

FucT-IX (N-15): sc-14886

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. Human α 1,3-fucosyltransferase IX (FucT-IX) is expressed in brain, stomach, spleen and peripheral blood leukocytes.

REFERENCES

1. Kaneko, M., et al. 1999. α 1,3-fucosyltransferase IX (Fuc-TIX) is very highly conserved between human and mouse; molecular cloning, characterization and tissue distribution of human Fuc-TIX. *FEBS Lett.* 452: 237-242.
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 Fuc-TIV and Fuc-TVII in mouse neutrophils. *J. Biol. Chem.* 275: 31353-31360.
4. Withers, D.A., et al. 2000. Human α (1,3)-fucosyltransferase IV (FUTIV) gene expression is regulated by elk-1 in the U937 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.

CHROMOSOMAL LOCATION

Genetic locus: FUT9 (human) mapping to 6q16.1; Fut9 (mouse) mapping to 4 A3.

SOURCE

FucT-IX (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of FucT-IX of human origin.

STORAGE

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

PROTOCOLS

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

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-14886 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FucT-IX (N-15) is recommended for detection of FucT-IX 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).

FucT-IX (N-15) is also recommended for detection of FucT-IX in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for FucT-IX siRNA (h): sc-40590, FucT-IX siRNA (m): sc-40591, FucT-IX shRNA Plasmid (h): sc-40590-SH, FucT-IX shRNA Plasmid (m): sc-40591-SH, FucT-IX shRNA (h) Lentiviral Particles: sc-40590-V and FucT-IX shRNA (m) Lentiviral Particles: sc-40591-V.

Molecular Weight of FucT-IX: 42 kDa.

Positive Controls: mouse brain extract: sc-2253.

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.

SELECT PRODUCT CITATIONS

1. Li, Y., et al. 2013. Cell recognition molecule L1 promotes embryonic stem cell differentiation through the regulation of cell surface glycosylation. *Biochem. Biophys. Res. Commun.* 440: 405-412.

RESEARCH USE

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