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FucT-XI siRNA (m): sc-145271

BACKGROUND

Glycosyltransferases that mediate the regio- and stereoselective transfer of sugars, such as the fucosyltransferases, determine cell surface-carbohydrate profiles, which are essential interfaces for biological recognition processes. Fucosyltransferases (FucTs) catalyze the covalent association of fucose to different positional linkages on sugar acceptor molecules. The carbohydrate moieties that are generated are covalently attached to cell surfaces and are necessary to ensure a surface contour that satisfies a variety of physiological roles. FucT-XI (fucosyltransferase XI), also known as α -(1,3)-fucosyltransferase 11 or galactoside 3-L-fucosyltransferase 11, is a 492 amino acid single-pass type II membrane protein that belongs to the glycosyltransferase 10 family. Localizing to Golgi apparatus, FucT-XI may act as a fucosyltransferase and exists as two alternatively spliced isoforms. The gene encoding FucT-XI maps to mouse chromosome 14 A3.

REFERENCES

1. Baboval, T., et al. 2002. Comparison of human and mouse FucT-X and FucT-XI genes, and expression studies in the mouse. *Mamm. Genome* 13: 538-541.
2. Paschinger, K., et al. 2005. Fucosyltransferase substrate specificity and the order of fucosylation in invertebrates. *Glycobiology* 15: 463-474.
3. 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.
4. Wang, Q.Y., et al. 2008. α 1,3 fucosyltransferase-VII up-regulates the mRNA of α 5 integrin and its biological function. *J. Cell. Biochem.* 104: 2078-2090.
5. Nilsson, C., et al. 2008. Lipopolysaccharide diversity evolving in *Helicobacter pylori* communities through genetic modifications in fucosyltransferases. *PLoS ONE* 3: e3811.
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CHROMOSOMAL LOCATION

Genetic locus: Fut11 (mouse) mapping to 14 A3.

PRODUCT

FucT-XI siRNA (m) is a pool of 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FucT-XI shRNA Plasmid (m): sc-145271-SH and FucT-XI shRNA (m) Lentiviral Particles: sc-145271-V as alternate gene silencing products.

For independent verification of FucT-XI (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-145271A and sc-145271B.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

FucT-XI siRNA (m) is recommended for the inhibition of FucT-XI 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 μ M in 66 μ l. 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-XI gene expression knockdown using RT-PCR Primer: FucT-XI (m)-PR: sc-145271-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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