SANTA CRUZ BIOTECHNOLOGY, INC.

GnT-I siRNA (h): sc-106893

BACKGROUND

GnT-I (α-1,3-mannosyl-glycoprotein 2-β-N acetylglucosaminyltransferase, GlcNAc-T I, MGAT1) catalyzes the first step in the conversion of oligomannose-type N-glycans to N-acetyl-lactosamine- and hybrid-type N-glycans. GnT-I is a 445 amino acid type II membrane protein that localizes to the Golgi and is essential for normal embryogenesis. GnT-I is expressed ubiquitously and exists as multiple variants that encode the same functional protein.

REFERENCES

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3. Kumar, R., Yang, J., Eddy, R.L., Byers, M.G., Shows, T.B. and Stanley, P. 1992. Cloning and expression of the murine gene and chromosomal location of the human gene encoding N-acetylglucosaminyltransferase I. Glycobiology 2: 383-393.
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5. Yip, B., Chen, S.H., Mulder, H., Höppener, J.W. and Schachter, H. 1997. Organization of the human β-1,2-N-acetylglucosaminyltransferase I gene (MGAT1), which controls complex and hybrid N-glycan synthesis. Biochem. J. 321: 465-474.
6. Yen, C.L., Stone, S.J., Cases, S., Zhou, P. and Farese, R.V. 2002. Identification of a gene encoding MGAT1, a monoacylglycerol acyltransferase. Proc. Natl. Acad. Sci. USA 99: 8512-8517.

CHROMOSOMAL LOCATION

Genetic locus: MGAT1 (human) mapping to 5q35.3.

PRODUCT

GnT-I 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 GnT-I shRNA Plasmid (h): sc-106893-SH and GnT-I shRNA (h) Lentiviral Particles: sc-106893-V as alternate gene silencing products.

For independent verification of GnT-I (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-106893A, sc-106893B and sc-106893C.

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

GnT-I siRNA (h) is recommended for the inhibition of GnT-I 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GnT-I gene expression knockdown using RT-PCR Primer: GnT-I (h)-PR: sc-106893-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.