

## FucT-V (N-18): sc-14872

### 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. The carbohydrate moieties generated and covalently attached to cell surfaces are necessary to ensure a surface contour that satisfies physiological roles, which are reliant on adhesion molecules such as Selectins. Hematopoietic lineages rely on fucosyltransferases to confer a surface carbohydrate phenotype, which mediates proper cell adhesion molecule recruitment and cell trafficking. FucT-V (fucosyltransferase 5 ( $\alpha$  (1,3) fucosyltransferase)), also known as FUT5, is a 374 amino acid single-pass type II membrane protein belonging to the glycosyltransferase 10 family. Expressed in liver, colon and testis and trace amounts in T-cells and brain, FucT-V localizes to the Golgi apparatus and may be a potential catalyst for  $\alpha$ -1,3 glycosidic linkages.

### REFERENCES

1. Wagers, A.J. and Kansas, G.S. 2000. Potent induction of  $\alpha$ (1,3)-fucosyltransferase VII in activated CD4<sup>+</sup> T cells by TGF $\beta$  1 through a p38 mitogen-activated protein kinase-dependent pathway. *J. Immunol.* 165: 5011-5016.
2. Huang, M.C., et al. 2000. P-selectin glycoprotein ligand-1 and E-selectin ligand-1 are differentially modified by fucosyltransferases FucT-IV and FucT-VII in mouse neutrophils. *J. Biol. Chem.* 275: 31353-31360.
3. Withers, D.A. and Hakomori, S.I. 2000. Human  $\alpha$  (1,3)-fucosyltransferase IV (FUTIV) gene expression is regulated by Elk-1 in the U937 cell line. *J. Biol. Chem.* 275: 40588-40593.
4. Taniguchi, A., et al. 2000. Expression and transcriptional regulation of the human  $\alpha$  1,3-fucosyltransferase 4 (FUT4) gene in myeloid and colon adenocarcinoma cell lines. *Biochem. Biophys. Res. Commun.* 273: 370-376.
5. Nakayama, F., et al. 2001. CD15 expression in mature granulocytes is determined by  $\alpha$  1,3-fucosyltransferase IX, but in promyelocytes and monocytes by  $\alpha$  1,3-fucosyltransferase IV. *J. Biol. Chem.* 276: 16100-16106.

### CHROMOSOMAL LOCATION

Genetic locus: FUT5 (human) mapping to 19p13.3.

### SOURCE

FucT-V (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of FucT-V of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-14872 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### RESEARCH USE

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

### APPLICATIONS

FucT-V (N-18) is recommended for detection of FucT-V of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

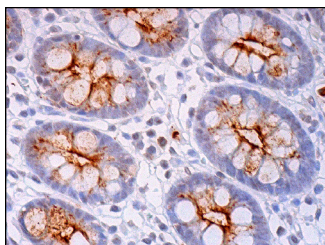
Suitable for use as control antibody for FucT-V siRNA (h): sc-40586, FucT-V shRNA Plasmid (h): sc-40586-SH and FucT-V shRNA (h) Lentiviral Particles: sc-40586-V.

Molecular Weight of FucT-V: 43 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

### DATA



FucT-V (N-18): sc-14872. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing apical membrane & cytoplasmic staining of glandular cells.

### SELECT PRODUCT CITATIONS

1. Escrevente, C., et al. 2006. Different expression levels of  $\alpha$ 3/4 fucosyltransferases and Lewis determinants in ovarian carcinoma tissues and cell lines. *Int. J. Oncol.* 29: 557-566.
2. Chiu, P.C., et al. 2007. Glycodelin-A interacts with fucosyltransferase on human sperm plasma membrane to inhibit spermatozoa-zona pellucida binding. *J. Cell Sci.* 120: 33-44.

### STORAGE

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