SANTA CRUZ BIOTECHNOLOGY, INC.

GTDC1 siRNA (m): sc-145821

BACKGROUND

Glycosyltransferases that mediate the regio- and stereoselective transfer of sugars, such as the fucosyltransferases, determine cell surface-carbohydrate profiles, which is an essential interface for biological recognition processes. GTDC1 (glycosyltransferase-like domain-containing protein 1), also known as Mat-Xa, is a 458 amino acid protein belonging to the glycosyltransferase 1 family. GTDC1 is ubiquitously expressed, with highest levels found in peripheral blood leukocytes, spleen, lung and testis. There are three isoforms of GTDC1 that are produced as a result of alternative splicing events. The gene encoding GTDC1 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. An extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

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3. Wennekes, T., van den Berg, R.J., Boot, R.G., van der Marel, G.A., Overkleeft, H.S. and Aerts, J.M. 2009. Glycosphingolipids—nature, function, and pharmacological modulation. Angew. Chem. Int. Ed. Engl. 48: 8848-8869.
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CHROMOSOMAL LOCATION

Genetic locus: Gtdc1 (mouse) mapping to 2 B.

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.

PRODUCT

GTDC1 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 GTDC1 shRNA Plasmid (m): sc-145821-SH and GTDC1 shRNA (m) Lentiviral Particles: sc-145821-V as alternate gene silencing products.

For independent verification of GTDC1 (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-145821A, sc-145821B and sc-145821C.

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

GTDC1 siRNA (m) is recommended for the inhibition of GTDC1 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 GTDC1 gene expression knockdown using RT-PCR Primer: GTDC1 (m)-PR: sc-145821-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.