SANTA CRUZ BIOTECHNOLOGY, INC.

β-1,3-Gal-T5 siRNA (h): sc-91431

BACKGROUND

β-1,3-Gal-T5 belongs to the glycosyltransferase 31 family and catalyzes the transfer of Gal to GlcNAc-based acceptors with a preference for the core3 O-linked glycan GlcNAc(β1,3)GalNAc structure. β-1,3-Gal-T5 is a type II membrane protein, and exhibits expression in stomach, jejunum, colon, pancreas, small intestine, testis and gastrointestinal and pancreatic cancer cell lines. Small levels are detected in lung, liver, adrenal gland and peripheral blood leukocytes. β-1,3-Gal-T5 also determines the amounts of the type 1 Lewis antigens including the sialyl Lewis α antigen and is likely responsible for the synthesis of the type 1 Lewis antigens in gastrointestinal and pancreatic epithelia and tumor cells.

REFERENCES

1. Amado, M., et al. 1999. Identification and characterization of large galact

   Biochim. Biophys. Acta 1473: 35-53.
2. Isshiki, S., et al. 1999. Cloning, expression, and characterization of a novel UDP-galactose:β-N-acetylglucosamine β-1,3-galactosyltransferase (β-3Gal-T5) responsible for synthesis of type 1 chain in colorectal and pancreatic epithelia and tumor cells derived therefrom. J. Biol. Chem. 274: 12499-12507.
3. Salvini, R., et al. 2001. β-1,3-Galactosyltransferase β-3Gal-T5 acts on the GlcNAcβ-1→3Galβ-1→4GlcNAcβ-1→R sugar chains of carcinoembryonic antigen and other N-linked glycoproteins and is downregulated in colon adenocarcinomas. J. Biol. Chem. 276: 3564-3573.
4. Dunn, C.A., et al. 2003. An endogenous retroviral long terminal repeat is the dominant promoter for human β-1,3-galactosyltransferase 5 in the colon. Proc. Natl. Acad. Sci. USA 100: 12841-12846.
5. Sato, T., et al. 2004. Transcriptional regulation of the human β-1,4-galactosyltransferase V gene in cancer cells: essential role of transcription factor Sp1. J. Biol. Chem. 279: 39574-39583.

CHROMOSOMAL LOCATION

Genetic locus: B3GALT5 (human) mapping to 21q22.2.

PRODUCT

β-1,3-Gal-T5 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 β-1,3-Gal-T5 shRNA Plasmid (h): sc-91431-SH and β-1,3-Gal-T5 shRNA (h) Lentiviral Particles: sc-91431-V as alternate gene silencing products.

For independent verification of β-1,3-Gal-T5 (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-91431A, sc-91431B and sc-91431C.

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

β-1,3-Gal-T5 siRNA (h) is recommended for the inhibition of β-1,3-Gal-T5 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 β-1,3-Gal-T5 gene expression knockdown using RT-PCR Primer: β-1,3-Gal-T5 (h)-PR: sc-91431-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chachadi, V.B., et al. 2015. Glycosyltransferases involved in the synthesis of MUC-associated metastasis-promoting selectin ligands. Glycobiology 25: 963-975.

RESEARCH USE

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