SANTA CRUZ BIOTECHNOLOGY, INC.

FucT-X siRNA (m): sc-145270

BACKGROUND

Glycosyltransferases that mediate the regio- and stereoselective transfer of sugars, such as the fucosyltransferases, determine cell surface-carbohydrate profiles, which is an essential interface for biological recognition processes. Fucosyltransferases catalyze the covalent association of fucose to different positional linkages in sugar acceptor molecules. Hematopoietic lineages rely on Fucosyltransferases to confer a surface carbohydrate phenotype, which mediates proper cell adhesion, molecule recruitment and cell trafficking. Localized to the Golgi apparatus as a single-pass transmembrane protein, FucT-X, also designated α-(1,3)-fucosyltransferase 10 or FUT10, is a 479 amino acid protein that is involved in protein modification and glycosylation. There are seven isoforms of FucT-X that are produced as a result of alternative splicing events.

REFERENCES

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3. Brito, C., et al. 2008. Human fucosyltransferase IX: specificity towards N-linked glycoproteins and relevance of the cytoplasmic domain in intra-Golgi localization. Biochimie 90: 1279-1290.
4. Zhao, Y.Y., et al. 2008. Functional roles of N-glycans in cell signaling and cell adhesion in cancer. Cancer Sci. 99: 1304-1310.
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6. Marathe, D.D., et al. 2008. Systems-level studies of glycosyltransferase gene expression and enzyme activity that are associated with the selectin binding function of human leukocytes. FASEB J. 22: 4154-4167.
7. Mollicone, R., et al. 2008. Activity, splice variants, conserved peptide motifs and phylogeny of two new α 1,3-fucosyltransferase families (FUT10 and FUT11). J. Biol. Chem. 284: 4723-4738.
8. Wang, Q.Y., et al. 2008. α1,3 fucosyltransferase-VII up-regulates the mRNA of α5 integrin and its biological function. J. Cell. Biochem. 104: 2078-2090.
9. Nilsson, C., et al. 2008. Lipopolysaccharide diversity evolving in *Helicobacter pylori* communities through genetic modifications in fucosyltransferases. PLoS ONE 3: e3811.

CHROMOSOMAL LOCATION

Genetic locus: Fut10 (mouse) mapping to 8 A3.

PROTOCOLS

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

PRODUCT

FucT-X 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 FucT-X shRNA Plasmid (m): sc-145270-SH and FucT-X shRNA (m) Lentiviral Particles: sc-145270-V as alternate gene silencing products.

For independent verification of FucT-X (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-145270A, sc-145270B and sc-145270C.

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

FucT-X siRNA (m) is recommended for the inhibition of FucT-X 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 FucT-X gene expression knockdown using RT-PCR Primer: FucT-X (m)-PR: sc-145270-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.