

MEK-3/6 (H-90): sc-13069

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.

CHROMOSOMAL LOCATION

Genetic locus: MAP2K3 (human) mapping to 17q11.2, MAP2K6 (human) mapping to 17q24.3; Map2k3 (mouse) mapping to 11 B2, Map2k6 (mouse) mapping to 11 E2.

SOURCE

MEK-3/6 (H-90) is a rabbit polyclonal antibody raised against amino acids 229-318 mapping at the C-terminus of 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.

APPLICATIONS

MEK-3/6 (H-90) is recommended for detection of MEK-3 and MEK-6 of mouse, rat and human 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).

MEK-3/6 (H-90) is also recommended for detection of MEK-3 and MEK-6 in additional species, including equine, canine, bovine, porcine and avian.

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.

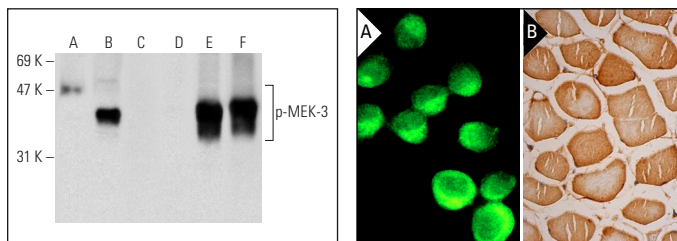
Molecular Weight of MEK-3/6: 40/37 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, NIH/3T3 whole cell lysate: sc-2210 or Jurkat whole cell lysate: sc-2204.

STORAGE

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

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).

MEK-3/6 (H-90): sc-13069. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic and nuclear staining of myocytes (B).

SELECT PRODUCT CITATIONS

1. Aissouni, Y., et al. 2005. CIN85 regulates the ability of MEKK4 to activate the p38 MAP kinase pathway. *Biochem. Biophys. Res. Commun.* 338: 808-814.
2. Ho, A.K., et al. 2005. Role of protein turnover in the activation of p38 mitogen-activated protein kinase in rat pinealocytes. *Biochem. Pharmacol.* 70: 1840-1850.
3. Dasse, E., et al. 2007. Tissue inhibitor of metalloproteinase-1 promotes hematopoietic differentiation via caspase-3 upstream the MEKK1/MEK-6/p38α pathway. *Leukemia* 21: 595-603.
4. Yoshino, Y., et al. 2011. Superoxide anion contributes to the induction of tumor necrosis factor α (TNFα) through activation of the MKK3/6-p38 MAPK cascade in rat microglia. *Brain Res.* 1422: 1-12.
5. Banh, S., et al. 2013. Hydroxyurea exposure triggers tissue-specific activation of p38 mitogen-activated protein kinase signaling and the DNA damage response in organogenesis-stage mouse embryos. *Toxicol. Sci.* 133: 298-308.
6. Hernandez, E.D., et al. 2014. A macrophage NBR1-MEKK3 complex triggers JNK-mediated adipose tissue inflammation in obesity. *Cell Metab.* 20: 499-511.

RESEARCH USE

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


 MONOS
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Try **MEK-3/6 (B-1): sc-136982** or **MEK-3/6 (D-3): sc-133230**, our highly recommended monoclonal alternatives to MEK-3/6 (H-90).