

MEK-5 (E-3): sc-365198

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.
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.
6. Jiang, Y., et al. 1996. Characterization of the structure and function of a new mitogen-activated protein kinase (p38 β). *J. Biol. Chem.* 271: 17920-17926.

CHROMOSOMAL LOCATION

Genetic locus: MAP2K5 (human) mapping to 15q23; Map2k5 (mouse) mapping to 9 C.

SOURCE

MEK-5 (E-3) is a mouse monoclonal antibody raised against amino acids 351-444 mapping at the C-terminus of MEK-5 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MEK-5 (E-3) is available conjugated to agarose (sc-365198 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365198 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365198 PE), fluorescein (sc-365198 FITC), Alexa Fluor[®] 488 (sc-365198 AF488), Alexa Fluor[®] 546 (sc-365198 AF546), Alexa Fluor[®] 594 (sc-365198 AF594) or Alexa Fluor[®] 647 (sc-365198 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365198 AF680) or Alexa Fluor[®] 790 (sc-365198 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MEK-5 (E-3) is recommended for detection of MEK-5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MEK-5 (E-3) is also recommended for detection of MEK-5 in additional species, including equine.

Suitable for use as control antibody for MEK-5 siRNA (h): sc-35911, MEK-5 siRNA (m): sc-35912, MEK-5 shRNA Plasmid (h): sc-35911-SH, MEK-5 shRNA Plasmid (m): sc-35912-SH, MEK-5 shRNA (h) Lentiviral Particles: sc-35911-V and MEK-5 shRNA (m) Lentiviral Particles: sc-35912-V.

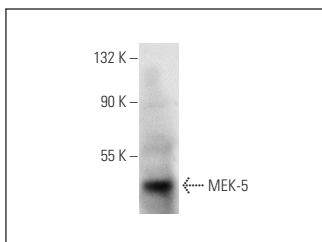
Molecular Weight of MEK-5: 54 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A-673 cell lysate: sc-2414 or A549 cell lysate: sc-2413.

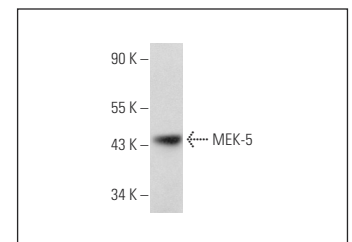
RECOMMENDED SUPPORT REAGENTS

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.

DATA



MEK-5 (E-3): sc-365198. Western blot analysis of MEK-5 expression in A549 whole cell lysate.



MEK-5 (E-3): sc-365198. Western blot analysis of MEK-5 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Miao, W. and Wang, Y. 2019. Quantitative interrogation of the human kinome perturbed by two BRAF inhibitors. *J. Proteome Res.* 18: 2624-2631.

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.