SANTA CRUZ BIOTECHNOLOGY, INC.

GLT25D1 siRNA (m): sc-145433

BACKGROUND

GLT25D1 (glycosyltransferase 25 domain containing 1), also known as hydroxylysine galactosyltransferase 1 or procollagen galactosyltransferase 1, is a 622 amino acid protein that localizes to the lumen of the endoplasmic reticulum. Ubiquitously expressed with higher levels in placenta, heart, lung and spleen, GLT25D1 is a member of the glycosyltransferase 25 family. The β-galactosyltransferase activity of GLT25D1 allows the transfer of β-galactose to hydroxylysine residues of collagen. GLT25D1 is considered an important target for investigating the biological significance of collagen glycosylation and the importance of posttranslational modification in the etiology of connective tissue disorders. The gene encoding GLT25D1 is located on human chromosome 19, which consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes.

REFERENCES

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3. Trettel, F., et al. 2000. A fine physical map of the CACNA1A gene region on 19p13.1-p13.2 chromosome. Gene 241: 45-50.
4. Buchet-Poyau, K., et al. 2002. Search for the second Peutz-Jeghers syndrome locus: exclusion of the STK13, PRKCG, KLK10, and PSCD2 genes on chromosome 19 and the STK11IP gene on chromosome 2. Cytogenet. Genome Res. 97: 171-178.
5. Moodie, S.J., et al. 2002. Analysis of candidate genes on chromosome 19 in coeliac disease: an association study of the KIR and LILR gene clusters. Eur. J. Immunogenet. 29: 287-291.
6. Grimwood, J., et al. 2004. The DNA sequence and biology of human chromosome 19. Nature 428: 529-535.
7. Schegg, B., et al. 2009. Core glycosylation of collagen is initiated by two β(1-O)galactosyltransferases. Mol. Cell. Biol. 29: 943-952.

CHROMOSOMAL LOCATION

Genetic locus: Glt25d1 (mouse) mapping to 8 B3.3.

PRODUCT

GLT25D1 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 GLT25D1 shRNA Plasmid (m): sc-145433-SH and GLT25D1 shRNA (m) Lentiviral Particles: sc-145433-V as alternate gene silencing products.

For independent verification of GLT25D1 (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-145433A, sc-145433B and sc-145433C.

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

GLT25D1 siRNA (m) is recommended for the inhibition of GLT25D1 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 GLT25D1 gene expression knockdown using RT-PCR Primer: GLT25D1 (m)-PR: sc-145433-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.