SANTA CRUZ BIOTECHNOLOGY, INC.

GalNAc4S-6ST siRNA (m): sc-145317

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs and xenobiotic compounds. These cytosolic enzymes differ in their tissue distribution and substrate specificity, but share similar gene structure (number and length of exons). GalNAc4S-6ST (N-acetylgalactosamine 4-sulfate 6-O-sulfotransferase), also known as BRAG, is a 561 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and belongs to the sulfotransferase 1 family. Expressed in fetal and adult bone marrow, spleen and lymph node, GalNAc4S-6ST exists as a disulfide-linked homodimer that uses divalent metal cations to catalyze the transfer of sulfate from 3'-phosphoadenosine 5'-phosphosulfate (PAPS) to chondroitin sulfate A, thereby forming chondroitin sulfate E containing GlcA-GalNAc(4,6-SO(4)) repeating units. Additionally, GalNAc4S-6ST, which is expressed as multiple alternatively spliced isoforms, may also function as a B cell receptor, possibly playing a role B cell development and regulation.

REFERENCES

1. Inoue, H., et al. 1986. Difference between N-acetylgalactosamine 4-sulfate 6-O-sulfotransferases from human serum and squid cartilage in specificity toward the terminal and interior portion of chondroitin sulfate. J. Biol. Chem. 261: 4470-4475.
2. Verkoczy, L.K., et al. 1998. hBRAG, a novel B cell lineage cDNA encoding a type II transmembrane glycoprotein potentially involved in the regulation of recombination activating gene 1 (RAG1). Eur. J. Immunol. 28: 2839-2853.
3. Verkoczy, L.K., et al. 2000. Characterization of the human B cell RAG-associated gene, hBRAG, as a B cell receptor signal-enhancing glycoprotein dimer that associates with phosphorylated proteins in resting B cells. J. Biol. Chem. 275: 20967-20979.
4. Yuki, M., et al. 2000. Structure, expression and mutational analysis of the hBRAG gene on 10q in the frequently deleted region in human endometrial cancer. Oncol. Rep. 7: 1339-1342.
5. Sekiguchi, T., et al. 2001. Novel G proteins, Rag C and Rag D, interact with GTP-binding proteins, Rag A and Rag B. J. Biol. Chem. 276: 7246-7257.

CHROMOSOMAL LOCATION

Genetic locus: Chst15 (mouse) mapping to 7 F3.

PRODUCT

GalNAc4S-6ST 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 GalNAc4S-6ST shRNA Plasmid (m): sc-145317-SH and GalNAc4S-6ST shRNA (m) Lentiviral Particles: sc-145317-V as alternate gene silencing products.

For independent verification of GalNAc4S-6ST (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-145317A, sc-145317B and sc-145317C.

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

GalNAc4S-6ST siRNA (m) is recommended for the inhibition of GalNAc4S-6ST 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 GalNAc4S-6ST gene expression knockdown using RT-PCR Primer: GalNAc4S-6ST (m)-PR: sc-145317-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.