



Masparidin shRNA (h) Lentiviral Particles: sc-75751-V

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.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

CHROMOSOMAL LOCATION

Genetic locus: SPG21 (human) mapping to 15q22.31.

PRODUCT

Masparidin shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 µl frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see Masparidin siRNA (h): sc-75751 and Masparidin shRNA Plasmid (h): sc-75751-SH as alternate gene silencing products.

APPLICATIONS

Masparidin shRNA (h) Lentiviral Particles is recommended for the inhibition of Masparidin expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

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-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 Masparidin gene expression knockdown using RT-PCR Primer: Masparidin (h)-PR: sc-75751-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.