SANTA CRUZ BIOTECHNOLOGY, INC.

α4Gn-T siRNA (m): sc-140647

BACKGROUND

α 1,4-N-acetylflucosaminyltransferase (α4Gn-T) mediates the biosynthesis of mucin type glycoprotein (O-glycan). α4Gn-T acts as the key enzyme for the formation of the unique glycan GlcNAcα1-4Galβ1-R, and most efficiently transfers N-acetylglucosamine (GlcNAc) to core 2 branched O-glycans. α4Gn-T is a single-pass type II membrane protein associated with the Golgi apparatus and contains the conserved DXD motif involved in catalytic activity. It is expressed in stomach and pancreas, as well as in gastric cancer cells. α4Gn-T is not expressed in peripheral blood cells, making it a useful biomarker for pancreatic cancer. α4Gn-T and Mucin 6 expression is upregulated in the gastric mucosa of *H. pylori* infected patients, which suggest the involvement of α4Gn-T in defense against *H. pylori* infection.

REFERENCES

1. Nakayama, J., et al. 1999. Expression cloning of a human α 1,4-N-acetylglucosaminyltransferase that forms GlcNAcα1→4Galβ→R, a glycan specifically expressed in the gastric gland mucous cell-type mucin. Proc. Natl. Acad. Sci. USA 96: 8991-8996.
2. Zhang, M.X., et al. 2001. Immunohistochemical demonstration of α 1,4-N-acetylglucosaminyltransferase that forms GlcNAcα1,4Galβ residues in human gastrointestinal mucosa. J. Histochem. Cytochem. 49: 587-596.
3. Nakayama, J., et al. 2002. Glycosyltransferase genes as tumor marker. Rinsho Byori 123: 142-148.
4. Matsuzwa, M., et al. 2003. *Helicobacter pylori* infection up-regulates gland mucous cell-type mucins in gastric pyloric mucosa. Helicobacter 8: 594-600.
5. Nakajima, K., et al. 2003. Expression of gastric gland mucous cell-type mucin in normal and neoplastic human tissues. J. Histochem. Cytochem. 51: 1689-1698.
6. Shimizu, F., et al. 2003. Usefulness of the real-time reverse transcription-polymerase chain reaction assay targeted to α 1,4-N-acetylglucosaminyltransferase for the detection of gastric cancer. Lab. Invest. 83: 187-197.

CHROMOSOMAL LOCATION

Genetic locus: A4gnt (mouse) mapping to 9 E3.3.

PRODUCT

α4Gn-T siRNA (m) is a target-specific 19-25 nt siRNA 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 α4Gn-T shRNA Plasmid (m): sc-140647-SH and α4Gn-T shRNA (m) Lentiviral Particles: sc-140647-V as alternate gene silencing products.

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

α4Gn-T siRNA (m) is recommended for the inhibition of α4Gn-T 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 α4Gn-T gene expression knockdown using RT-PCR Primer: α4Gn-T (m)-PR: sc-140647-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.