SANTA CRUZ BIOTECHNOLOGY, INC.

MEK-5 (H-94): sc-10795

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.

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.

CHROMOSOMAL LOCATION

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

SOURCE

MEK-5 (H-94) is a rabbit polyclonal antibody raised against amino acids 351-444 mapping at the C-terminus of MEK-5 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.

APPLICATIONS

MEK-5 (H-94) is recommended for detection of MEK-5 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-5 (H-94) is also recommended for detection of MEK-5 in additional species, including equine, canine and bovine.

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.

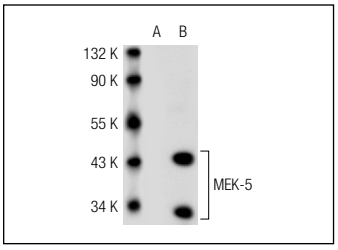
Molecular Weight of MEK-5: 54 kDa.

Positive Controls: MEK-5 (m2): 293T Lysate: sc-121598, Jurkat whole cell lysate: sc-2204 or A-673 cell lysate: sc-2414.

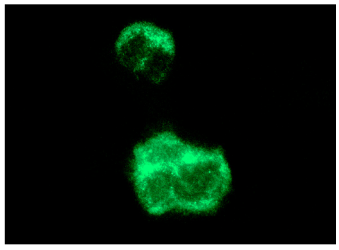
STORAGE

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

DATA



MEK-5 (H-94): sc-10795. Western blot analysis of MEK-5 expression in non-transfected: sc-117752 (**A**) and mouse MEK-5 transfected: sc-121598 (**B**) 293T whole cell lysates.



MEK-5 (H-94): sc-10795. Immunofluorescence staining of methanol-fixed A-673 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Wang, Y., et al. 2004. Entire mitogen activated protein kinase (MAPK) pathway is present in preimplantation mouse embryos. Dev. Dyn. 231: 72-87.
2. Liu, J., et al. 2004. Serine-threonine kinases and transcription factors active in signal transduction are detected at high levels of phosphorylation during mitosis in preimplantation embryos and trophoblast stem cells. Reproduction 128: 643-654.
3. Xu, L., et al. 2008. Anthrax lethal toxin increases superoxide production in murine neutrophils via differential effects on MAPK signaling pathways. J. Immunol. 180: 4139-4147.
4. Roberts, O.L., et al. 2010. ERK5 is required for VEGF-mediated survival and tubular morphogenesis of primary human microvascular endothelial cells. J. Cell Sci. 123: 3189-3200.
5. Nakamura, K., et al. 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.