

p-MEK-3/6 (Ser 189)-R: sc-7994-R

BACKGROUND

A family of protein kinases located upstream of the MAP kinases and responsible for their activation has been identified. The prototype member of this family, designated MAP kinase kinase, or MEK-1, specifically phosphorylates the MAP kinase regulatory threonine and tyrosine residues present in the Thr-Glu-Tyr motif of ERK. A second MEK family member, MEK-2, resembles MEK-1 in its substrate specificity. MEK-3 (or MKK-3) functions to activate p38 MAP kinase, and MEK-4 (also called SEK1 or MKK-4) activates both p38 and JNK MAP kinases. MEK-5 appears to specifically phosphorylate ERK5, whereas MEK-6 phosphorylates p38 and p38b. MEK-7 (or MKK-7) phosphorylates and activates the JNK signal transduction pathway.

REFERENCES

1. Crews, C.M., et al. 1992. The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. *Science* 258: 478-480.
2. Wu, J., et al. 1993. Identification and characterization of a new mammalian mitogen-activated protein kinase kinase, MKK2. *Mol. Cell. Biol.* 13: 4539-4548.
3. Derijard, B., et al. 1995. Independent human MAP-kinase signal transduction pathways defined by MEK and MKK isoforms. *Science* 267: 682-685.
4. Zhou, G., et al. 1995. Components of a new human protein kinase signal transduction pathway. *J. Biol. Chem.* 270: 12665-12669.
5. Han, J., et al. 1996. Characterization of the structure and function of a novel MAP kinase kinase (MKK6). *J. Biol. Chem.* 271: 2886-2891.

CHROMOSOMAL LOCATION

Genetic locus: MKK3 (human) mapping to 17q11.2, MAP2K6 (human) mapping to 17q24.3; Mkk3 (mouse) mapping to 11B2, Map2k6 (mouse) mapping to 11 E1.

SOURCE

p-MEK-3/6 (Ser 189)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 189 phosphorylated MEK-3/6 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-7994 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

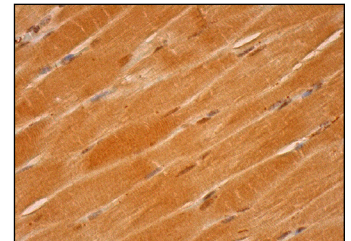
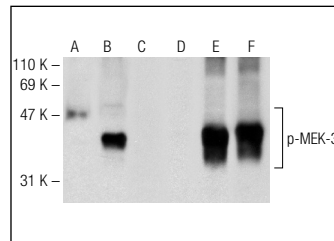
p-MEK-3/6 (Ser 189)-R is recommended for detection of Ser 189 phosphorylated MEK-3 and Ser 207 phosphorylated MEK-6 of mouse, rat, human, *Drosophila melanogaster*, *Xenopus laevis* and zebrafish origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 MEK-3/6 siRNA (h): sc-43924, MEK-3/6 shRNA Plasmid (h): sc-43924-SH and MEK-3/6 shRNA (h) Lentiviral Particles: sc-43924-V.

Molecular Weight of p-MEK-3/6: 40/37 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Sol8 cell lysate: sc-2249 or HeLa + PMA cell lysate: sc-2258.

DATA



Western blot analysis of MEK-3 phosphorylation in non-transfected: sc-117752 (A,D), untreated human MEK-3 transfected: sc-114654 (B,E) and lambda protein phosphatase (sc-200312A) treated human MEK-3 transfected: sc-114954 (C,F) 293T whole cell lysates. Antibodies tested include p-MEK-3/6 (Ser 189)-R: sc-7994-R (A,B,C) and MEK-3/6 (H-90): sc-13069 (D,E,F).

SELECT PRODUCT CITATIONS

1. Shen, C.P., et al. 2004. Activation of Erk and JNK MAPK pathways by acute swim stress in rat brain regions. *BMC Neurosci.* 5: 36.
2. Rasheed, Z., et al. 2010. Pomegranate extract inhibits the interleukin-1 β -induced activation of MKK-3, p38 α -MAPK and transcription factor RUNX-2 in human osteoarthritis chondrocytes. *Arthritis Res. Ther.* 12: R195.
3. Lala, N., et al. 2012. Mechanisms in decorin regulation of vascular endothelial growth factor-induced human trophoblast migration and acquisition of endothelial phenotype. *Biol. Reprod.* 87: 59.


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Try **p-MEK-3/6 (B-9): sc-8407**, our highly recommended monoclonal alternative to p-MEK-3/6 (Ser 189).