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TMEM97 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21745a

Product Information

Application	WB, E
Primary Accession	Q5BJF2
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB47872
Calculated MW	20848

Additional Information

Gene ID	27346
Other Names	Transmembrane protein 97, Protein MAC30, TMEM97, MAC30
Target/Specificity	This TMEM97 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 22-56 amino acids from the N-terminal region of human TMEM97.
Dilution	WB~~1:8000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. 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	TMEM97 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TMEM97 (HGNC:28106)
Function	Sigma-2 receptor which contributes to ameliorate dysfunctional cellular processes and slow degenerative progression by regulating cell functions including cholesterol biosynthesis/trafficking, membrane trafficking, autophagy, lipid membrane-bound protein trafficking, and receptor stabilization at the cell surface (Probable) (PubMed:19583955, PubMed:23922215, PubMed:25620095, PubMed:27378690,

	PubMed:28559337, PubMed:30443021, PubMed:34233061, PubMed:34799735, PubMed:35970844). Forms a ternary complex with PGRMC1 receptor and low density lipoprotein receptor/LDLR at the plasma membrane, which increases LDLR-mediated LDL cholesterol internalization (PubMed:30443021). Decreases lysosomal sterol transporter NPC1 availability to the cell, probably through NPC1- binding, hence controlling lipid transport, including cholesterol and LBPA, outside of late endosome/lysosome (PubMed:19583955, PubMed:27378690). Binds regio- and stereoselective ligand 20(S)- hydroxycholesterol (20(S)-OHC) which enhances TMEM97-NPC1 interaction and decreases TMEM97-PGRMC1 and TMEM97-TSPO interactions, thereby linking OHC binding to cholesterol homeostasis (PubMed:34799735, PubMed:37047353). Also able to bind cholesterol (By similarity). Binds histatin 1 (Hst 1)/HN1 salivary peptide at the ER membrane, which is critical for increasing mitochondria-ER contacts and stimulating Hst1 wound healing properties (PubMed:34233061, PubMed:35970844). May alter the activity of some cytochrome P450 proteins (PubMed:22292588). Although shows homologies with sterol isomerases (EXPERA domain), not able to catalyze sterol isomerization (Probable) (PubMed:34880501). However, may act as sensors of these molecules (Probable) (PubMed:34880501). Acts as a quality control factor in the ER, promoting the proteolytic degradation of nonproductive and extramitochondrial precursor proteins in the ER membrane thus removing them from the ER surface (By similarity).
Cellular Location	Rough endoplasmic reticulum membrane; Multi-pass membrane protein. Nucleus membrane; Multi- pass membrane protein. Note=Localized at cell membrane and in lysosomes in sterol-depleted cells when expression of endogenous TMEM97 is stimulated (PubMed:19583955). Localized at cell membrane, probably in lipid rafts, in serum-starved conditions (PubMed:30443021)
Tissue Location	Widely expressed in normal tissues. Expressed in pancreatic, renal, breast, colon, ovarian surface epithelial (OSE) cells. Highly expressed in various proliferating cancer cells (PubMed:23922215).

Background

Plays a role as a regulator of cellular cholesterol homeostasis.

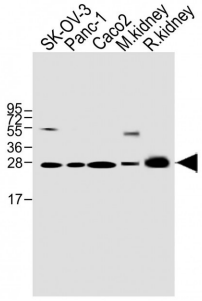
References

Murphy M.,et al.Cell Growth Differ. 4:715-722(1993).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Kayed H.,et al.Histol. Histopathol. 19:1021-1031(2004).
Wilcox C.B.,et al.BMC Cancer 7:223-223(2007).
Bartz F.,et al.Cell Metab. 10:63-75(2009).

Images

All lanes : Anti-TMEM97 Antibody (N-term) at 1:1000 dilution Lane 1: SK-OV-3 whole cell lysate Lane 2: Panc-1 whole cell lysate Lane 3: Caco2 whole cell lysate Lane 4: mouse kidney lysate Lane 5: rat kidney lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 21 kDa Blocking/Dilution

buffer: 5% NFDM/TBST.



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