SANTA CRUZ BIOTECHNOLOGY, INC.

# β3Gn-T4 siRNA (h): sc-95932

## BACKGROUND

A family of human β 1,3-galactosyltransferases (β3Gn-Ts) consists of nine members (β3Gn-T1, -T2, -T3, -T4, -T5, -T6, -T7, -T8 and -T9). β3Gn-T1 catalyzes the formation of type 1 oligosaccharides. β3GnT-2 converts lacto-N-triose II into lacto-N-tetraose and lacto-N-neotetraose and can form a heterodimer with β3Gn-T8, which, as a complex, exhibits higher enzymatic activity. Unlike the ubiquitously expressed β3Gn-T2, β3Gn-T3 is specifically expressed in colon, jejunum, stomach, esophagus, placenta and trachea, and β3Gn-T4 is mainly expressed in brain. β3Gn-T5 is essential for the biosynthesis of Lewis antigens and may play a role in gastric cancer as a result of its participation in chronic *H. pylori* infection. β3Gn-T6 may be a useful marker for distinguishing between benign adenomas and premalignant lesions. β3Gn-T7 acts as an anti-migration factor for a lung cancer cell line.

## REFERENCES


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4. Deo, V.K., et al. 2006. Multiple co-transfection and co-expression of human β-1,3-N-acetylglucosaminyltransferase with human calreticulin chaperone cDNA in a single step in insect cells. Biotechnol. Appl. Biochem. 43: 129-135.
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6. Marcos, N.T., Magalhães, A., Ferreira, B., Oliveira, M.J., Carvalho, A.S., Mendes, N., Gilmartin, T., Head, S.R., Figueiredo, C., David, L., Santos-Silva, F. and Reis, C.A. 2008. Helicobacter pylori induces β3GnT5 in human gastric cell lines, modulating expression of the SabA ligand sialyl-Lewis x. J. Clin. Invest. 118: 2325-2336.


## CHROMOSOMAL LOCATION

Genetic locus: B3GNT4 (human) mapping to 12q24.31.

## PRODUCT

β3Gn-T4 siRNA (h) is a pool of 2 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 β3Gn-T4 shRNA Plasmid (h): sc-95932-SH and β3Gn-T4 shRNA (h) Lentiviral Particles: sc-95932-V as alternate gene silencing products.

For independent verification of β3Gn-T4 (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-95932A and sc-95932B.

## 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

β3Gn-T4 siRNA (h) is recommended for the inhibition of β3Gn-T4 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 β3Gn-T4 gene expression knockdown using RT-PCR Primer: β3Gn-T4 (h)-PR: sc-95932-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.