SANTA CRUZ BIOTECHNOLOGY, INC.

GCNT3 siRNA (m): sc-145365

BACKGROUND

Belonging to the glycosyltransferase 14 family, GCNT3, also known as β1,3-galactosyl-O-glycosyl-glycoprotein β-1,6-N-acetylglucosaminyltransferase 3 or core 2/core 4 β1,6-N-acetylglucosaminyltransferase (C2/4GnT), is a 438 amino acid glycosyltransferase that is localized to the Golgi apparatus. Other members of this family include GCNT1, GCNT2, GCNT4, GCNT6 and GCNT7. GCNT3 has been shown to play an important regulatory role in the synthesis of all known mucin β6-N-acetylglucosaminides and in mediating core 2 and core 4 O-glycan branching, two important steps in mucin-type biosynthesis. Primarily expressed in mucus-secreting tissues, GCNT3 displays I-branching enzyme activity by converting linear into branched poly-N-acetyllactosamino-glycans, leading to the introduction of the blood group I antigen during embryonic development.

REFERENCES

1. El-Battari, A., et al. 2003. Different glycosyltransferases are differentially processed for secretion, dimerization, and autoglycosylation. Glycobiology 13: 941-953.
2. Hiraoka, N., et al. 2004. Core 2 branching β1,6-N-acetylglucosaminyl-transferase and high endothelial venule-restricted sulfotransferase collaboratively control lymphocyte homing. J. Biol. Chem. 279: 3058-3067.
3. Beum, P.V., et al. 2005. Mucin biosynthesis: upregulation of core 2 β1,6-N-acetylglucosaminyltransferase by retinoic acid and Th2 cytokines in a human airway epithelial cell line. Am. J. Physiol. Lung Cell. Mol. Physiol. 288: L116-L124.
4. Hagisawa, S., et al. 2005. Expression of core 2 β1,6-N-acetylglucos-aminyltransferase facilitates prostate cancer progression. Glycobiology 15: 1016-1024.

CHROMOSOMAL LOCATION

Genetic locus: Gcnt3 (mouse) mapping to 9 D.

PRODUCT

GCNT3 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 GCNT3 shRNA Plasmid (m): sc-145365-SH and GCNT3 shRNA (m) Lentiviral Particles: sc-145365-V as alternate gene silencing products.

For independent verification of GCNT3 (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-145365A, sc-145365B and sc-145365C.

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.

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

GCNT3 siRNA (m) is recommended for the inhibition of GCNT3 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 GCNT3 gene expression knockdown using RT-PCR Primer: GCNT3 (m)-PR: sc-145365-PR (20 µl, 566 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.