SANTA CRUZ BIOTECHNOLOGY, INC.

MPP10 (TJ-1): sc-81847

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MPP10 (M-phase phosphoprotein 10), also known as MPHOSPH10, is a 681 amino acid protein that localizes to the fibrillar region of the nucleolus. Phosphorylated in the M (mitotic) phase of the cell cycle, MPP10 is a component of the 60-80S U3 small nucleolar ribonucleoprotein (U3 snoRNP) complex and is required for the early cleavages during pre-18S ribosomal RNA processing. MPP10 forms a heterotrimeric complex with IMP-3 and IMP-4, which may be required for its association with nucleolar components. The gene encoding MPP10 is localized to human chromosome 2, which houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, Neurofibromatosis type 2, autism and schizophrenia.

REFERENCES

1. Matsumoto-Taniura, N., et al. 1996. Identification of novel M phase phosphoproteins by expression cloning. Mol. Biol. Cell 7: 1455-1469.
2. Baserga, S.J., et al. 1997. MPP10P, a new protein component of the U3 SnoRNP required for processing of 18S rRNA precursors. Nucleic Acids Symp. Ser. 64-67.
3. Westendorf, J.M., et al. 1998. M phase phosphoprotein 10 is a human U3 small nucleolar ribonucleoprotein component. Mol. Biol. Cell 9: 437-449.
4. Scherl, A., et al. 2002. Functional proteomic analysis of human nucleolus. Mol. Biol. Cell 13: 4100-4109.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605503. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Yang, J.M., et al. 2003. Human scleroderma sera contain autoantibodies to protein components specific to the U3 small nucleolar RNP complex. Arthritis Rheum. 48: 210-217.
7. Granneman, S., et al. 2003. The human IMP-3 and IMP-4 proteins form a ternary complex with hMPP10, which only interacts with the U3 SnoRNA in 60-80S ribonucleoprotein complexes. Nucleic Acids Res. 31: 1877-1887.

CHROMOSOMAL LOCATION

Genetic locus: MPHOSPH10 (human) mapping to 2p13.3; Mphosph10 (mouse) mapping to 7 C.

SOURCE

MPP10 (TJ-1) is a mouse monoclonal antibody raised against recombinant MPP10 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

MPP10 (TJ-1) is recommended for detection of MPP10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 MPP10 siRNA (h): sc-94702, MPP10 siRNA (m): sc-149534, MPP10 shRNA Plasmid (h): sc-94702-SH, MPP10 shRNA Plasmid (m): sc-149534-SH, MPP10 shRNA (h) Lentiviral Particles: sc-94702-V and MPP10 shRNA (m) Lentiviral Particles: sc-149534-V.

Molecular Weight of MPP10 precursor: 79 kDa.

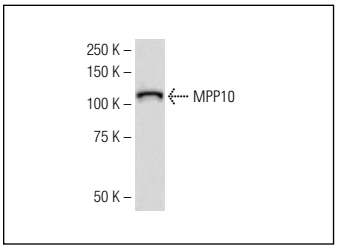
Molecular Weight of phosphorylated MPP10: 120 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or HeLa whole cell lysate: sc-2200.

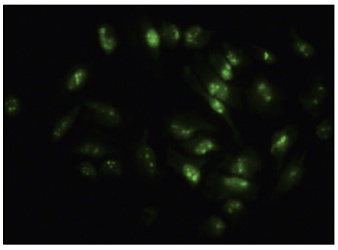
RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 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



MPP10 (TJ-1): sc-81847. Western blot analysis of MPP10 expression in HeLa nuclear extract.



MPP10 (TJ-1): sc-81847. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

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.