

MP1 (m): 293T Lysate: sc-121727

BACKGROUND

MP1 (MEK partner 1) functions as a scaffolding protein in the mitogen activated protein (MAP) kinase signaling pathway. Growth factor induced MAP kinase activation is selectively mediated by the extracellular signal-regulated kinase (ERK) cascade. This pathway is dependent on the phosphorylation of MEK-1 and its subsequent activation of ERK 1. MP1 binds to the proline-rich domain of MEK-1 and thereby potentiates the phosphorylation of MEK-1 by the activating MEK kinase B-Raf. MP1 is also able to enhance the kinase activity of MEK-1 and facilitate the phosphorylation of ERK 1. *In vivo* studies indicate that MP1 preferentially associates with MEK-1 and ERK 1, but not with MEK-2 or ERK 2, suggesting that MP1 and other scaffolding proteins contribute to the specificity of the kinase substrates within the MAPK pathways.

REFERENCES

1. Elion, E.A. 1998. Routing MAP kinase cascades. *Science* 281: 1625-1626.
2. Schaeffer, H.J., et al. 1998. MP1: a MEK binding partner that enhances enzymatic activation of the MAP kinase cascade. *Science* 281: 1668-1671.
3. Whitmarsh, A.J., et al. 1998. A mammalian scaffold complex that selectively mediates MAP kinase activation. *Science* 281: 1671-1674.
4. Garrington, T.P. and Johnson, G.L. 1999. Organization and regulation of mitogen-activated protein kinase signaling pathways. *Curr. Opin. Cell Biol.* 11: 211-218.
5. Schaeffer, H.J. and Weber, M.J. 1999. Mitogen-activated protein kinases: specific messages from ubiquitous messengers. *Mol. Cell. Biol.* 19: 2435-2444.
6. Sharma, C., et al. 2005. MEK partner 1 (MP1): regulation of oligomerization in MAP kinase signaling. *J. Cell. Biochem.* 94: 708-719.
7. Pullikuth, A., et al. 2005. The MEK-1 scaffolding protein MP1 regulates cell spreading by integrating Pak1 and Rho signals. *Mol. Cell. Biol.* 25: 5119-5133.
8. Mouchel-Vielh, E., et al. 2008. Involvement of the MP1 scaffold protein in ERK signaling regulation during *Drosophila* wing development. *Genes Cells* 13: 1099-1111.

CHROMOSOMAL LOCATION

Genetic locus: Lamtor3 (mouse) mapping to 3 G3.

PRODUCT

MP1 (m): 293T Lysate represents a lysate of mouse MP1 transfected 293T cells and is provided as 100 µg protein in 200 µl 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

MP1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive MP1 antibodies. Recommended use: 10-20 µl per lane.

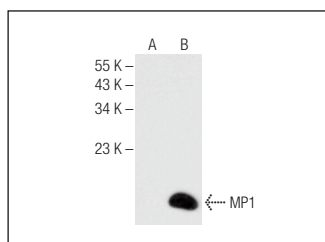
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

MP1 (H-6): sc-376783 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse MP1 expression in MP1 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-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.

DATA



MP1 (H-6): sc-376783. Western blot analysis of MP1 expression in non-transfected: sc-117752 (A) and mouse MP1 transfected: sc-121727 (B) 293T whole cell lysates.

RESEARCH USE

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