

MEK-4 (G-6): sc-166168

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 p38 β . 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: MAP2K4 (human) mapping to 17p12; Map2k4 (mouse) mapping to 11 B3.

SOURCE

MEK-4 (G-6) is a mouse monoclonal antibody raised against amino acids 302-399 mapping at the C-terminus of MEK-4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MEK-4 (G-6) is recommended for detection of MEK-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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-4 (G-6) is also recommended for detection of MEK-4 in additional species, including bovine.

Suitable for use as control antibody for MEK-4 siRNA (h): sc-35909, MEK-4 siRNA (m): sc-35910, MEK-4 shRNA Plasmid (h): sc-35909-SH, MEK-4 shRNA Plasmid (m): sc-35910-SH, MEK-4 shRNA (h) Lentiviral Particles: sc-35909-V and MEK-4 shRNA (m) Lentiviral Particles: sc-35910-V.

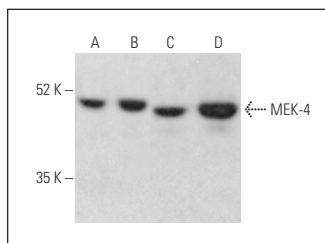
Molecular Weight of MEK-4: 45 kDa.

Positive Controls: rat brain extract: sc-2392, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

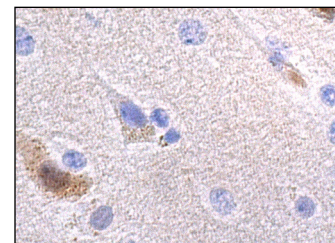
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MEK-4 (G-6): sc-166168. Western blot analysis of MEK-4 expression in HeLa (A), Hep G2 (B) and C6 (C) whole cell lysates and rat brain tissue extract (D).



MEK-4 (G-6): sc-166168. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells.

SELECT PRODUCT CITATIONS

1. Shchetynsky, K., et al. 2015. Gene-gene interaction and RNA splicing profiles of MAP2K4 gene in rheumatoid arthritis. *Clin. Immunol.* 158: 19-28.
2. Kim, Y.C., et al. 2019. RSU1-dependent control of PTEN expression is regulated via ATF2 and cJun. *J. Cell Commun. Signal.* 13: 331-341.
3. Kim, Y.C., et al. 2020. MicroRNA-dependent targeting of RSU1 and the IPP adhesion complex regulates the PTEN/PI3K/Akt signaling pathway in breast cancer cell lines. *Int. J. Mol. Sci.* 21: E5458.

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.