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# MEK-3 (h2): 293T Lysate: sc-176353

## 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 p38 $\beta$ . 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. Dérjard, 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 kinase (MKK6). *J. Biol. Chem.* 271: 2886-2891.
6. Jiang, Y., et al. 1996. Characterization of the structure and function of a new mitogen-activated protein kinase (p38 $\beta$ ). *J. Biol. Chem.* 271: 17920-17926.
7. Tournier, C., et al. 1997. Mitogen-activated protein kinase kinase 7 is an activator of the c-Jun NH<sub>2</sub>-terminal kinase. *Proc. Natl. Acad. Sci. USA* 94: 7337-7442.
8. Holland, P.M., et al. 1997. MKK7 is a stress-activated mitogen-activated protein kinase kinase functionally related to hemipterous. *J. Biol. Chem.* 272: 24994-24998.
9. Wu, Z., et al. 1997. Molecular cloning and characterization of human JNKK2, a novel Jun NH<sub>2</sub>-terminal kinase-specific kinase. *Mol. Cell. Biol.* 17: 7407-7416.

## CHROMOSOMAL LOCATION

Genetic locus: MAP2K3 (human) mapping to 17q11.2.

## PRODUCT

MEK-3 (h2): 293T Lysate represents a lysate of human MEK-3 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## APPLICATIONS

MEK-3 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive MEK-3 antibodies.

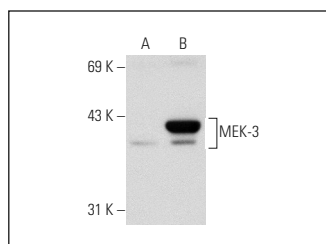
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MEK-3/6 (B-1): sc-136982 is recommended as a positive control antibody for Western Blot analysis of enhanced human MEK-3 expression in MEK-3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

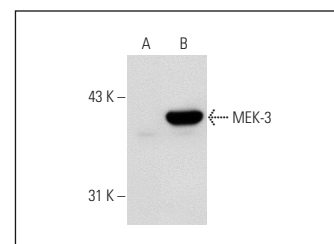
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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.

## DATA



MEK-3/6 (B-1): sc-136982. Western blot analysis of MEK-3 expression in non-transfected: sc-117752 (A) and human MEK-3 transfected: sc-176353 (B) 293T whole cell lysates.



MEK-3 (5F7): sc-81474. Western blot analysis of MEK-3 expression in non-transfected: sc-117752 (A) and human MEK-3 transfected: sc-176353 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.