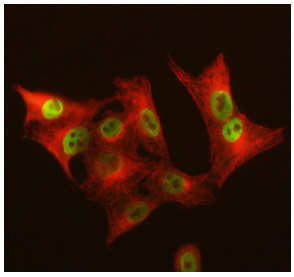
GALNT12 Antibody / Polypeptide N-acetylgalactosaminyltransferase 12 (FY12798)

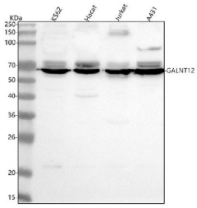
Catalog No.	Formulation	Size
FY12798	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

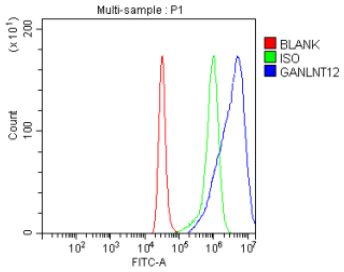
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8IXK2
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This GALNT12 antibody is available for research use only.



Immunofluorescent staining of GALNT12 using anti-GALNT12 antibody (green) and anti-Beta Tubulin antibody (red). GALNT12 was detected in immunocytochemical section of cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-GALNT12 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of GALNT12 using anti-GALNT12 antibody. Lane 1: human K562 whole cell lysates, Lane 2: human Hacat whole cell lysates, Lane 3: human Jurkat whole cell lysates, Lane 4: human whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GALNT12 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A dominant band is observed at ~67 kDa with a slightly higher partner consistent with glycosylation-dependent mobility differences of the Golgi enzyme.



Flow Cytometry analysis of cells using anti-GALNT12 antibody. Overlay histogram showing cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-GALNT12 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Description

GALNT12 antibody detects Polypeptide N-acetylgalactosaminyltransferase 12, an enzyme involved in initiating mucin-type O-linked glycosylation of proteins. Encoded by the GALNT12 gene on chromosome 9q22.33, this Golgi-resident glycosyltransferase catalyzes the transfer of N-acetylgalactosamine (GalNAc) from UDP-GalNAc to serine or threonine residues on target proteins, forming the Tn antigen and enabling further elongation of O-glycan structures. GALNT12 plays a crucial role in regulating protein stability, secretion, and cell-cell communication through glycosylation control.

Structurally, GALNT12 contains a catalytic domain typical of the GalNAc-transferase family and a ricin-like lectin domain that mediates substrate recognition. It preferentially glycosylates substrates involved in epithelial integrity and mucin production. GALNT12 is expressed in gastrointestinal tissues and epithelial linings, where it influences mucin biosynthesis, cell adhesion, and signaling. Its activity affects the glycoprotein composition of the extracellular matrix and epithelial surfaces.

The GALNT12 antibody is widely used in glycobiology, cancer, and epithelial research to study O-glycosylation and mucin biosynthesis. Western blot analysis identifies a 60 kilodalton band corresponding to GALNT12, while immunofluorescence reveals perinuclear staining consistent with Golgi localization. This antibody is instrumental in evaluating changes in glycosylation during differentiation, inflammation, and tumorigenesis.

Mutations in GALNT12 are associated with colorectal cancer susceptibility, where altered O-glycosylation patterns affect cell adhesion and immune recognition. Dysregulated GALNT12 expression may lead to incomplete mucin glycosylation, contributing to tumor progression and epithelial dysfunction. The GALNT12 antibody supports research into glycosylation-dependent signaling, epithelial homeostasis, and cancer pathogenesis. NSJ Bioreagents offers this antibody validated for its applications, ensuring reliable performance in studies of glycoprotein biology and epithelial regulation.

Application Notes

Optimal dilution of the GALNT12 antibody should be determined by the researcher.

Immunogen

E.coli-derived human GALNT12 recombinant protein (Position: E49-Q572) was used as the immunogen for the GALNT12 antibody.

Storage

After reconstitution, the GALNT12 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.