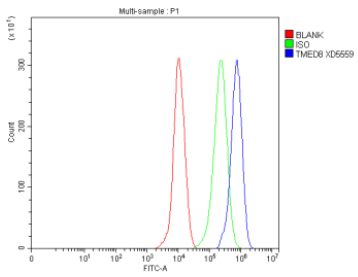
TMED8 Antibody / Transmembrane emp24 domain-containing protein 8 (FY13314)

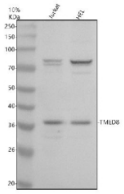
Catalog No.	Formulation	Size
FY13314	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q6PL24
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This TMED8 antibody is available for research use only.



Flow Cytometry analysis of THP-1 cells using anti-TMED8 antibody. Overlay histogram showing THP-1 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-TMED8 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 TMED8 using anti-TMED8 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Jurkat whole cell lysates, Lane 2: human HEL 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-TMED8 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 an ECL Plus Western Blotting Substrate. A predominant band is detected at an approximately 36 kDa, consistent with the predicted size of glycosylated monomeric TMED8. An additional band just above the 70 kDa marker is also present, likely representing an SDS resistant dimer or tight TMED8-containing complex, as reported for other p24 family cargo receptors.

Description

TMED8 antibody detects Transmembrane emp24 domain-containing protein 8, a membrane-associated trafficking protein encoded by the TMED8 gene on chromosome 14q11.2. TMED8 is a member of the p24 cargo receptor family, which plays a key role in protein transport between the endoplasmic reticulum (ER) and Golgi apparatus. The TMED8 protein localizes to the ER-Golgi intermediate compartment (ERGIC) and Golgi membranes, where it regulates vesicle formation, cargo selection, and quality control of secretory proteins. Structurally, TMED8 contains a luminal GOLD (Golgi dynamics) domain, a coiled-coil region, a single transmembrane helix, and a short cytoplasmic tail harboring motifs for coat protein complex interaction.

TMED8 antibody identifies a protein that contributes to the maintenance of Golgi structure and trafficking efficiency. The p24 family proteins, including TMED8, function as cargo receptors that facilitate selective packaging of client proteins into COPII-coated vesicles at the ER membrane. They also participate in retrograde transport via COPI vesicles, ensuring the recycling of resident ER enzymes and chaperones. TMED8 specifically regulates the trafficking of glycoproteins and receptor complexes involved in cell signaling and immune response.

At the cellular level, TMED8 is localized predominantly to the endomembrane system, reflecting its function in the secretory pathway. Through its luminal GOLD domain, TMED8 mediates protein-protein interactions that stabilize cargo-receptor complexes, ensuring proper folding and export from the ER. Structural studies of the p24 family suggest that TMED8 forms oligomeric complexes with other p24 members, such as TMED2, TMED9, and TMED10, enhancing vesicular trafficking specificity.

Functionally, TMED8 has been implicated in immune regulation and inflammatory signaling. It is known to interact with components of the TGF-beta receptor pathway, influencing receptor stability and cell surface expression. Dysregulation of TMED8 expression may lead to impaired protein secretion, ER stress, and altered immune responses. In addition, emerging studies suggest a role for TMED8 in tumorigenesis, where aberrant expression correlates with altered cytokine signaling and cell adhesion. Gene expression analyses show TMED8 upregulation in certain cancers, including breast and colon carcinoma, linking it to enhanced secretory pathway activity.

The TMED8 geneÃ¯Â¿Â½s chromosomal location on 14q11.2 places it near other trafficking-related genes, and its promoter region includes binding sites for transcription factors involved in ER stress response. Evolutionarily, TMED8 belongs to the TMED/p24 protein family, a conserved group essential for vesicular transport and Golgi organization. Defects in this pathway can lead to congenital disorders of glycosylation and impaired immune signaling.

Immunohistochemical staining using TMED8 antibody shows membrane and perinuclear localization consistent with Golgi and ER distribution, particularly in hepatocytes, epithelial cells, and macrophages. TMED8 antibody from NSJ Bioreagents provides a valuable research tool for studying protein trafficking, ER-Golgi dynamics, and secretory pathway regulation.

Application Notes

Optimal dilution of the TMED8 antibody should be determined by the researcher.

Immunogen

E.coli-derived human TMED8 recombinant protein (Position: S34-S325) was used as the immunogen for the TMED8 antibody.

Storage

After reconstitution, the TMED8 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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