SANTA CRUZ BIOTECHNOLOGY, INC.

MSK2 (A-23): sc-135669

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 (p38α 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/
4. Gudi, T., et al. 2000. NO activation of Fos promoter elements requires nuclear translocation of G-kinase I and CREB phosphorylation but is independent of MAP kinase activation. Oncogene 19: 6324-6333.
5. Tomás-Zuber, M., et al. 2001. C-terminal elements control location, activation threshold, and p38 docking of ribosomal S6 kinase B (RSKB). J. Biol. Chem. 276: 5892-5899.
6. Prymakowska-Bosak, M., et al. 2001. Mitotic phosphorylation prevents the binding of HMGN proteins to chromatin. Mol. Cell. Biol. 21: 5169-5178.

CHROMOSOMAL LOCATION

Genetic locus: RPS6KA4 (human) mapping to 11q13.1.

SOURCE

MSK2 (A-23) is a Protein A purified rabbit polyclonal antibody raised against synthetic MSK2 peptide of human origin.

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 or our catalog for detailed protocols and support products.

PRODUCT

Each vial contains IgG in 100 µl of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MSK2 (A-23) is recommended for detection of MSK2 of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:2500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:50-1:2500).

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

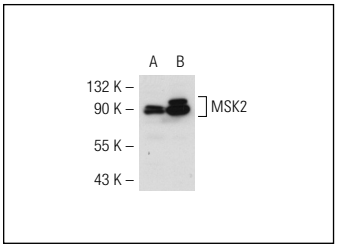
Molecular Weight of MSK2: 86 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, MSK2 (m): 293T Lysate: sc-121804 or MSK2 (h): 293T Lysate: sc-116197.

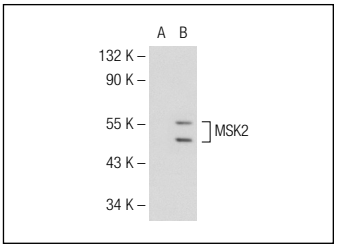
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



MSK2 (A-23): sc-135669. Western blot analysis of MSK2 expression in non-transfected: sc-117752 (**A**) and mouse MSK2 transfected: sc-121804 (**B**) 293T whole cell lysates.



MSK2 (A-23): sc-135669. Western blot analysis of MSK2 expression in non-transfected: sc-117752 (**A**) and human MSK2 transfected: sc-116197 (**B**) 293T whole cell lysates.

RESEARCH USE

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