SANTA CRUZ BIOTECHNOLOGY, INC.

β-1,3-Gal-T6 siRNA (m): sc-105002

BACKGROUND

β-1,3-Gal-T6 (β-1,3-galactosyltransferase 6), also known as galactosyltransferase II or GAG GalTII, is a 329 amino acid protein belonging to the glycosyltransferase 31 family. β-1,3-Gal-T6 is involved in several glycan metabolism pathways. With manganese as a cofactor, β-1,3-Gal-T6 catalyzes the transfer of galactose from UDP-galactose to substrates with a terminal β-linked galactose residue. β-1,3-Gal-T6 has a preference for galactose-β-1,4-xylose found in the linker region of chondroitin sulfate, heparan sulfate and other glycosaminoglycans, but does not have activity towards substrates with terminal galactosamine or glucosamine residues. Ubiquitously expressed, β-1,3-Gal-T6 is a single-pass type II membrane protein localized to the Golgi stack membrane.

REFERENCES

1. Zhou, D., et al. 1999. A β-1,3-N-acetylglucosaminyltransferase with poly-N-acetyllactosamine synthase activity is structurally related to β-1,3-galactosyltransferases. Proc. Natl. Acad. Sci. USA 96: 406-411.
2. Bai, X., et al. 2001. Biosynthesis of the linkage region of glycosaminoglycans: cloning and activity of galactosyltransferase II, the sixth member of the β 1,3-galactosyltransferase family (β 3GalT6). J. Biol. Chem. 276: 48189-48195.
3. Cole, S.E., et al. 2001. Identification, expression analysis, and mapping of β3GalT6, a putative galactosyl transferase gene with similarity to *Drosophila brainiac*. Mamm. Genome 12: 177-179.
4. Patel, R.Y. and Balaji, P.V. 2007. Fold-recognition and comparative modeling of human β3GalT I, II, IV, V and VI and β3GalNAcT I: prediction of residues conferring acceptor substrate specificity. J. Mol. Graph. Model. 26: 255-268.
5. Rivinoja, A., et al. 2009. Elevated Golgi pH impairs terminal N-glycosylation by inducing mislocalization of Golgi glycosyltransferases. J. Cell. Physiol. 220: 144-154.

CHROMOSOMAL LOCATION

Genetic locus: B3galt6 (mouse) mapping to 4 E2.

PRODUCT

β-1,3-Gal-T6 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 β-1,3-Gal-T6 shRNA Plasmid (m): sc-105002-SH and β-1,3-Gal-T6 shRNA (m) Lentiviral Particles: sc-105002-V as alternate gene silencing products.

For independent verification of β-1,3-Gal-T6 (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-105002A, sc-105002B and sc-105002C.

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-T6 siRNA (m) is recommended for the inhibition of β-1,3-Gal-T6 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 β-1,3-Gal-T6 gene expression knockdown using RT-PCR Primer: β-1,3-Gal-T6 (m)-PR: sc-105002-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.