inhibits IGF-1 stimulated cell motility through PP2A pathway. PLoS ONE 5: e10578.
4. Deldicque, L., et al. 2010. The unfolded protein response is activated in skeletal muscle by high-fat feeding: potential role in the downregulation of protein synthesis. Am. J. Physiol. Endocrinol. Metab. 299: E695-E705.
5. Chen, L., et al. 2011. Cadmium induction of reactive oxygen species activates the mTOR pathway, leading to neuronal cell death. Free Radic. Biol. Med. 50: 624-632.
6. Coëffier, M., et al. 2011. Influence of leucine on protein metabolism, phosphokinase expression, and cell proliferation in human duodenum1,3. Am. J. Clin. Nutr. 93: 1255-1262.
7. Kuo, S.H., et al. 2011. Lack of compensatory pAKT activation and eIF4E phosphorylation of lymphoma cells towards mTOR inhibitor, RAD001. Eur. J. Cancer 47: 1244-1257.
8. Luo, Y., et al. 2011. Autophagy regulates ROS-induced cellular senescence via p21 in a p38 MAPKα dependent manner. Exp. Gerontol. 46: 860-867.
9. Churchward-Venne, T.A., et al. 2012. Supplementation of a suboptimal protein dose with leucine or essential amino acids: effects on myofibrillar protein synthesis at rest and following resistance exercise in men. J. Physiol. 590: 2751-2765.


## RESEARCH USE

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