

FucT-IV (M-234): sc-292248

BACKGROUND

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-IV, α -(1,3)-fucosyltransferase 4, also known as FUT4, FCT3A or ELFT, is a 405 amino acid single-pass type II membrane protein that localizes to Golgi stacks. During embryogenesis, FucT-IV is highly expressed in skin, liver, kidney, muscle and small intestine where it functions to catalyze the glycosidic attachment of α -Fucose to various molecules, such as N-acetyl-lactosamines. Via its catalytic activity, FucT-IV participates in the synthesis of carbohydrate molecules like the cell-adhesion antigen CD15 (also known as Lewis X), thereby playing a role in cell cycle events such as apoptosis and cell-cell binding. Overexpression of FucT-IV is implicated in epithelial cancers, suggesting a possible role for FucT-IV in carcinogenesis.

REFERENCES

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2. Wagers, A.J., et al. 2000. Potent induction of α (1,3)-fucosyltransferase VII in activated CD4⁺ T cells by TGF β 1 through a p38 mitogen-activated protein kinase-dependent pathway. *J. Immunol.* 165: 5011-5016.
3. 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.
4. Withers, D.A., et al. 2000. Human α (1,3)-fucosyltransferase IV (FucT-IV) gene expression is regulated by Elk-1 in the U-937 cell line. *J. Biol. Chem.* 275: 40588-40593.
5. Taniguchi, A., et al. 2000. Expression and transcriptional regulation of the human α 1, 3-fucosyltransferase 4 (FUT4) gene in myeloid and colon adenocarcinoma cell lines. *Biochem. Biophys. Res. Commun.* 273: 370-376.
6. Nakayama, F., et al. 2001. CD15 expression in mature granulocytes is determined by α 1,3-fucosyltransferase IX, but in promyelocytes and monocytes by α 1,3-fucosyltransferase IV. *J. Biol. Chem.* 276: 16100-16106.
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CHROMOSOMAL LOCATION

Genetic locus: Fut4 (mouse) mapping to 9 A2.

SOURCE

FucT-IV (M-234) is a rabbit polyclonal antibody raised against amino acids 1-234 mapping at the N-terminus of FucT-IV of mouse origin.

PRODUCT

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

APPLICATIONS

FucT-IV (M-234) is recommended for detection of FucT-IV of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for FucT-IV siRNA (m): sc-105376, FucT-IV shRNA Plasmid (m): sc-105376-SH and FucT-IV shRNA (m) Lentiviral Particles: sc-105376-V.

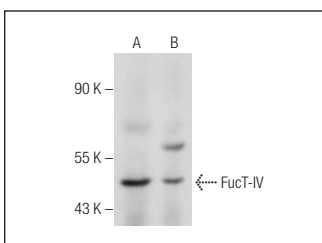
Molecular Weight of FucT-IV: 45 kDa.

Positive Controls: Mouse kidney extract: sc-2255 or rat liver extract: sc-2395.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



FucT-IV (M-234): sc-292248. Western blot analysis of FucT-IV expression in mouse kidney (A) and rat liver (B) tissue extracts.

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.