

Masparidin siRNA (h): sc-75751

BACKGROUND

Masparidin, 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, Masparidin colocalizes with CD4 on endosomal/*trans*-Golgi network. It is thought that Masparidin may act as a negative regulatory factor in CD4-dependent T-cell activation. Defects in the gene encoding Masparidin 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 Masparidin is encoded by human chromosome 15q22.31, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

1. Cross, H.E. and McKusick, V.A. 1967. The mast syndrome. A recessively inherited form of presenile dementia with motor disturbances. *Arch. Neurol.* 16: 1-13.
2. Iwabuchi, K., et al. 1994. Three patients of complicated form of autosomal recessive hereditary spastic paraplegia associated with hypoplasia of the corpus callosum. *No To Shinkei* 46: 941-947.
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. Masparidin 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 (human) mapping to 15q22.31.

PRODUCT

Masparidin 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 Masparidin shRNA Plasmid (h): sc-75751-SH and Masparidin shRNA (h) Lentiviral Particles: sc-75751-V as alternate gene silencing products.

For independent verification of Masparidin (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-75751A, sc-75751B and sc-75751C.

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

Masparidin siRNA (h) is recommended for the inhibition of Masparidin 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

Masparidin (H-5): sc-393340 is recommended as a control antibody for monitoring of Masparidin 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 Masparidin gene expression knockdown using RT-PCR Primer: Masparidin (h)-PR: sc-75751-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.