SANTA CRUZ BIOTECHNOLOGY, INC.

MEK kinase-3 (H-70): sc-28769

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Mitogen-activated protein (MAP) kinase cascades are activated by various extracellular stimuli including growth factors. The MEK kinases (also called MAP kinase kinase kinases) phosphorylate and activate the MAP kinases, including ERK, JNK and p38. The MEK kinases characterized to date include Raf-1, Raf-B, MOS, MEK kinase-1, MEK kinase-2, MEK kinase-3, MEK kinase-4 and ASK 1 (also designated MEK kinase-5). 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. ASK1 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.
3. Wang, X.S., et al. 1996. Molecular cloning and characterization of a novel protein kinase with a catalytic domain homologous to mitogen-activated protein kinase kinase kinase. J. Biol. Chem. 271: 31607-31611.
4. Fanger, G.R., et al. 1997. MEK kinases are regulated by EGF and selectively interact with Rac/Cdc42. EMBO J. 16: 4961-4972.
5. Deacon, K. and Blank, J.L. 1997. Characterization of the mitogen-activated protein kinase kinase 4 (MKK4)/c-Jun NH_2-terminal kinase 1 and MKK3/p38 pathways regulated by MEK kinases 2 and 3. MEK kinase 3 activates MKK3 but does not cause activation of p38 kinase *in vivo*. J. Biol. Chem. 272: 14489-14496.
6. Gerwins, P., et al. 1997. Cloning of a novel mitogen-activated protein kinase kinase kinase, MEKK4, that selectively regulates the c-Jun amino terminal kinase pathway. J. Biol. Chem. 272: 8288-8295.

CHROMOSOMAL LOCATION

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

SOURCE

MEK kinase-3 (H-70) is a rabbit polyclonal antibody raised against amino acids 291-360 mapping within an internal region of MEK kinase-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

MEK kinase-3 (H-70) is recommended for detection of MEK kinase-3 of mouse, rat and human 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)], 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).

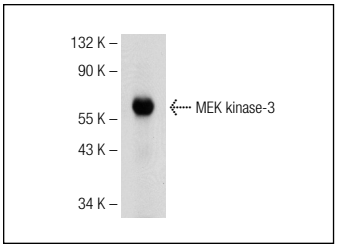
MEK kinase-3 (H-70) is also recommended for detection of MEK kinase-3 in additional species, including equine, canine, bovine, porcine and avian.

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.

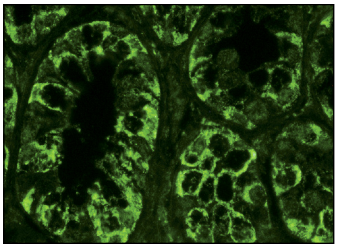
Molecular Weight of MEK kinase-3: 71 kDa.

Postive Controls: rat small intestine extract: sc-364811 or HeLa whole cell lysate: sc-2200.

DATA



MEK kinase-3 (H-70): sc-28769. Western blot analysis of MEK kinase-3 expression in rat small intestine tissue extract.



MEK kinase-3 (H-70): sc-28769. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Nakamura, K. and Johnson, G.L. 2010. Activity assays for extracellular signal-regulated kinase 5. Methods Mol. Biol. 661: 91-106.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.