

# MEK-4 (G-7): sc-376838

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: MAP2K4 (human) mapping to 17p12; Map2k4 (mouse) mapping to 11 B3.

## SOURCE

MEK-4 (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 43-79 near the N-terminus of MEK-4 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MEK-4 (G-7) is available conjugated to agarose (sc-376838 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376838 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376838 PE), fluorescein (sc-376838 FITC), Alexa Fluor® 488 (sc-376838 AF488), Alexa Fluor® 546 (sc-376838 AF546), Alexa Fluor® 594 (sc-376838 AF594) or Alexa Fluor® 647 (sc-376838 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376838 AF680) or Alexa Fluor® 790 (sc-376838 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376838 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

MEK-4 (G-7) 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 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-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.

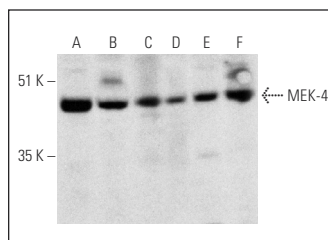
Molecular Weight of MEK-4: 45 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

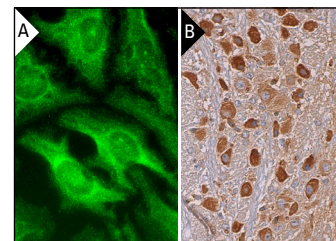
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



MEK-4 (G-7): sc-376838. Western blot analysis of MEK-4 expression in NIH/3T3 (A), HeLa (B), MDCK (C), Hep G2 (D), K-562 (E) and Jurkat (F) whole cell lysates.



MEK-4 (G-7): sc-376838. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing cytoplasmic staining of neuronal cells and glial cells (B).

## SELECT PRODUCT CITATIONS

- Li, X., et al. 2015. MicroRNA-363 plays a tumor suppressive role in osteosarcoma by directly targeting MAP2K4. *Int. J. Clin. Exp. Med.* 8: 20157-20167.
- Ding, L., et al. 2017. MiR-141 promotes colon cancer cell proliferation by inhibiting MAP2K4. *Oncol. Lett.* 13: 1665-1671.
- Lam, J., et al. 2018. MiR-143/145 differentially regulate hematopoietic stem and progenitor activity through suppression of canonical TGFβ signaling. *Nat. Commun.* 9: 2418.

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

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