SANTA CRUZ BIOTECHNOLOGY, INC.

Maspardin siRNA (m): sc-75752

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The Power to Question

BACKGROUND

Maspardin, also known as MAST, ACP33, GL010, BM-019 or SPG21 (spastic paraplegia 21 (autosomal recessive, Mast syndrome)), is a 308 amino acid cytoplasmic protein that is widely expressed. Belonging to the AB hydrolase superfamily, Maspardin colocalizes with CD4 on endosomal/*trans*-Golgi network. It is thought that Maspardin may act as a negative regulatory factor in CD4-dependent T-cell activation. Defects in the gene encoding Maspardin are the result of hereditary spastic paraplegia autosomal recessive type 21 (also designated Mast syndrome), an autosomal recessive neurodegenerative disorder characterized by a slow, gradual, progressive weakness and spasticity of the lower limbs. The gene encoding Maspardin is encoded by human chromosome 15q22.31, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

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3. Tanaka, M., et al. 1995. A case of complicated form of hereditary spastic paraplegia associated with hypoplasia of the corpus callosum and cataracta. Rinsho Shinkeigaku 35: 798-802.
4. Zeitlmann, L., et al. 2001. Cloning of ACP33 as a novel intracellular ligand of CD4. J. Biol. Chem. 276: 9123-9132.
5. Simpson, M.A., et al. 2003. Maspardin is mutated in mast syndrome, a complicated form of hereditary spastic paraplegia associated with dementia. Am. J. Hum. Genet. 73: 1147-1156.
6. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 248900. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Brockmann, K., et al. 2005. Complicated hereditary spastic paraplegia with thin corpus callosum (HSP-TCC) and childhood onset. Neuropediatrics 36: 274-278.

CHROMOSOMAL LOCATION

Genetic locus: Spg21 (mouse) mapping to 9 C.

PRODUCT

Maspardin 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 Maspardin shRNA Plasmid (m): sc-75752-SH and Maspardin shRNA (m) Lentiviral Particles: sc-75752-V as alternate gene silencing products.

For independent verification of Maspardin (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-75752A, sc-75752B and sc-75752C.

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

Maspardin siRNA (m) is recommended for the inhibition of Maspardin 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.

GENE EXPRESSION MONITORING

Maspardin (H-5): sc-393340 is recommended as a control antibody for monitoring of Maspardin 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-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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Maspardin gene expression knockdown using RT-PCR Primer: Maspardin (m)-PR: sc-75752-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.