

MEK-1 (H-8): sc-6250

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

SOURCE

MEK-1 (H-8) is a mouse monoclonal antibody raised against amino acids 1-393 representing full length MEK-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MEK-1 (H-8) is available conjugated to agarose (sc-6250 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-6250 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-6250 PE), fluorescein (sc-6250 FITC), Alexa Fluor[®] 488 (sc-6250 AF488), Alexa Fluor[®] 546 (sc-6250 AF546), Alexa Fluor[®] 594 (sc-6250 AF594) or Alexa Fluor[®] 647 (sc-6250 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-6250 AF680) or Alexa Fluor[®] 790 (sc-6250 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

MEK-1 (H-8) is recommended for detection of MEK-1 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-1 (H-8) is also recommended for detection of MEK-1 in additional species, including bovine.

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.

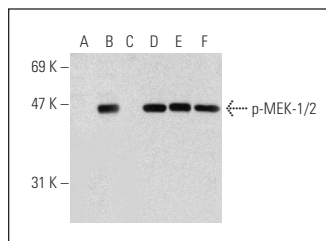
Molecular Weight of MEK-1: 45 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

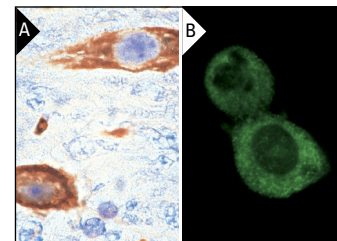
STORAGE

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

DATA



Western blot analysis of MEK-1/2 phosphorylation in untreated (A, D), serum-starved, PMA-treated (B, E), serum-starved, PMA and lambda protein phosphatase (sc-200312A) treated (C, F) HeLa whole cell lysates. Antibodies tested include p-MEK-1/2 (7E10); sc-81503 (A, B, C) and MEK-1 (H-8): sc-6250 (D, E, F).



MEK-1 (H-8): sc-6250. Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal rat brain showing intense cytoplasmic staining (A). Immunofluorescence staining of methanol-fixed AT-3 cells showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

- Yeung, K., et al. 1999. Suppression of Raf-1 kinase activity and MAP kinase signalling by RKIP. *Nature* 401: 173-177.
- Rybak, A.P., et al. 2013. Propagation of human prostate cancer stem-like cells occurs through EGFR-mediated ERK activation. *PLoS ONE* 8: e61716.
- Robinson, J.D. and Pitcher, J.A. 2013. G protein-coupled receptor kinase 2 (GRK2) is a Rho-activated scaffold protein for the ERK MAP kinase cascade. *Cell. Signal.* 25: 2831-2839.
- Shostak, K., et al. 2014. MDM2 restrains estrogen-mediated AKT activation by promoting TBK1-dependent HPIP degradation. *Cell Death Differ.* 21: 811-824.
- Pan, C.H., et al. 2015. K20E, an oxidative-coupling compound of methyl caffeate, exhibits anti-angiogenic activities through down-regulations of VEGF and VEGF receptor-2. *Toxicol. Appl. Pharmacol.* 282: 215-226.
- Li, P.C., et al. 2015. Anti-restenotic roles of dihydroaustralsulfone alcohol involved in inhibiting PDGF-BB-stimulated proliferation and migration of vascular smooth muscle cells. *Mar. Drugs* 13: 3046-3060.
- Yang, K., et al. 2016. CTGF enhances resistance to 5-FU-mediated cell apoptosis through FAK/MEK/ERK signal pathway in colorectal cancer. *OncoTargets Ther.* 9: 7285-7295.
- Procaccia, S., et al. 2017. Direct binding of MEK1 and MEK2 to AKT induces Foxo1 phosphorylation, cellular migration and metastasis. *Sci. Rep.* 7: 43078.
- Wu, P.K., et al. 2017. Steady-state levels of phosphorylated mitogen-activated protein kinase kinase 1/2 determined by mortalin/HSPA9 and protein phosphatase 1 α in KRAS and BRAF tumor cells. *Mol. Cell. Biol.* 37 pii: e00061-17.

RESEARCH USE

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