

# MEK kinase-2 (H-9): sc-398091

## BACKGROUND

Mitogen-activated protein (MAP) kinase cascades are activated by various extracellular stimuli including growth factors. The MEK kinases (also designated MAP kinase kinase kinases, MKKKs, MAP3Ks or MEKKs) phosphorylate and thereby activate the MEKs (also called MAP kinase kinases or MKKs), including ERK, JNK and p38. These activated MEKs in turn phosphorylate and activate the MAP kinases. The MEK kinases include Raf-1, Raf-B, Mos, MEK kinase-1, MEK kinase-2, MEK kinase-3, MEK kinase-4, ASK 1 (MEK kinase-5) and MAP3K6 (MEK kinase-6). MEK kinase-1 has been shown to phosphorylate MEK-1 via a Raf-independent pathway. Evidence suggests that MEK-3 is preferentially activated by MEK kinase-3 and that MEK-4 is activated by both MEK kinase-2 and MEK kinase-3. MEK kinase-4 has been shown to specifically activate the JNK pathway. ASK 1 activates both MEK-4 and MEK-3/MEK-6 pathways.

## REFERENCES

1. Lange-Carter, C.A., et al. 1993. A divergence in the MAP kinase regulatory network defined by MEK kinase and Raf. *Science* 260: 315-319.
2. Guan, K.L. 1994. The mitogen activated protein kinase signal transduction pathway: from the cell surface to the nucleus. *Cell. Signal.* 6: 581-589.
3. Wang, X.S., et al. 1996. Molecular cloning and characterization of a novel protein kinase with a catalytic domain homologous to mitogen-activated protein kinase kinase kinase. *J. Biol. Chem.* 271: 31607-31611.
4. Fanger, G.R., et al. 1997. MEK kinases are regulated by EGF and selectively interact with Rac/Cdc42. *EMBO J.* 16: 4961-4972.

## CHROMOSOMAL LOCATION

Genetic locus: MAP3K2 (human) mapping to 2q14.3; Map3k2 (mouse) mapping to 18 B1.

## SOURCE

MEK kinase-2 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 588-611 at the C-terminus of MEK kinase-2 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MEK kinase-2 (H-9) is available conjugated to agarose (sc-398091 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398091 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398091 PE), fluorescein (sc-398091 FITC), Alexa Fluor® 488 (sc-398091 AF488), Alexa Fluor® 546 (sc-398091 AF546), Alexa Fluor® 594 (sc-398091 AF594) or Alexa Fluor® 647 (sc-398091 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398091 AF680) or Alexa Fluor® 790 (sc-398091 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398091 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

MEK kinase-2 (H-9) is recommended for detection of MEK kinase-2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MEK kinase-2 (H-9) is also recommended for detection of MEK kinase-2 in additional species, including equine and porcine.

Suitable for use as control antibody for MEK kinase-2 siRNA (h): sc-35900, MEK kinase-2 siRNA (m): sc-35901, MEK kinase-2 shRNA Plasmid (h): sc-35900-SH, MEK kinase-2 shRNA Plasmid (m): sc-35901-SH, MEK kinase-2 shRNA (h) Lentiviral Particles: sc-35900-V and MEK kinase-2 shRNA (m) Lentiviral Particles: sc-35901-V.

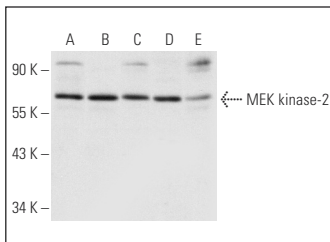
Molecular Weight of MEK kinase-2: 70/71 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Jurkat whole cell lysate: sc-2204 or BJAB whole cell lysate: sc-2207.

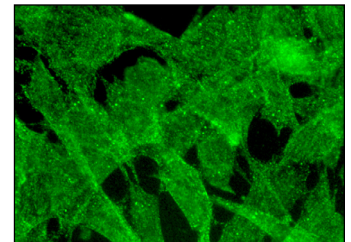
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



MEK kinase-2 (H-9): sc-398091. Western blot analysis of MEK kinase-2 expression in Jurkat (A), K-562 (B), MCF7 (C), Ramos (D) and BJAB (E) whole cell lysates.



MEK kinase-2 (H-9): sc-398091. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic and nuclear localization.

## 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.

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