SANTA CRUZ BIOTECHNOLOGY, INC.

MEK-3 (N-20): sc-959

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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: MAP2K3 (human) mapping to 17p11.2, MAP2K6 (human) mapping to 17q24.3; Map2k3 (mouse) mapping to 11 B2, Map2k6 (mouse) mapping to 11 E2.

SOURCE

MEK-3 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of MEK-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.

Blocking peptide available for competition studies, sc-959 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MEK-3 (N-20) is recommended for detection of MEK-3, and to a lesser extent, MEK-6 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MEK-3 (N-20) is also recommended for detection of MEK-3, and to a lesser extent, MEK-6 in additional species, including bovine.

Suitable for use as control antibody for MEK-3/6 siRNA (h): sc-43924, MEK-3/6 shRNA Plasmid (h): sc-43924-SH and MEK-3/6 shRNA (h) Lentiviral Particles: sc-43924-V.

Molecular Weight of MEK-3: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

RESEARCH USE

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

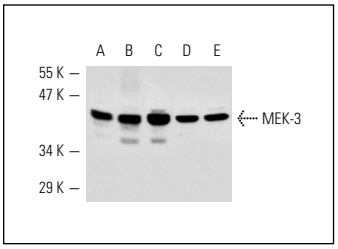
PROTOCOLS

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

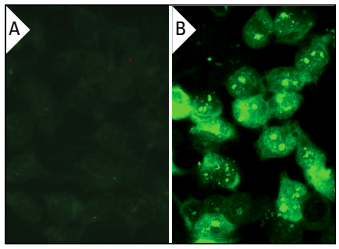
STORAGE

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

DATA



MEK-3 (N-20): sc-959. Western blot analysis of MEK-3 expression in HeLa (**A**), Jurkat (**B**), NIH/3T3 (**C**), WEHI-231 (**D**) and CTLL-2 (**E**) whole cell lysates.



MEK-3 (N-20): sc-959. Immunofluorescence staining of methanol-fixed untransfected (**A**) and human MEK-3 transfected HEK 293T cells (**B**).

SELECT PRODUCT CITATIONS

1. Maroni, P., et al. 2000. Cellular signalling after *in vivo* heat shock in the liver. Cell Biol. Int. 24: 145-152.
2. Raymond, B., et al. 2009. Anthrax lethal toxin impairs IL-8 expression in epithelial cells through inhibition of histone H3 modification. PLoS Pathog. 5: e1000359.
3. Newman, Z.L., et al. 2009. CA-074Me protection against anthrax lethal toxin. Infect. Immun. 77: 4327-4336.
4. Newman, Z.L., et al. 2010. Anthrax lethal toxin activates the inflammasome in sensitive rat macrophages. Biochem. Biophys. Res. Commun. 398: 785-789.
5. Raymond, B., et al. 2010. Anthrax lethal toxin down-regulates type-IIA secreted phospholipase A_2 expression through MAPK/NFκB inactivation. Biochem. Pharmacol. 79: 1149-1155.
6. Newman, Z.L., et al. 2011. Auranofin protects against anthrax lethal toxin-induced activation of the Nlrp1b inflammasome. Antimicrob. Agents Chemother. 55: 1028-1035.
7. Galan-Moya, E.M., et al. 2011. Balance between MKK6 and MKK3 mediates p38 MAPK associated resistance to cisplatin in NSCLC. PLoS ONE 6: e28406.
8. Tsai, M.S., et al. 2012. Inhibition of $p38^{MAPK}$-dependent excision repair cross-complementing 1 expression decreases the DNA repair capacity to sensitize lung cancer cells to etoposide. Mol. Cancer Ther. 11: 561-571.

MONOS Satisfaction Guaranteed

Try **MEK-3 (B-5): sc-271779** or **MEK-3 (B-2): sc-376627**, our highly recommended monoclonal alternatives to MEK-3 (N-20).