SANTA CRUZ BIOTECHNOLOGY, INC.

GnT-V siRNA (m): sc-40643

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

UDP-N-acetylglucosamine:α mannoside β1, 6 N-acetylglucosaminyltransferase, known as GnT-V, plays a pivotal role in the processing of N-linked glycoproteins and influences cancer progression and metastasis. Expression of GnT-V in the liver is enhanced during hepatocarcinogenesis, although it is not expressed in normal liver. Gene expression of GnT-V is regulated by a transcriptional factor, which is involved in angiogenesis and invasion of tumor cells. When the formation of the product of GnT-V, GlcNAc-β1-6, is inhibited by overexpression of GnT-III, lung metastasis of melanoma cells is suppressed. Modification of glycoprotein receptors such as the receptors for epidermal growth factor and nerve growth factor by GnT-III sense transfection changes an intracellular signaling pathway, which may lead to a variety of biological alterations in tumor cells.

REFERENCES

1. Taniguchi, N., et al. 1999. Implication of N-acetylglucosaminyltransferases III and V in cancer: gene regulation and signaling mechanism. Biochim. Biophys. Acta 1455: 287-300.
2. Ito, Y., et al. 2001. Elevated expression of UDP-N-acetylglucosamine: alphamannoside β1,6 N-acetylglucosaminyltransferase is an early event in hepato-carcinogenesis. Int. J. Cancer 91: 631-637.
3. Guo, H.B., et al. 2001. Relationship between metastasis-associated phenotypes and N-glycan structure of surface glycoproteins in human hepatocarcinoma cells. J. Cancer Res. Clin. Oncol. 127: 231-236.
4. Fukuta, K., et al. 2001. The widespread effect of β 1,4-galactosyltransferase on N-glycan processing. Arch. Biochem. Biophys. 392: 79-86.
5. Fukuzumi, M., et al. 2001. Comparison of the expression of cell surface poly-N-acetyllactosamine-type oligosaccharides in PC12 cells with those in its variant PC12D. Glycobiology 11: 481-494.

CHROMOSOMAL LOCATION

Genetic locus: Mgat5 (mouse) mapping to 1 E3.

PRODUCT

GnT-V 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 GnT-V shRNA Plasmid (m): sc-40643-SH and GnT-V shRNA (m) Lentiviral Particles: sc-40643-V as alternate gene silencing products.

For independent verification of GnT-V (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-40643A, sc-40643B and sc-40643C.

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

GnT-V siRNA (m) is recommended for the inhibition of GnT-V 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 GnT-V gene expression knockdown using RT-PCR Primer: GnT-V (m)-PR: sc-40643-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.