

MPP1 (H-7): sc-515194

BACKGROUND

The Kinesins constitute a large family of microtubule-dependent motor proteins which are responsible for the distribution of numerous organelles, vesicles and macromolecular complexes throughout the cell. Individual Kinesin members play crucial roles in cell division, intracellular transport and membrane trafficking events, including endocytosis and transcytosis. MPP1 (M-phase phosphoprotein 1), also known as KIF20B (Kinesin family member 20B), MPHOSPH1 or KRMP1, is a 1,820 amino acid protein that localizes to both the nucleus and the cytoplasm and contains one Kinesin-motor domain. Expressed in kidney, brain, testis and ovary, MPP1 functions as a plus-end directed motor enzyme that interacts with Pin1 and is required for the completion of cytokinesis. MPP1, which exists as multiple alternatively spliced isoforms termed 1-5, is subject to post-translational phosphorylation, probably by ATM or ATR.

REFERENCES

- Westendorf, J.M., et al. 1994. Cloning of cDNAs for M-phase phosphoproteins recognized by the MPM2 monoclonal antibody and determination of the phosphorylated epitope. *Proc. Natl. Acad. Sci. USA* 91: 714-718.
- Matsumoto-Taniura, N., et al. 1996. Identification of novel M phase phosphoproteins by expression cloning. *Mol. Biol. Cell* 7: 1455-1469.
- Fritzler, M.J., et al. 2000. Autoantibodies from patients with idiopathic ataxia bind to M-phase phosphoprotein-1 (MPP1). *J. Invest. Med.* 48: 28-39.
- Kamimoto, T., et al. 2001. Identification of a novel kinesin-related protein, KRMP1, as a target for mitotic peptidyl-prolyl isomerase Pin1. *J. Biol. Chem.* 276: 37520-37528.

CHROMOSOMAL LOCATION

Genetic locus: KIF20B (human) mapping to 10q23.31.

SOURCE

MPP1 (H-7) is a mouse monoclonal antibody raised against amino acids 1557-1675 mapping near the C-terminus of MPP1 of human origin.

PRODUCT

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

MPP1 (H-7) is available conjugated to agarose (sc-515194 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515194 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515194 PE), fluorescein (sc-515194 FITC), Alexa Fluor® 488 (sc-515194 AF488), Alexa Fluor® 546 (sc-515194 AF546), Alexa Fluor® 594 (sc-515194 AF594) or Alexa Fluor® 647 (sc-515194 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515194 AF680) or Alexa Fluor® 790 (sc-515194 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

MPP1 (H-7) is recommended for detection of MPP1 of 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).

Suitable for use as control antibody for MPP1 siRNA (h): sc-90399, MPP1 shRNA Plasmid (h): sc-90399-SH and MPP1 shRNA (h) Lentiviral Particles: sc-90399-V.

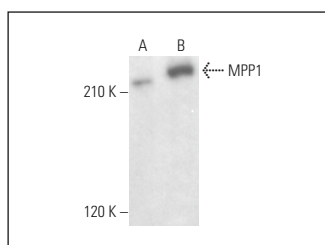
Molecular Weight of MPP1: 220 kDa.

Positive Controls: ES-2 cell lysate: sc-24674, Jurkat whole cell lysate: sc-2204 or CCRF-CEM cell lysate: sc-2225.

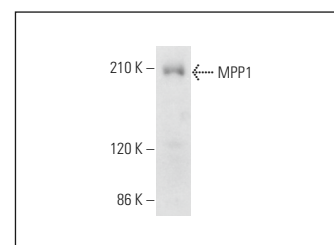
RECOMMENDED SUPPORT REAGENTS

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



MPP1 (H-7): sc-515194. Western blot analysis of MPP1 expression in Jurkat (A) and CCRF-CEM (B) whole cell lysates.



MPP1 (H-7): sc-515194. Western blot analysis of MPP1 expression in ES-2 whole cell lysate.

SELECT PRODUCT CITATIONS

- McNeely, K.C., et al. 2017. Mutation of Kinesin-6 Kif20b causes defects in cortical neuron polarization and morphogenesis. *Neural Dev.* 12: 5.
- Georges, A., et al. 2019. USP7 regulates cytokinesis through FBXO38 and Kif20b. *Sci. Rep.* 9: 2724.

RESEARCH USE

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

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