SANTA CRUZ BIOTECHNOLOGY, INC.

MEK-7 (C-19): sc-7103

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 Mkk3) functions to activate p38 MAP kinase, and MEK-4 (also called SEK1 or Mkk4) activates both p38 and JNK MAP kinases. MEK-5 appears to specifically phosphorylate ERK 5, whereas MEK-6 phosphorylates p38 and p38b. MEK-7 (or Mkk7) phosphorylates and activates the JNK signal transduction pathway.

CHROMOSOMAL LOCATION

Genetic locus: MAP2K7 (human) mapping to 19p13.2; Map2k7 (mouse) mapping to 8 A1.1.

SOURCE

MEK-7 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of MEK-7 of mouse origin.

PRODUCT

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

MEK-7 (C-19) is available conjugated to agarose (sc-7103 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-7103 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MEK-7 (C-19) is recommended for detection of MEK-7 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), immunohistochemistry (including paraffin-embedded sections) (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-7 (C-19) is also recommended for detection of MEK-7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MEK-7 siRNA (h): sc-35915, MEK-7 siRNA (m): sc-35916, MEK-7 shRNA Plasmid (h): sc-35915-SH, MEK-7 shRNA Plasmid (m): sc-35916-SH, MEK-7 shRNA (h) Lentiviral Particles: sc-35915-V and MEK-7 shRNA (m) Lentiviral Particles: sc-35916-V.

Molecular Weight of MEK-7: 47 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

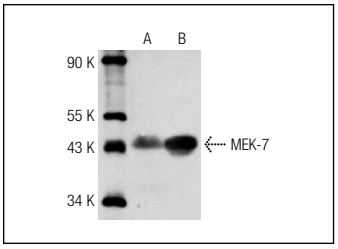
STORAGE

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

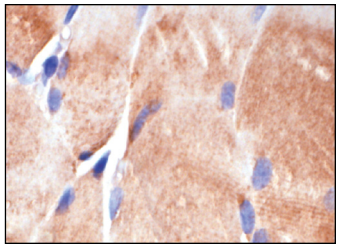
RESEARCH USE

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

DATA



MEK-7 (C-19): sc-7103. Western blot analysis of MEK-7 expression in A-431 (**A**) and NIH/3T3 (**B**) whole cell lysates.



MEK-7 (C-19): sc-7103. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human muscle tissue showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Tournier, C., et al. 1999. The MKK7 gene encodes a group of c-Jun NH_2-terminal kinase kinases. Mol. Cell. Biol. 19: 1569-1581.
2. Wada, T., et al. 2001. Impaired synergistic activation of stress-activated protein kinase SAPK/JNK in mouse embryonic stem cells lacking SEK1/Mkk4: different contribution of SEK2/Mkk7 isoforms to the synergistic activation. J. Biol. Chem. 276: 30892-30897.
3. Sundarrajan, M., et al. 2003. Expression of the MAPK kinases Mkk4 and Mkk7 in rheumatoid arthritis and their role as key regulators of JNK. Arthritis Rheum. 48: 2450-2460.
4. Xu, P., et al. 2003. *In vitro* development of mouse embryonic stem cells lacking JNK/stress-activated protein kinase-associated protein 1 (JSAP1) scaffold protein revealed its requirement during early embryonic neurogenesis. J. Biol. Chem. 278: 48422-48433.
5. Zhang, Q., et al. 2003. Delayed activation and regulation of MKK7 in hippocampal CA1 region following global cerebral ischemia in rats. Life Sci. 74: 37-45.
6. Liu, W.H., et al. 2005. Deltex regulates T-cell activation by targeted degradation of active MEKK 1. Mol. Cell. Biol. 25: 1367-1378.
7. Hamel, M., et al. 2006. Active stress kinases in proliferating endothelial cells associated with cytoskeletal structures. Endothelium 13: 157-170.
8. Harding, S.J., et al. 2010. Activation of ASK1, downstream MAPKK and MAPK isoforms during cardiac ischaemia. Biochim. Biophys. Acta 1802: 733-740.