SANTA CRUZ BIOTECHNOLOGY, INC.

MSK2 (F-2): sc-377151

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. MSK2, also known as RPS6KA4 (Ribosomal Protein S6 kinase, 90 kDa, polypeptide 4) or RSKB, is a 772 amino acid protein that localizes to the nucleus and contains one AGC-kinase C-terminal domain and two protein kinase domains. Using magnesium as a cofactor, MSK2 functions as a Ser/Thr kinase that is thought to play a role in the regulation of growth-factor and stress-induced transcriptional activation, specifically by catalyzing the ATP-dependent phosphorylation of target proteins. Multiple isoforms of MSK2 exist due to alternative splicing events.

REFERENCES

1. Deak, M., et al. 1998. Mitogen- and stress-activated protein kinase-1 (MSK1) is directly activated by MAPK and SAPK2/p38, and may mediate activation of CREB. EMBO J. 17: 4426-4441.
2. Pierrat, B., et al. 1998. RSK-B, a novel ribosomal S6 kinase family member, is a CREB kinase under dominant control of p38α mitogen-activated protein kinase ($p38\alpha^{MAPK}$). J. Biol. Chem. 273: 29661-29671.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603606. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: RPS6KA4 (human) mapping to 11q13.1; Rps6ka4 (mouse) mapping to 19 A.

SOURCE

MSK2 (F-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 397-431 within an internal region of MSK2 of human 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.

MSK2 (F-2) is available conjugated to agarose (sc-377151 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377151 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377151 PE), fluorescein (sc-377151 FITC), Alexa Fluor® 488 (sc-377151 AF488), Alexa Fluor® 546 (sc-377151 AF546), Alexa Fluor® 594 (sc-377151 AF594) or Alexa Fluor® 647 (sc-377151 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377151 AF680) or Alexa Fluor® 790 (sc-377151 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377151 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

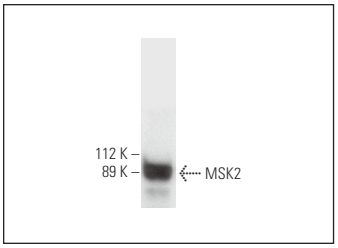
MSK2 (F-2) is recommended for detection of MSK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MSK2 siRNA (h): sc-75836, MSK2 siRNA (m): sc-75837, MSK2 shRNA Plasmid (h): sc-75836-SH, MSK2 shRNA Plasmid (m): sc-75837-SH, MSK2 shRNA (h) Lentiviral Particles: sc-75836-V and MSK2 shRNA (m) Lentiviral Particles: sc-75837-V.

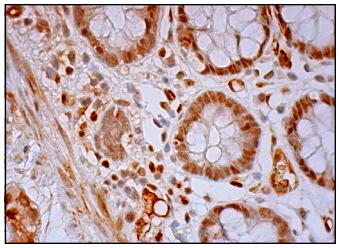
Molecular Weight of MSK2: 86 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

DATA



MSK2 (F-2): sc-377151. Western blot analysis of MSK2 expression in A-431 whole cell lysate.



MSK2 (F-2): sc-377151. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing nuclear staining of glandular cells and endothelial cells and nuclear and cytoplasmic staining of peripheral nerve/ganglion.

SELECT PRODUCT CITATIONS

1. Kim, S.M., et al. 2023. Secreted *Akkermansia muciniphila* threonyl-tRNA synthetase functions to monitor and modulate immune homeostasis. Cell Host Microbe 31: 1021-1037.e10.
2. Choi, S., et al. 2024. Dissemination of pathogenic bacteria is reinforced by a MARTX toxin effector duet. Nat. Commun. 15: 6218.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.