SANTA CRUZ BIOTECHNOLOGY, INC.

MAN2C1 siRNA (h): sc-62596

BACKGROUND

Misfolded glycoproteins are deglycosylated by the peptide N-glycanase during the degradation process. Free oligosaccharides released by N-glycanase are catabolized by cytosolic MAN2C1, also designated α-mannosidase 2C1. MAN2C1, a member of the glycosyl hydrolase 38 family, can cleave α 1,2-linked, α 1,3-linked and α 1,6-linked mannose residues and is stimulated by cobalt. The furanose analogs, swainsonine (SW) and 1,4-dideoxy-1,4-imino-d-mannitol (DIM), are known inhibitors of MAN2C1. The inhibition of MAN2C1 can enhance the adhesion of Jurkat T cells, showing a cytoskeletal rearrangement of the cells.

REFERENCES

1. Suzuki, T., et al. 2006. Man2C1, an α-mannosidase, is involved in the trimming of free oligosaccharides in the cytosol. Biochem. J. 400: 33-41.
2. Qu, L., et al. 2006. Inhibition of the α-mannosidase MAN2C1 gene expression enhances adhesion of Jurkat cells. Cell Res. 16: 622-631.
3. Dash, D.P., et al. 2006. Fine mapping of the keratoconus with cataract locus on chromosome 15q and candidate gene analysis. Mol. Vis. 12: 499-505.
4. Costanzi, E., et al. 2006. Cloning and expression of mouse cytosolic α-mannosidase (MAN2C1). Biochim. Biophys. Acta 1760: 1580-1586.
5. McDaniel, A.H., et al. 2006. A locus on mouse chromosome 9 (Adip5) affects the relative weight of the gonadal but not retroperitoneal adipose depot. Mamm. Genome 17: 1078-1092.
6. Shi, Y., et al. 2007. Inhibition of malignant activities of nasopharyngeal carcinoma cells with high expression of CD44 by siRNA. Oncol. Rep. 18: 397-403.

CHROMOSOMAL LOCATION

Genetic locus: MAN2C1 (human) mapping to 15q24.2.

PRODUCT

MAN2C1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MAN2C1 shRNA Plasmid (h): sc-62596-SH and MAN2C1 shRNA (h) Lentiviral Particles: sc-62596-V as alternate gene silencing products.

For independent verification of MAN2C1 (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-62596A, sc-62596B and sc-62596C.

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

MAN2C1 siRNA (h) is recommended for the inhibition of MAN2C1 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 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

MAN2C1 (C-4): sc-377132 is recommended as a control antibody for monitoring of MAN2C1 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 MAN2C1 gene expression knockdown using RT-PCR Primer: MAN2C1 (h)-PR: sc-62596-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.