

FucT-X (E-12): sc-87752

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

1. Baboval, T. and Smith, F.I. 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. 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.
5. Schaub, B.E., et al. 2008. Dissection of a novel molecular determinant mediating Golgi to *trans*-Golgi network transition. *Cell. Mol. Life Sci.* 65: 3677-3687.
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. α 1,3 fucosyltransferase-VII upregulates the mRNA of Integrin α 5 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: 3811.

CHROMOSOMAL LOCATION

Genetic locus: FUT10 (human) mapping to 8p12; Fut10 (mouse) mapping to 8 A3.

SOURCE

FucT-X (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FucT-X of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87752 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FucT-X (E-12) is recommended for detection of FucT-X of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with FucT-X-7.

FucT-X (E-12) is also recommended for detection of FucT-X in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for FucT-X siRNA (h): sc-77484, FucT-X siRNA (m): sc-145270, FucT-X shRNA Plasmid (h): sc-77484-SH, FucT-X shRNA Plasmid (m): sc-145270-SH, FucT-X shRNA (h) Lentiviral Particles: sc-77484-V and FucT-X shRNA (m) Lentiviral Particles: sc-145270-V.

Molecular Weight of FucT-X: 56 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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