

MAP-1S siRNA (h): sc-97763

BACKGROUND

Microtubules, the primary component of the cytoskeletal network, interact with proteins called microtubule-associated proteins (MAPs). The microtubule-associated proteins can be divided into two groups, structural and dynamic. The MAP proteins function to stimulate tubulin assembly, enhance microtubule stability, influence the spatial distribution of microtubules within cells and utilize microtubule polarity to translocate cellular components. MAP-1S (microtubule-associated protein 1S), also known as MAP8 (microtubule-associated protein 8), BPY2IP1 (BPY2-interacting protein 1) or VCY2IP1 (variable charge Y chromosome 2-interacting protein 1), is a 1,059 amino acid protein that belongs to the MAP1 family and plays a role in formation of microtubule bundles. Localizing to the nucleus and cytoplasm, MAP-1S is expressed in cerebral cortex, testis, brain, heart, colon, kidney, liver, lung, placenta, spleen, stomach, small intestine and neurons.

REFERENCES

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2. Liu, L., et al. 2002. Novel complex integrating mitochondria and the microtubular cytoskeleton with chromosome remodeling and tumor suppressor RASSF1 deduced by in silico homology analysis, interaction cloning in yeast, and colocalization in cultured cells. *In Vitro Cell. Dev. Biol. Anim.* 38: 582-594.
3. Wong, E.Y., et al. 2004. Identification and characterization of human VCY2-interacting protein: VCY2IP-1, a microtubule-associated protein-like protein. *Biol. Reprod.* 70: 775-784.
4. Dalloc, A., et al. 2004. RASSF1A interacts with microtubule-associated proteins and modulates microtubule dynamics. *Cancer Res.* 64: 4112-4116.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 607573. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Ding, J., et al. 2006. Microtubule-associated protein 8 contains two microtubule binding sites. *Biochem. Biophys. Res. Commun.* 339: 172-179.

CHROMOSOMAL LOCATION

Genetic locus: MAP1S (human) mapping to 19p13.11.

PRODUCT

MAP-1S siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MAP-1S shRNA Plasmid (h): sc-97763-SH and MAP-1S shRNA (h) Lentiviral Particles: sc-97763-V as alternate gene silencing products.

For independent verification of MAP-1S (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-97763A, sc-97763B and sc-97763C.

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

APPLICATIONS

MAP-1S siRNA (h) is recommended for the inhibition of MAP-1S expression in human 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 μ M in 66 μ 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

MAP-1S (4H2): sc-517081 is recommended as a control antibody for monitoring of MAP-1S 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 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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MAP-1S gene expression knockdown using RT-PCR Primer: MAP-1S (h)-PR: sc-97763-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.