

MEK kinase-3 (40): sc-136260

BACKGROUND

Mitogen-activated protein (MAP) kinase cascades are activated by various extracellular stimuli including growth factors. The MEK kinases (also designated MAP kinase kinase kinases, MKKKs, MAP3Ks or MEKKs) phosphorylate and thereby activate the MEKs (also called MAP kinase kinases or MKKs), including ERK, JNK and p38. These activated MEKs in turn phosphorylate and activate the MAP kinases. The MEK kinases include Raf-1, Raf-B, Mos, MEK kinase-1, MEK kinase-2, MEK kinase-3, MEK kinase-4, ASK 1 (MEK kinase-5) and MAP3K6 (MEK kinase-6). MEK kinase-1 has been shown to phosphorylate MEK-1 via a Raf-independent pathway. Evidence suggests that MEK-3 is preferentially activated by MEK kinase-3 and that MEK-4 is activated by both MEK kinase-2 and MEK kinase-3. MEK kinase-4 has been shown to specifically activate the JNK pathway. ASK 1 activates both MEK-4 and MEK-3/MEK-6 pathways.

REFERENCES

1. Lange-Carter, C.A., et al. 1993. A divergence in the MAP kinase regulatory network defined by MEK kinase and Raf. *Science* 260: 315-319.
2. Guan, K.L. 1994. The mitogen activated protein kinase signal transduction pathway: from the cell surface to the nucleus. *Cell. Signal.* 6: 581-589.

CHROMOSOMAL LOCATION

Genetic locus: MAP3K3 (human) mapping to 17q23.3; Map3k3 (mouse) mapping to 11 E1.

SOURCE

MEK kinase-3 (40) is a mouse monoclonal antibody raised against amino acids 27-135 of MEK kinase-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MEK kinase-3 (40) is recommended for detection of MEK kinase-3 of mouse, rat, human and canine 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MEK kinase-3 siRNA (h): sc-39108, MEK kinase-3 siRNA (m): sc-156010, MEK kinase-3 shRNA Plasmid (h): sc-39108-SH, MEK kinase-3 shRNA Plasmid (m): sc-156010-SH, MEK kinase-3 shRNA (h) Lentiviral Particles: sc-39108-V and MEK kinase-3 shRNA (m) Lentiviral Particles: sc-156010-V.

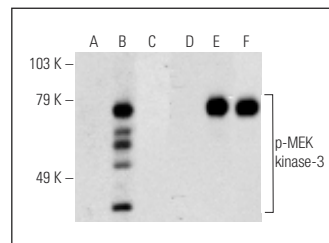
Molecular Weight of MEK kinase-3: 71 kDa.

Positive Controls: MEK kinase-3 (m): 293T Lysate: sc-125599, HeLa whole cell lysate: sc-2200 or SH-SY5Y cell lysate: sc-3812.

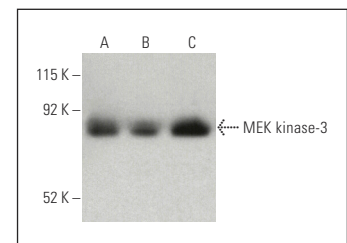
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Western blot analysis of MEK kinase-3 phosphorylation in non-transfected: sc-117752 (A,D), untreated mouse MEK kinase-3 transfected: sc-125599 (B,E) and lambda protein phosphatase (sc-200312A) treated mouse MEK kinase-3 transfected: sc-125599 (C,F) 293T whole cell lysates. Antibodies tested include p-MEK kinase-3 (Ser 337)-R: sc-28044-R (A,B,C) and MEK kinase-3 (40): sc-136260 (D,E,F).



MEK kinase-3 (40): sc-136260. Western blot analysis of MEK kinase-3 expression in HeLa (A), MOLT-4 (B) and SH-SY5Y (C) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Tsioumppekou, M., et al. 2016. Platelet-derived growth factor (PDGF)-induced activation of Erk5 MAP-kinase is dependent on Mekk2, Mek1/2, PKC and PI3-kinase, and affects BMP signaling. *Cell. Signal.* 28: 1422-1431.
2. Miao, W. and Wang, Y. 2019. Quantitative interrogation of the human kinome perturbed by two BRAF inhibitors. *J. Proteome Res.* 18: 2624-2631.
3. Kang, K., et al. 2020. 3-O-acetyl-rubianol C (3AR-C) induces RIPK1-dependent programmed cell death by selective inhibition of IKKβ. *FASEB J.* 34: 4369-4383.

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.