

# MSK2 (E-16): sc-82229

## 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

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2. Pierrat, B., et al. 1998. RSK-B, a novel ribosomal S6 kinase family member, is a CREB kinase under dominant control of p38 $\alpha$  mitogen-activated protein kinase (p38 $\alpha$  MAPK). *J. Biol. Chem.* 273: 29661-29671.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 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; Rps6ka4 (mouse) mapping to 19 A.

## SOURCE

MSK2 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MSK2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82229 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

MSK2 (E-16) is recommended for detection of MSK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

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.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **MSK2 (F-2): sc-377151** or **MSK2 (2934C1a): sc-130653**, our highly recommended monoclonal alternatives to MSK2 (E-16).