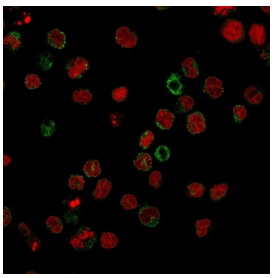
FUT4 Antibody / Lewis X Biosynthesis Enzyme Antibody [clone FR4A5] (V2522)

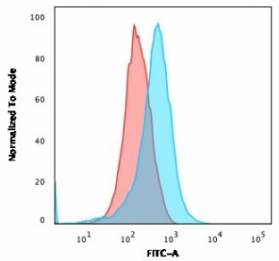
Catalog No.	Formulation	Size
V2522-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2522-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2522SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgM, kappa
Clone Name	FR4A5
Purity	PEG precipitation
UniProt	P22083
Localization	Cell surface and granular paranuclear
Applications	Flow Cytometry : 0.5-1ug/million cells Immunofluorescence : 0.5-1ug/ml
Limitations	This FUT4 Antibody / Lewis X Biosynthesis Enzyme Antibody is available for research use only.



FUT4 Antibody U937 Immunofluorescence. Immunofluorescent analysis of human U937 cells stained with FUT4 Antibody demonstrates prominent membranous and cell surface-associated green fluorescence consistent with Fucosyltransferase 4-associated Lewis X/CD15 carbohydrate antigen biosynthesis pathways in myeloid-associated cellular populations. This Lewis X biosynthesis enzyme antibody highlights developmental glycoconjugate regulation and leukocyte-associated glycosylation pathway organization within hematopoietic cells. Nuclei are counterstained with Reddot nuclear stain (red).



FUT4 Antibody U937 FACS. Flow cytometry analysis of human U937 cells stained with FUT4 Antibody demonstrates a distinct right-shifted fluorescence population relative to the isotype control, consistent with Fucosyltransferase 4-associated Lewis X/CD15 carbohydrate antigen biosynthesis activity in myeloid-associated cellular populations. This Lewis X biosynthesis enzyme antibody supports characterization of leukocyte-associated glycosylation pathways and developmental glycoconjugate regulation in hematopoietic cells. Blue=FUT4 antibody, Red=isotype control.

Description

Fucosyltransferase 4 (FUT4) is a Golgi-associated glycosyltransferase enzyme involved in biosynthesis of Lewis X (Lex/CD15) carbohydrate antigens through alpha-1,3-fucosylation of glycoconjugates and glycolipids. FUT4 participates in leukocyte-associated glycosylation pathways, cell adhesion biology, inflammatory signaling, developmental differentiation, and selectin-mediated cellular interaction networks. FUT4 Antibody is useful for investigations involving carbohydrate antigen biosynthesis, leukocyte differentiation, developmental glycobiology, and tumor-associated glycosylation regulation.

FUT4 antibody, also referred to as Fucosyltransferase 4 antibody, Lewis X biosynthesis enzyme antibody, and CD15 biosynthesis antibody in the literature, recognizes a glycosyltransferase encoded on chromosome 11q21. FUT4 localizes predominantly to Golgi-associated secretory compartments where it catalyzes formation of Lewis X-associated carbohydrate epitopes involved in leukocyte adhesion, developmental signaling, and immune-associated cell surface organization. FUT4 expression contributes directly to biosynthesis of CD15/Lewis X glycoconjugates expressed on hematopoietic, epithelial, and developmental cellular populations.

FUT4 Antibody / Lewis X Biosynthesis Enzyme Antibody (clone FR4A5) is uniquely positioned for studies involving developmental glycobiology and leukocyte-associated carbohydrate antigen biosynthesis pathways. This mouse monoclonal antibody supports detection of FUT4-associated glycosylation machinery involved in generation of Lewis X/CD15 carbohydrate determinants. Clone FR4A5 may be useful for investigations examining developmental differentiation, immune-associated glycosylation regulation, selectin ligand formation, and lineage-associated glycoconjugate organization.

FUT4-mediated glycosylation contributes to leukocyte rolling, inflammatory recruitment, embryonic development, stem cell differentiation, and epithelial-associated cell adhesion pathways. Altered FUT4 expression has been associated with hematopoietic differentiation status, inflammatory signaling activity, tumor-associated glycosylation remodeling, and cancer progression-associated carbohydrate antigen regulation. Because FUT4 is centrally involved in biosynthesis of Lewis X and CD15-associated carbohydrate structures, it serves as a useful marker for investigations involving glycoconjugate-mediated cellular signaling and developmental lineage specification.

In tissue-based and fluorescence-based detection systems, FUT4-associated expression patterns commonly correlate with cell surface-associated Lewis X/CD15 carbohydrate antigen organization and glycosylation-associated secretory activity. FUT4-dependent glycans additionally participate in selectin-mediated adhesion pathways and immune-associated cellular trafficking mechanisms. The biologic overlap between FUT4, CD15, Lewis X, and SSEA-1-associated carbohydrate epitopes supports broad utility in investigations involving developmental differentiation and leukocyte-associated glycobiology.

This FUT4 Antibody supports research involving Lewis X biosynthesis, developmental glycobiology, leukocyte differentiation pathways, carbohydrate antigen regulation, selectin-mediated adhesion biology, immune-associated glycosylation pathways, and tumor-associated glycoconjugate organization. Clone FR4A5 may be incorporated into tissue-based and cellular investigations examining FUT4-associated glycosylation networks and Lewis X/CD15 carbohydrate antigen biosynthesis in normal and diseased tissues.

For extensively published CD15 detection in Hodgkin lymphoma and leukocyte differentiation studies, see our CD15 Antibody / Leukocyte Differentiation Antigen Antibody page featuring clone Leu-M1/MMA with IHC, IF, and FACS validation data.

Application Notes

Optimal dilution of the FUT4 antibody should be determined by the researcher.

Immunogen

Myelomonocytic leukemia cells were used as the immunogen for the FUT4 antibody.

Storage

Store the FUT4 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Fucosyltransferase 4 antibody, FUT4 antibody, Lewis X biosynthesis enzyme antibody, CD15 biosynthesis antibody, Alpha-(1,3)-fucosyltransferase 4 antibody