

MIPP (A-8): sc-514214

BACKGROUND

MIPP (multiple inositol polyphosphate phosphatase) is the only enzyme that is solely responsible for a diverse range of catalytic activities, including the hydrolysis of inositol pentakisphosphate and inositol hexakisphosphate. The structural and functional similarity of MIPP to the chick protein HiPER1 (histidine acid phosphatase) reveals that MIPP contains the catalytic requirement of histidine acid phosphatases. The evolutionary conservation of MIPP in mouse (also called (MMU)Minpp1), human (also called (HSA)MINPP1), chick, plant, and fruit fly within the histidine phosphatase family suggests a significant role for multiple inositol polyphosphate throughout higher eukaryotes. MIPP is mapped to a region of chromosome 10 that is often mutated in human cancers. Its C-terminal domain contains a signal for retaining soluble proteins in the lumen of the endoplasmic reticulum. MIPP was originally isolated from rat liver and is also highly expressed in rat kidney.

REFERENCES

1. Ali, N., et al. 1993. Hepatic Ins(1,3,4,5)P₄ 3-phosphatase is compartmentalized inside endoplasmic reticulum. *J. Biol. Chem.* 268: 6161-6167.
2. Craxton, A., et al. 1997. Molecular Cloning and expression of a rat hepatic multiple inositol polyphosphate phosphatase. *Biochem. J.* 328: 75-81.
3. Romano, P.R., et al. 1998. HiPER1, a phosphatase of the endoplasmic reticulum with a role in chondrocyte maturation. *J. Cell Sci.* 111: 803-813.
4. Chi, H., et al. 1999. Multiple inositol polyphosphate phosphatase: evolution as a distinct group within the histidine phosphatase family and chromosomal localization of the human and mouse genes to chromosomes 10q23 and 19. *Genomics* 56: 324-336.

CHROMOSOMAL LOCATION

Genetic locus: MINPP1 (human) mapping to 10q23.2.

SOURCE

MIPP (A-8) is a mouse monoclonal antibody raised against amino acids 1-95 mapping at the N-terminus of MIPP 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.

MIPP (A-8) is available conjugated to agarose (sc-514214 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514214 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514214 PE), fluorescein (sc-514214 FITC), Alexa Fluor[®] 488 (sc-514214 AF488), Alexa Fluor[®] 546 (sc-514214 AF546), Alexa Fluor[®] 594 (sc-514214 AF594) or Alexa Fluor[®] 647 (sc-514214 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514214 AF680) or Alexa Fluor[®] 790 (sc-514214 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

MIPP (A-8) is recommended for detection of MIPP 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 MIPP siRNA (h): sc-106226, MIPP shRNA Plasmid (h): sc-106226-SH and MIPP shRNA (h) Lentiviral Particles: sc-106226-V.

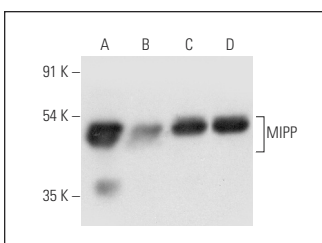
Molecular Weight of MIPP: 47 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

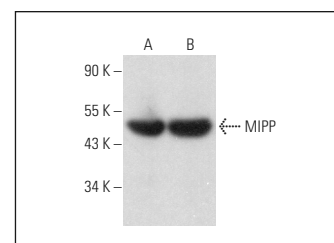
RECOMMENDED SUPPORT REAGENTS

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



MIPP (A-8): sc-514214. Western blot analysis of MIPP expression in Hep G2 (A), MIA PaCa-2 (B), HeLa (C) and K-562 (D) whole cell lysates.



MIPP (A-8): sc-514214. Western blot analysis of MIPP expression in Hep G2 (A) and Caki-1 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zubair, M., et al. 2022. Identification and functional characterization of multiple inositol polyphosphate phosphatase1 (Minpp1) isoform-2 in exosomes with potential to modulate tumor microenvironment. *PLoS ONE* 17: e0264451.

STORAGE

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