

MAN2A2 siRNA (h): sc-106194

BACKGROUND

The α -mannosidases (designated MAN1A1, MAN1A2, MAN2A1 and MAN2A2) comprise a group of soluble proteins that localize to the endoplasmic reticulum, the Golgi apparatus or the cytoplasm. Depending on their cellular location, these proteins are involved in either the processing or the degradation of newly synthesized N-glycans. MAN2A2 (mannosidase α class 2A member 2), also known as MAN2AX, is a 1,150 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and exists as three alternatively spliced isoforms. As a disulfide-linked homodimer, MAN2A2 catalyzes the first committed step in the biosynthesis of complex N-glycans by controlling the conversion of high mannose to complex N-glycans. The gene that encodes MAN2A2 consists of approximately 18,396 bases and maps to human chromosome 15q26.1.

REFERENCES

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2. Montefiori, D.C., et al. 1988. Role of protein N-glycosylation in pathogenesis of human immunodeficiency virus type 1. *Proc. Natl. Acad. Sci. USA* 85: 9248-9252.
3. Knoll, J.H., et al. 1989. Angelman and Prader-Willi syndromes share a common chromosome 15 deletion but differ in parental origin of the deletion. *Am. J. Med. Genet.* 32: 285-290.
4. Yeh, J.C., et al. 1993. Site-specific N-glycosylation and oligosaccharide structures of recombinant HIV-1 gp120 derived from a baculovirus expression system. *Biochemistry* 32: 11087-11099.
5. Hurowitz, G.I., et al. 1993. Neuropsychiatric aspects of adult-onset Tay-Sachs disease: two case reports with several new findings. *J. Neuropsychiatry Clin. Neurosci.* 5: 30-36.
6. Misago, M., et al. 1995. Molecular cloning and expression of cDNAs encoding human α -mannosidase II and a previously unrecognized α -mannosidase II isozyme. *Proc. Natl. Acad. Sci. USA* 92: 11766-11770.

CHROMOSOMAL LOCATION

Genetic locus: MAN2A2 (human) mapping to 15q26.1.

PRODUCT

MAN2A2 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 MAN2A2 shRNA Plasmid (h): sc-106194-SH and MAN2A2 shRNA (h) Lentiviral Particles: sc-106194-V as alternate gene silencing products.

For independent verification of MAN2A2 (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-106194A, sc-106194B and sc-106194C.

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

MAN2A2 siRNA (h) is recommended for the inhibition of MAN2A2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MAN2A2 gene expression knockdown using RT-PCR Primer: MAN2A2 (h)-PR: sc-106194-PR (20 μ l, 508 bp). 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.