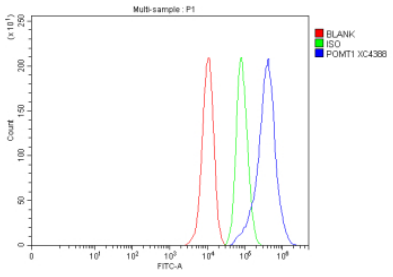
POMT1 Antibody / Protein O-mannosyl-transferase 1 (FY13225)

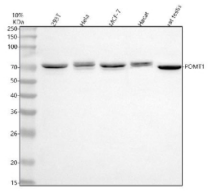
Catalog No.	Formulation	Size
FY13225	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Rat
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	Q9Y6A1
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This POMT1 antibody is available for research use only.



Flow Cytometry analysis of MCF-7 cells using anti-POMT1 antibody. Overlay histogram showing MCF-7 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-POMT1 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 without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of POMT1 using anti-POMT1 antibody. Lane 1: human 293T whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human MCF-7 whole cell lysates, Lane 4: human Hacat whole cell lysates, Lane 5: rat testis tissue 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-POMT1 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. Western blot detection of POMT1 shows a band at ~70-75 kDa across multiple lysates. Although the predicted mass is ~85 kDa, POMT1 commonly migrates lower on SDS-PAGE, consistent with maturation/processing of the luminal N-terminus and isoform- or proteolysis-related heterogeneity typical of ER membrane glycosyltransferases.

Description

POMT1 antibody detects Protein O-mannosyl-transferase 1, an enzyme required for the initial step of O-mannosyl glycan biosynthesis on glycoproteins, particularly alpha-dystroglycan. The UniProt recommended name is Protein O-mannosyl-transferase 1 (POMT1). This enzyme catalyzes the transfer of mannose from dolichol phosphate-mannose to serine or threonine residues on target proteins, a process essential for proper protein folding, stability, and function.

Functionally, POMT1 antibody identifies a 747-amino-acid endoplasmic reticulum (ER) membrane protein that forms a functional heterodimer with POMT2. This complex initiates the O-mannosyl glycosylation pathway, which is critical for dystroglycan processing and muscle integrity. POMT1 ensures the attachment of the first mannose residue, forming the foundation for subsequent glycan extensions that link the extracellular matrix to the cytoskeleton via alpha-dystroglycan.

The POMT1 gene is located on chromosome 9q34.13 and is expressed in brain, skeletal muscle, and heart. It plays a vital role in muscle development, neuronal migration, and synaptic organization by supporting glycosylation-dependent cell adhesion and signaling.

Pathologically, mutations in POMT1 cause congenital muscular dystrophy-dystroglycanopathy type A1 (Walker-Warburg syndrome), type B1, and type C1. These disorders are characterized by muscular dystrophy, brain malformations, and ocular defects due to defective O-mannosylation of dystroglycan. Research using POMT1 antibody supports studies in glycosylation pathways, muscular dystrophy, and neuronal development.

POMT1 antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect ER glycosyltransferases. NSJ Bioreagents provides POMT1 antibody reagents optimized for studies in protein modification, muscle biology, and glycoprotein processing.

Structurally, Protein O-mannosyl-transferase 1 contains multiple transmembrane domains and a luminal catalytic domain harboring the conserved DXD motif required for glycosyltransferase activity. It assembles with POMT2 to form an enzymatically active complex that determines substrate recognition and catalysis. This antibody aids in investigating POMT1Ã¯Â¿Â½s role in glycoprotein biosynthesis, muscle development, and congenital disease mechanisms.

Application Notes

Optimal dilution of the POMT1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human POMT1 recombinant protein (Position: H224-H747) was used as the immunogen for the POMT1 antibody.

Storage

After reconstitution, the POMT1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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