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# MPP10 siRNA (m): sc-149534

## 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

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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.* 36: 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. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605503. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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6. Granneman, S., et al. 2003. The human Imp3 and Imp4 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.
7. Bernstein, K.A., et al. 2004. The small-subunit processome is a ribosome assembly intermediate. *Eukaryotic Cell* 3: 1619-1626.
8. Segerstolpe, A., et al. 2008. Mrd1p binds to pre-rRNA early during transcription independent of U3 snoRNA and is required for compaction of the pre-rRNA into small subunit processomes. *Nucleic Acids Res.* 36: 4364-4380.

## CHROMOSOMAL LOCATION

Genetic locus: Mphosph10 (mouse) mapping to 7 C.

## PRODUCT

MPP10 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MPP10 shRNA Plasmid (m): sc-149534-SH and MPP10 shRNA (m) Lentiviral Particles: sc-149534-V as alternate gene silencing products.

## RESEARCH USE

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

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

MPP10 siRNA (m) is recommended for the inhibition of MPP10 expression in mouse cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10  $\mu$ M in 66  $\mu$ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## GENE EXPRESSION MONITORING

MPP10 (TJ-1): sc-81847 is recommended as a control antibody for monitoring of MPP10 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MPP10 gene expression knockdown using RT-PCR Primer: MPP10 (m)-PR: sc-149534-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.