

# MEK-1 (C-18): sc-219

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

MEK-1 (C-18) is available as either an affinity purified rabbit (sc-219) or goat (sc-219-G) polyclonal antibody raised against a peptide mapping at the C-terminus of MEK-1 of rat origin.

## PRODUCT

Each vial contains either 100 µg (sc-219) or 200 µg (sc-219-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for ChIP application, sc-219 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-219 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MEK-1 (C-18) 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 (C-18) is also recommended for detection of MEK-1 in additional species, including equine, canine, bovine, porcine and avian.

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 (C-18) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of MEK-1: 45 kDa.

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

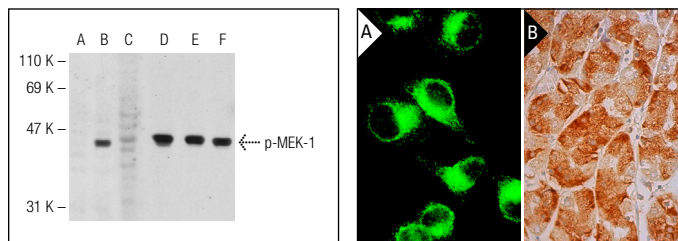
## RESEARCH USE

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

## 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 phosphorylation in untreated (A, D), EGF treated (B, E) and EGF and lambda protein phosphatase treated (C, F) HeLa whole cell lysates. Antibodies tested include p-MEK-1 (B-4): sc-271914 (A, B, C) and MEK-1 (C-18): sc-219 (D, E, F).

MEK-1 (C-18): sc-219. Cytoplasmic immunofluorescence staining of methanol-fixed HeLa cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Rider, L.G., et al. 1996. Activation of the mitogen-activated protein kinase cascade is suppressed by low concentrations of dexamethasone in mast cells. *J. Immunol.* 157: 2374-2380.
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- Vikram, A., et al. 2010. Pioglitazone attenuates prostatic enlargement in diet-induced Insulin-resistant rats by altering lipid distribution and hyperinsulinemia. *Br. J. Pharmacol.* 161: 1708-1721.
- Gailhouste, L., et al. 2010. RNAi-mediated MEK1 knock-down prevents ERK1/2 activation and abolishes human hepatocarcinoma growth *in vitro* and *in vivo*. *Int. J. Cancer* 126: 1367-1377.
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- Vikram, A., et al. 2011. Insulin-resistance reduces botulinum neuro-toxin type A induced prostatic atrophy and apoptosis in rats. *Eur. J. Pharmacol.* 650: 356-363.
- Zheng, Y., et al. 2011. Ras-induced and extracellular signal-regulated kinase 1 and 2 phosphorylation-dependent isomerization of protein tyrosine phosphatase (PTP)-PEST by PIN1 promotes FAK dephosphorylation by PTP-PEST. *Mol. Cell. Biol.* 31: 4258-4269.

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Try **MEK-1 (H-8): sc-6250** or **MEK-1 (A-8): sc-365800**, our highly recommended monoclonal alternatives to MEK-1 (C-18). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **MEK-1 (H-8): sc-6250**.