SANTA CRUZ BIOTECHNOLOGY, INC.

GlcAT-S siRNA (m): sc-145417

BACKGROUND

GlcAT-S (glucuronosyltransferase-S), also known as B3GAT2 (β-1,3-glucuronyltransferase 2), is a 323 amino acid Golgi apparatus single-pass type II membrane protein that belongs to the glycosyltransferase 43 family. GlcAT-S is expressed in trachea, retina, spinal cord, hippocampus and other brain regions, and, at lower levels in testis and ovary. Existing as a homodimer, GlcAT-S is involved in the biosynthesis of CD57 (also known as HNK-1) carbohydrate epitope, a sulfated trisaccharide implicated in cellular migration and adhesion in the nervous system. GlcAT-S catalyzes the transfer of a β-1,3 linked glucuronic acid to a terminal galactose in different glycoproteins or glycolipids containing a Gal-β-1-4GlcNAc or Gal-β-1-3GlcNAc residue. It has been suggested that inflammatory cytokines, such as TNFα, stimulate GlcAT-S gene expression in brain and promote T-cell adhesion via SGPG-L-selectin recognition, a preliminary step for onset of neuroinflammation.

REFERENCES

1. Imiya, K., et al. 2002. cDNA cloning, genomic structure and chromosomal mapping of the mouse glucuronyltransferase-S involved in the biosynthesis of the HNK-1 carbohydrate epitope. Gene 296: 29-36.
2. Marcos, I., et al. 2002. Cloning, characterization, and chromosome mapping of the human GlcAT-S gene. J. Hum. Genet. 47: 677-680.
3. Kakuda, S., et al. 2004. Purification and characterization of two recombinant human glucuronyltransferases involved in the biosynthesis of HNK-1 carbohydrate in *Escherichia coli*. Protein Expr. Purif. 35: 111-119.
4. Kizuka, Y., et al. 2006. Physical and functional association of glucuronyltransferases and sulfotransferase involved in HNK-1 biosynthesis. J. Biol. Chem. 281: 13644-13651.
5. Shiba, T., et al. 2006. Crystal structure of GlcAT-S, a human glucuronyltransferase, involved in the biosynthesis of the HNK-1 carbohydrate epitope. Proteins 65: 499-508.

CHROMOSOMAL LOCATION

Genetic locus: B3gat2 (mouse) mapping to 1 A5.

PRODUCT

GlcAT-S 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 GlcAT-S shRNA Plasmid (m): sc-145417-SH and GlcAT-S shRNA (m) Lentiviral Particles: sc-145417-V as alternate gene silencing products.

For independent verification of GlcAT-S (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-145417A, sc-145417B and sc-145417C.

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

GlcAT-S siRNA (m) is recommended for the inhibition of GlcAT-S 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 GlcAT-S gene expression knockdown using RT-PCR Primer: GlcAT-S (m)-PR: sc-145417-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.