SANTA CRUZ BIOTECHNOLOGY, INC.

GalNAc-T17 siRNA (h): sc-89142

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). GalNAc-T17 (UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase 17), also known as GALNTL6, is a 601 amino acid single-pass type II membrane protein that is a member of the glycosyltransferase 2 family and GalNAc-T subfamily. Localized to the Golgi apparatus and contains a ricin B-type lectin domain, GalNAc-T17 catalyzes the initial reaction in O-linked oligosaccharide biosynthesis, the transfer of an N-acetyl-D-galactosamine residue to a serine or threonine residue on the protein receptor. GalNAc-T17 contains two conserved domains, an N-terminal domain (domain A, also called GT1 motif), which is likely involved in manganese coordination and substrate binding and a C-terminal domain (domain B, also called Gal/GalNAc-T motif), which is likely involved in catalytic reaction and UDP-Gal binding. GalNAc-T17 exists as two alternatively spliced isoforms and utilizes manganese and calcium as cofactors.

REFERENCES

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3. Bennett, E.P., et al. 1999. Cloning and characterization of a close homologue of human UDP-N-acetyl-α-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase-T3, designated GalNAc-T6. Evidence for genetic but not functional redundancy. J. Biol. Chem. 274: 25362-25370.
4. Kim, S., et al. 2001. Intact Golgi synthesize complex branched O-linked chains on glycoside primers: evidence for the functional continuity of seven glycosyltransferases and three sugar nucleotide transporters. Glycoconj. J. 18: 623-633.
5. Schwientek, T., et al. 2002. Functional conservation of subfamilies of putative UDP-N-acetylgalactosamine:polypeptide N-acetylgalactosaminyltransferases in *Drosophila, Caenorhabditis elegans,* and mammals. One subfamily composed of l(2)35Aa is essential in *Drosophila*. J. Biol. Chem. 277: 22623-22638.
6. Kinarsky, L., et al. 2003. Conformational studies on the MUC1 tandem repeat glycopeptides: implication for the enzymatic O-glycosylation of the mucin protein core. Glycobiology 13: 929-939.
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CHROMOSOMAL LOCATION

Genetic locus: GALNTL6 (human) mapping to 4q34.1.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

GalNAc-T17 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 GalNAc-T17 shRNA Plasmid (h): sc-89142-SH and GalNAc-T17 shRNA (h) Lentiviral Particles: sc-89142-V as alternate gene silencing products.

For independent verification of GalNAc-T17 (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-89142A, sc-89142B and sc-89142C.

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

GalNAc-T17 siRNA (h) is recommended for the inhibition of GalNAc-T17 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 GalNAc-T17 gene expression knockdown using RT-PCR Primer: GalNAc-T17 (h)-PR: sc-89142-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.