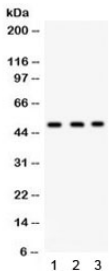
FUT1 Antibody / Blood Group H Antigen Enzyme Antibody (R31996)

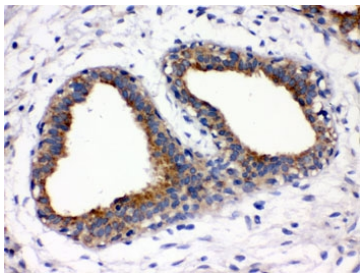
Catalog No.	Formulation	Size
R31996	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

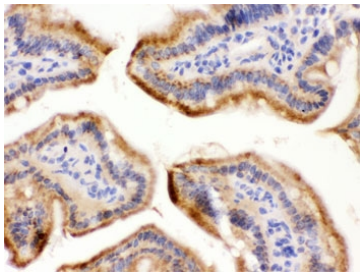
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P19526
Localization	Cytoplasmic, membrane
Applications	Western blot: 0.1-0.5ug/ml Immunohistochemistry (FFPE): 0.5-1ug/ml
Limitations	This FUT1 Antibody / Blood Group H Antigen Enzyme Antibody is available for research use only.



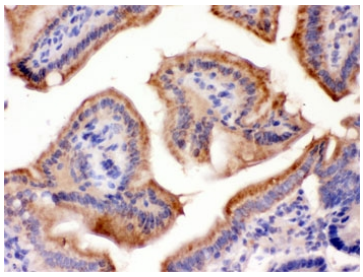
FUT1 Antibody WB. Western blot testing of 1) rat brain, 2) human SW620 and 3) A549 lysate with FUT1 antibody. Predicted/observed molecular weight ~50 kDa.



FUT1 Antibody Breast Cancer IHC. Immunohistochemistry staining of FFPE human breast cancer tissue using FUT1 Antibody demonstrates moderate to strong membranous and cytoplasmic HRP-DAB brown staining within malignant epithelial cells lining glandular and duct-like tumor structures. The staining pattern is consistent with expression of Fucosyltransferase 1 (FUT1), a Golgi-associated glycosyltransferase responsible for blood group H antigen biosynthesis and regulation of cell surface fucosylation. FUT1-mediated glycosylation influences cellular adhesion, receptor function, and cell-cell recognition processes, and altered expression has been associated with cancer-related changes in glycan composition and tumor cell behavior. The observed staining highlights neoplastic epithelial populations and is consistent with the known role of FUT1 in regulating biologically active cell surface carbohydrate structures. HIER: boil paraffin sections in pH 6, 10 mM citrate buffer for 20 minutes and allow to cool prior to staining.



FUT1 Antibody Mouse Intestine IHC. Immunohistochemistry staining of FFPE mouse intestine using FUT1 Antibody demonstrates prominent membranous and apical cytoplasmic HRP-DAB brown staining within intestinal epithelial cells lining the mucosal villi. The staining pattern is consistent with expression of Fucosyltransferase 1 (FUT1), a glycosyltransferase responsible for synthesis of blood group H antigen and generation of fucosylated cell surface glycans. Strong epithelial localization is consistent with the established role of FUT1 in gastrointestinal tissues, where fucosylation contributes to epithelial differentiation, mucosal barrier function, host-microbe interactions, and regulation of cell surface carbohydrate antigens. The observed staining highlights the apical epithelial compartment, a major site of glycan biosynthesis and carbohydrate antigen expression within the intestinal mucosa. HIER: boil paraffin sections in pH 6, 10 mM citrate buffer for 20 minutes and allow to cool prior to staining.



FUT1 Antibody Rat Intestine IHC. Immunohistochemistry staining of FFPE rat intestine using FUT1 Antibody demonstrates distinct membranous and apical cytoplasmic HRP-DAB brown staining throughout the intestinal epithelial lining. The staining pattern is consistent with expression of Fucosyltransferase 1 (FUT1), an alpha(1,2)-fucosyltransferase responsible for blood group H antigen biosynthesis and generation of fucosylated glycan structures on the cell surface. Intestinal epithelial localization is consistent with the known role of FUT1 in regulating mucosal glycosylation, epithelial differentiation, host-microbe interactions, and maintenance of gastrointestinal barrier function. The prominent staining observed along the luminal epithelial surface highlights tissues actively engaged in glycan biosynthesis and carbohydrate antigen expression. HIER: boil paraffin sections in pH 6, 10 mM citrate buffer for 20 minutes and allow to cool prior to staining.

Description

FUT1 Antibody / Blood Group H Antigen Enzyme Antibody recognizes Fucosyltransferase 1 (FUT1), a Golgi-associated glycosyltransferase that catalyzes the transfer of fucose residues to precursor oligosaccharides during glycoprotein and glycolipid biosynthesis. Fucosyltransferase 1 is the principal enzyme responsible for generation of the blood group H antigen, a carbohydrate structure that serves as the essential precursor for synthesis of the A and B blood group antigens of the ABO system. Through its role in terminal glycosylation reactions, FUT1 regulates the composition of cell surface glycoconjugates and contributes to numerous biological processes involving cellular recognition, adhesion, signaling, and tissue organization. Because glycosylation profoundly influences protein function and cell-cell communication, FUT1 remains an important target in glycobiology, immunology, and cell biology research.

Fucosyltransferase 1 is primarily localized within the Golgi apparatus, where it transfers fucose from GDP-fucose donor molecules onto specific glycan acceptors. The resulting fucosylated structures participate in a wide variety of physiological processes including blood group antigen expression, epithelial differentiation, host-pathogen interactions,

and regulation of cellular signaling pathways. FUT1 is especially important in tissues expressing ABO-related carbohydrate antigens, where synthesis of the H antigen provides the substrate required for subsequent modification by A and B transferases. As a result, Fucosyltransferase 1 occupies a central position within the biosynthetic pathway governing ABO blood group antigen expression and carbohydrate antigen diversity.

Beyond its established role in blood group antigen biosynthesis, Fucosyltransferase 1 contributes to regulation of cellular behavior through modification of membrane-associated glycoproteins and glycolipids. Altered fucosylation can influence receptor activation, cell adhesion properties, intracellular signaling events, and interactions between cells and the extracellular environment. Researchers frequently investigate FUT1 expression when studying glycan biosynthesis, developmental biology, epithelial cell differentiation, and mechanisms governing cell surface antigen regulation. The enzyme has therefore become an important marker for understanding how carbohydrate modifications influence cellular physiology and tissue-specific biological functions.

Altered Fucosyltransferase 1 expression has also been associated with cancer progression and disease-related changes in glycan biosynthesis. Abnormal fucosylation patterns are frequently observed in malignant tissues and may influence tumor growth, invasion, metastatic potential, and interactions with the tumor microenvironment. Consequently, FUT1 is often evaluated in studies examining cancer-associated glycosylation, tumor cell adhesion, and mechanisms linking carbohydrate antigen expression to disease progression. The enzyme remains an important target for investigating how cell surface glycans contribute to both normal physiology and pathological processes.

At NSJ Bioreagents, we provide highly validated antibodies for glycobiology, immunology, cancer research, and cell biology applications. FUT1 Antibody / Blood Group H Antigen Enzyme Antibody is useful for investigating Fucosyltransferase 1 expression, blood group H antigen biosynthesis, glycan-mediated signaling, cellular adhesion, and disease-associated alterations in glycosylation. Continued research into FUT1 is expanding our understanding of how carbohydrate modifications influence immune function, tissue organization, cellular communication, and human disease.

FUT1 regulates blood group H antigen biosynthesis and cell surface fucosylation, making it an important target within our Cell Biology Antibodies collection.

Application Notes

Optimal dilution of the FUT1 Antibody / Blood Group H Antigen Enzyme Antibody should be determined by the researcher.

Immunogen

Amino acids EVDSRTPWRELQLHDWMSEEYADLRDPFLKL of human FUT1 were used as the immunogen for the FUT1 antibody.

Storage

After reconstitution, the FUT1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Fucosyltransferase 1 Antibody, Blood Group H Antigen Enzyme Antibody, Alpha(1,2)-Fucosyltransferase Antibody, H Antigen Synthase Antibody, Glycosyltransferase FUT1 Antibody, ABO Precursor Antigen Enzyme Antibody

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