SANTA CRUZ BIOTECHNOLOGY, INC.

MEK-1 (A-8): sc-365800

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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 ERK 5, 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.
3. Dérijard, B., et al. 1995. Independent human MAP-kinase signal transduction pathways defined by MEK and Mkk isoforms. Science 267: 682-685.
4. Zhou, G., et al. 1995. Components of a new human protein kinase signal transduction pathway. J. Biol. Chem. 270: 12665-12669.
5. Han, J., et al. 1996. Characterization of the structure and function of a novel MAP kinase kinse (Mkk6). J. Biol. Chem. 271: 2886-2891.

CHROMOSOMAL LOCATION

Genetic locus: MAP2K1 (human) mapping to 15q22.31; Map2k1 (mouse) mapping to 9 C.

SOURCE

MEK-1 (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 370-393 at the C-terminus of MEK-1 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-365800 X, 200 µg/0.1 ml.

MEK-1 (A-8) is available conjugated to agarose (sc-365800 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365800 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365800 PE), fluorescein (sc-365800 FITC), Alexa Fluor® 488 (sc-365800 AF488), Alexa Fluor® 546 (sc-365800 AF546), Alexa Fluor® 594 (sc-365800 AF594) or Alexa Fluor® 647 (sc-365800 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365800 AF680) or Alexa Fluor® 790 (sc-365800 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365800 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

MEK-1 (A-8) is recommended for detection of MEK-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

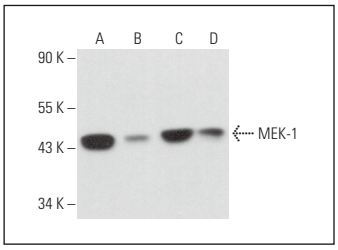
Suitable for use as control antibody for MEK-1 siRNA (h): sc-29396, MEK-1 siRNA (m): sc-35904, MEK-1 shRNA Plasmid (h): sc-29396-SH, MEK-1 shRNA Plasmid (m): sc-35904-SH, MEK-1 shRNA (h) Lentiviral Particles: sc-29396-V and MEK-1 shRNA (m) Lentiviral Particles: sc-35904-V.

MEK-1 (A-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

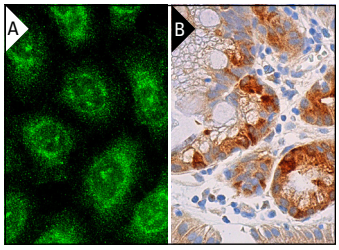
Molecular Weight of MEK-1: 45 kDa.

Positive Controls: AT3B-1 whole cell lysate: sc-364372, F9 cell lysate: sc-2245 or U-251-MG whole cell lysate: sc-364176.

DATA



MEK-1 (A-8): sc-365800. Western blot analysis of MEK-1 expression in AT3B-1 (**A**), U-251-MG (**B**), F9 (**C**) and EOC 20 (**D**) whole cell lysates.



MEK-1 (A-8): sc-365800. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of subset of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Kim, K.M., et al. 2021. Hesperidin inhibits UVB-induced VEGF production and angiogenesis via the inhibition of PI3K/Akt pathway in HR-1 hairless mice. Biol. Pharm. Bull. 44: 1492-1498.

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.