

MAPBPIP (B-5): sc-515708

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. MAPBPIP (mitogen-activated protein-binding protein-interacting protein), also known as p14 and late endosomal/lysosomal MP1-interacting protein, functions as an adaptor protein augmenting the regulation of the MAP kinase cascade. Partner proteins MAPBPIP and MP1 are structurally almost identical each with a five-stranded β -sheet flanked between a two-helix and one-helix layer. MAPBPIP compels the recruitment of MP1 to late endosomes where they form a very stable heterodimeric complex required for ERK activation on endosomes. Knockdown of the individual proteins in the MP1/MAPBPIP complex resulted in decreased expression of the partner proteins which implies greater stability of the heterodimeric complex than either MP1 or MAPBPIP individually. Early research suggests the MP1-MAPBPIP-MEK-1 signaling complex may be critical in the regulation of tissue homeostasis.

REFERENCES

1. Wunderlich, W., et al. 2001. A novel 14-kilodalton protein interacts with the mitogen-activated protein kinase scaffold mp1 on a late endosomal/lysosomal compartment. *J. Cell Biol.* 152: 765-776.
2. Teis, D., et al. 2002. Localization of the MP1-MAPK scaffold complex to endosomes is mediated by p14 and required for signal transduction. *Dev. Cell* 3: 803-814.
3. Kurzbauer, R., et al. 2004. Crystal structure of the p14/MP1 scaffolding complex: how a twin couple attaches mitogen-activated protein kinase signaling to late endosomes. *Proc. Natl. Acad. Sci. USA* 101: 10984-10989.
4. Lunin, V.V., et al. 2004. The structure of the MAPK scaffold, MP1, bound to its partner, p14. A complex with a critical role in endosomal map kinase signaling. *J. Biol. Chem.* 279: 23422-23430.

CHROMOSOMAL LOCATION

Genetic locus: LAMTOR2 (human) mapping to 1q22.

SOURCE

MAPBPIP (B-5) is a mouse monoclonal antibody raised against amino acids 1-125 representing full length MAPBPIP of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MAPBPIP (B-5) is available conjugated to agarose (sc-515708 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515708 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515708 PE), fluorescein (sc-515708 FITC), Alexa Fluor[®] 488 (sc-515708 AF488), Alexa Fluor[®] 546 (sc-515708 AF546), Alexa Fluor[®] 594 (sc-515708 AF594) or Alexa Fluor[®] 647 (sc-515708 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-515708 AF680) or Alexa Fluor[®] 790 (sc-515708 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MAPBPIP (B-5) is recommended for detection of MAPBPIP of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for MAPBPIP siRNA (h): sc-88091, MAPBPIP shRNA Plasmid (h): sc-88091-SH and MAPBPIP shRNA (h) Lentiviral Particles: sc-88091-V.

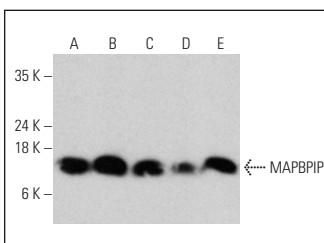
Molecular Weight of MAPBPIP: 14 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 cell lysate: sc-2227 or HL-60 whole cell lysate: sc-2209.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



MAPBPIP (D-12): sc-515708. Western blot analysis of MAPBPIP expression in LNCaP (A), HL-60 (B), MCF7 (C), Hep G2 (D) and ZR-75-1 (E) whole cell lysates.

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.

PROTOCOLS

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

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