

# MEK-3 (B-5): sc-271779

## 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 ERK 5, whereas MEK-6 phosphorylates p38 and p38 $\beta$ . 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, MKK-2. *Mol. Cell. Biol.* 13: 4539-4548.

## CHROMOSOMAL LOCATION

Genetic locus: MAP2K3 (human) mapping to 17p11.2; Map2k3 (mouse) mapping to 11 B2.

## SOURCE

MEK-3 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 32-61 at the N-terminus of MEK-3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271779 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

MEK-3 (B-5) is recommended for detection of MEK-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for MEK-3 siRNA (h): sc-35907, MEK-3 siRNA (m): sc-35908, MEK-3 shRNA Plasmid (h): sc-35907-SH, MEK-3 shRNA Plasmid (m): sc-35908-SH, MEK-3 shRNA (h) Lentiviral Particles: sc-35907-V and MEK-3 shRNA (m) Lentiviral Particles: sc-35908-V.

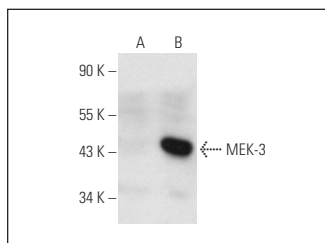
Molecular Weight of MEK-3: 40 kDa.

Positive Controls: MEK-3 (h3): 293 Lysate: sc-158720, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

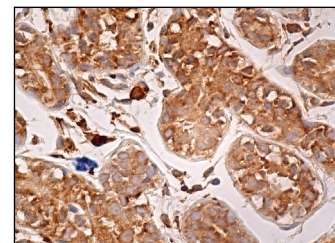
## RECOMMENDED SUPPORT REAGENTS

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

## DATA



MEK-3 (B-5): sc-271779. Western blot analysis of MEK-3 expression in non-transfected: sc-110760 (A) and human MEK-3 transfected: sc-158720 (B) 293 whole cell lysates.



MEK-3 (B-5): sc-271779. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Patrussi, L., et al. 2005. Cooperation and selectivity of the two Grb2 binding sites of p52Shc in T-cell antigen receptor signaling to Ras family GTPases and Myc-dependent survival. *Oncogene* 24: 2218-2228.
2. Seong, H.A., et al. 2021. Ablation of AMPK-related kinase MPK38/MELK leads to male-specific obesity in aged mature adult mice. *Diabetes* 70: 386-399.
3. Li, Z., et al. 2021. Recovery of post-stroke cognitive and motor deficiencies by Shuxuening injection via regulating hippocampal BDNF-mediated neurotrophin/Trk signaling. *Biomed. Pharmacother.* 141: 111828.

## 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.