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SANTA CRUZ BIOTECHNOLOGY, INC.

MAN1C1 siRNA (m): sc-149245

BACKGROUND

MAN1C, MAN1A3 or pp6318, is a 630 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and belongs to the glycosyl hydrolase 47 family. Expressed in most tissues throughout the body with the exception of pancreas, muscle and lung, MAN1C1 uses calcium as a cofactor to catalyze the hydrolysis of terminal α-D-mannose residues in Man9(GlcNAc)2, a reaction that is involved in oligosaccharide maturation. MAN1C1 is functionally inhibited by 1-deoxymannojirimycin and kifunensine and is encoded by a gene which maps to human chromosome 1p36.11. Chromosome 1 spans 260 million base pairs and houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

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6. Hosokawa, N., You, Z., Tremblay, L.O., Nagata, K. and Herscovics, A. 2007. Stimulation of ERAD of misfolded null Hong Kong α1-antitrypsin by Golgi α1,2-mannosidases. Biochem. Biophys. Res. Commun. 362: 626-632.

CHROMOSOMAL LOCATION

Genetic locus: Man1c1 (mouse) mapping to 4 D3.

PRODUCT

MAN1C1 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 MAN1C1 shRNA Plasmid (m): sc-149245-SH and MAN1C1 shRNA (m) Lentiviral Particles: sc-149245-V as alternate gene silencing products.

For independent verification of MAN1C1 (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-149245A, sc-149245B and sc-149245C.

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

MAN1C1 siRNA (m) is recommended for the inhibition of MAN1C1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MAN1C1 gene expression knockdown using RT-PCR Primer: MAN1C1 (m)-PR: sc-149245-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.