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SANTA CRUZ BIOTECHNOLOGY, INC.

MAP-9 siRNA (m): sc-149255

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-9 (microtubule-associated protein 9), also known as ASAP, is a 647 amino acid cytoplasmic protein that is constitutively expressed during the cell cycle. MAP-9 localizes to microtubules in interphase, associates with the mitotic spindle during mitosis and localizes to the central body during cytokinesis. Involved in organization of the bipolar mitotic spindle, MAP-9 is required for bipolar spindle assembly, mitosis progression and cytokinesis. MAP-9 may be involved in stabilizing interphase microtubules. Two isoforms of MAP-9 are produced due to alternative splicing events.

REFERENCES

1. Sloboda, R.D., et al. 1975. Cyclic AMP-dependent endogenous phosphorylation of a microtubule-associated protein. Proc. Natl. Acad. Sci. USA 72: 177-181.
2. Bloom, G.S. and Vallee, R.B. 1983. Association of microtubule-associated protein 2 (MAP-2) with microtubules and intermediate filaments in cultured brain cells. J. Cell Biol. 96: 1523-1531.
3. Krstenansky, J.L., et al. 1989. Short model peptides having a high α-helical tendency: design and solution properties. FEBS Lett. 242: 409-413.
4. West, R.R., et al. 1991. A model for microtubule-associated protein 4 structure. Domains defined by comparisons of human, mouse, and bovine sequences. J. Biol. Chem. 266: 21886-21896.
5. Saffin, J.M., et al. 2005. ASAP, a human microtubule-associated protein required for bipolar spindle assembly and cytokinesis. Proc. Natl. Acad. Sci. USA 102: 11302-11307.
6. Venoux, M., et al. 2008. ASAP is a novel substrate of the oncogenic mitotic kinase Aurora-A: phosphorylation on Ser625 is essential to spindle formation and mitosis. Hum. Mol. Genet. 17: 215-224.

CHROMOSOMAL LOCATION

Genetic locus: Mtap9 (mouse) mapping to 3 E3.

PRODUCT

MAP-9 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MAP-9 shRNA Plasmid (m): sc-149255-SH and MAP-9 shRNA (m) Lentiviral Particles: sc-149255-V as alternate gene silencing products.

For independent verification of MAP-9 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149255A, sc-149255B and sc-149255C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

MAP-9 siRNA (m) is recommended for the inhibition of MAP-9 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 µM in 66 µl. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MAP-9 gene expression knockdown using RT-PCR Primer: MAP-9 (m)-PR: sc-149255-PR (20 µl). 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.