SANTA CRUZ BIOTECHNOLOGY, INC.

GnT-III siRNA (m): sc-63308

BACKGROUND

GnT-III (also designated N-acetylglucosaminyltransferase III and GlcNAc-T III) catalyzes the transfer of a N-acetylglucosamine residue to the β-linked mannose of the trimannosyl core of N-linked oligosaccharides, thereby inhibiting the extension of N-glycans by introducing a bisecting N-acetylglucosamine residue. Overexpression of GnT-III suppresses H_2O_2-induced activation of the PKC δ-JNK1 pathway, resulting in inhibition of apoptosis.

REFERENCES

1. Ihara, Y., Nishikawa, A., Tohma, T., Soejima, H., Niikawa, N. and Taniguchi, N. 1993. cDNA cloning, expression, and chromosomal localization of human N-acetylglucosaminyltransferase III (GnT-III). J. Biochem. 113: 692-698.
2. Shibukawa, Y., Takahashi, M., Laffont, I., Honke, K. and Taniguchi, N. 2003. Down-regulation of hydrogen peroxide-induced PKC δ activation in N-acetylglucosaminyltransferase III-transfected HeLaS3 cells. J. Biol. Chem. 278: 3197-3203.
3. Yang, X., Tang, J., Rogler, C.E. and Stanley, P. 2003. Reduced hepatocyte proliferation is the basis of retarded liver tumor progression and liver regeneration in mice lacking N-acetylglucosaminyltransferase III. Cancer Res. 63: 7753-7759.
4. Sasai, K., Ikeda, Y., Ihara, H., Honke, K. and Taniguchi, N. 2003. Caveolin-1 regulates the functional localization of N-acetylglucosaminyltransferase III within the Golgi apparatus. J. Biol. Chem. 278: 25295-25301.
5. Kang, S.K., Chung, T.W., Lee, J.Y., Lee, Y.C., Morton, R.E. and Kim, C.H. 2004. The hepatitis B virus X protein inhibits secretion of apolipoprotein B by enhancing the expression of N-acetylglucosaminyltransferase III. J. Biol. Chem. 279: 28106-28112.
6. LocusLink Report (LocusID: 4248). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Mgat3 (mouse) mapping to 15 E1.

PRODUCT

GnT-III 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-III shRNA Plasmid (m): sc-63308-SH and GnT-III shRNA (m) Lentiviral Particles: sc-63308-V as alternate gene silencing products.

For independent verification of GnT-III (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-63308A, sc-63308B and sc-63308C.

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.

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-III siRNA (m) is recommended for the inhibition of GnT-III 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-III gene expression knockdown using RT-PCR Primer: GnT-III (m)-PR: sc-63308-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.