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TMED10 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19254b

Product Information

Application	WB, E
Primary Accession	P49755
Other Accession	Q63584, Q28735, Q9D1D4, Q5E971, NP_006818.3
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Mouse, Rabbit, Rat, Canine, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB40979
Calculated MW	24976
Antigen Region	156-185

Additional Information

Gene ID	10972
Other Names	Transmembrane emp24 domain-containing protein 10, 21 kDa transmembrane-trafficking protein, S31III125, S31I125, Tmp-21-I, Transmembrane protein Tmp21, p23, p24 family protein delta-1, p24delta1, p24delta, TMED10, TMP21
Target/Specificity	This TMED10 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 156-185 amino acids from the C-terminal region of human TMED10.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	TMED10 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TMED10 (HGNC:16998)

Synonyms TMP21

Function Cargo receptor involved in protein vesicular trafficking and quality control in the endoplasmic reticulum (ER) and Golgi (PubMed:10052452, PubMed:11726511, PubMed:16641999, PubMed:17288597, PubMed:19296914, PubMed:20427317, PubMed:21219331, PubMed:27569046). The p24 protein family is a group of transmembrane proteins that bind coat protein complex I/COPI and coat protein complex II/COPII involved in vesicular trafficking between the membranes (PubMed:10052452). Acts at the lumenal side for incorporation of secretory cargo molecules into transport vesicles and involved in vesicle coat formation at the cytoplasmic side (PubMed:20427317, PubMed:27569046). Mainly functions in the early secretory pathway and cycles between the ER, ER-Golgi intermediate compartment (ERGIC) and Golgi, mediating cargo transport through COPI and COPII-coated vesicles (PubMed:10052452, PubMed:10852829, PubMed:12237308). In COPII vesicle-mediated anterograde transport, involved in the transport of GPI-anchored proteins by acting together with TMED2 as their cargo receptor; the function specifically implies SEC24C and SEC24D of the COPII vesicle coat and lipid raft-like microdomains of the ER (PubMed:20427317, PubMed:27569046). Recognizes GPI anchors structural remodeled in the ER by the GPI inositol-deacylase/PGAP1 and the metallophosphoesterase MPPE1/PGAP5 (By similarity). In COPI vesicle-mediated retrograde transport, involved in the biogenesis of COPI vesicles and vesicle coat recruitment (PubMed:11726511). Involved in trafficking of amyloid beta A4 protein and soluble APP-beta release (independent from the modulation of gamma-secretase activity) (PubMed:17288597). Involved in the KDELR2-mediated retrograde transport of the toxin A subunit (CTX-A- K63)together with COPI and the COOH terminus of KDELR2 (By similarity). On Golgi membranes, acts as a primary receptor for ARF1-GDP, a GTP- binding protein involved in COPI-vesicle formation (PubMed:11726511). Increases coatomer-dependent GTPase-activating activity of ARFGAP2 which mediates the hydrolysis of ARF1-bound GTP and therefore modulates protein trafficking from the Golgi apparatus (PubMed:19296914). Involved in the exocytic trafficking of G protein-coupled receptors F2LR1/PAR2 (trypsin and tryspin-like enzyme receptor), OPRM1 (opioid receptor) and P2RY4 (UTD and UDP receptor) from the Golgi to the plasma membrane, thus contributing to receptor resensitization (PubMed:21219331). In addition to its cargo receptor activity, may also act as a protein channel after oligomerization, facilitating the post- translational entry of leaderless cytoplasmic cargo into the ERGIC (PubMed:32272059). Involved in the translocation into ERGIC, the vesicle entry and the secretion of leaderless cargos (lacking the secretion signal sequence), including the mature form of interleukin 1/IL-1 family members, the alpha-crystallin B chain HSPB5, the carbohydrate-binding proteins galectin-1/LGALS1 and galectin-3/LGALS3, the microtubule-associated protein Tau/MAPT, and the annexin A1/ANXA1; the translocation process is dependent on cargo protein unfolding and enhanced by chaperones HSP90AB1 and HSP90B1/GRP9 (PubMed:32272059). Could also associates with the presenilin-dependent gamma-secretase complex in order to regulate gamma-cleavages of the amyloid beta A4 protein to yield amyloid-beta 40/Abeta40 (PubMed:16641999).

Cellular Location Endoplasmic reticulum membrane; Single-pass type I membrane protein. Endoplasmic reticulum-Golgi intermediate compartment membrane; Single-pass type I membrane protein. Golgi apparatus membrane; Single-pass type I membrane protein. Golgi apparatus, cis-Golgi network membrane; Single-pass type I membrane protein. Golgi apparatus, trans-Golgi network membrane {ECO:0000250|UniProtKB:Q63584}; Single-pass type I membrane protein. Cytoplasmic vesicle, secretory vesicle membrane; Single-pass type I membrane protein. Cell membrane {ECO:0000250|UniProtKB:Q63584};

Single-pass type I membrane protein. Melanosome Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

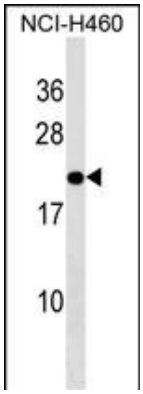
Background

This gene is a member of the EMP24/GP25L/p24 family and encodes a protein with a GOLD domain. This type I membrane protein is localized to the plasma membrane and golgi cisternae and is involved in vesicular protein trafficking. The protein is also a member of a heteromeric secretase complex and regulates the complex's gamma-secretase activity without affecting its epsilon-secretase activity. Mutations in this gene have been associated with early-onset familial Alzheimer's disease. This gene has a pseudogene on chromosome 8.

References

Wang, H., et al. Mol. Biol. Cell 21(8):1398-1408(2010)
Zhao, J., et al. BMC Med. Genet. 11, 96 (2010) :
Pardossi-Piquard, R., et al. J. Biol. Chem. 284(42):28634-28641(2009)
Soranzo, N., et al. PLoS Genet. 5 (4), E1000445 (2009) :
Liu, S., et al. Eur. J. Neurosci. 28(10):1980-1988(2008)

Images



TMED10 Antibody (C-term) (Cat. #AP19254b) western blot analysis in NCI-H460 cell line lysates (35ug/lane).This demonstrates the TMED10 antibody detected the TMED10 protein (arrow).

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