10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TMEM97 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21745a

Product Information

Application	WB, E
Primary Accession	Q5BJF2
Reactivity	Human, Rat, Mouse
Predicted	Canine, Rabbit
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 implicated in the regulation of multiple cellular processes, including cholesterol biosynthesis and trafficking, membrane trafficking, autophagy, lipid membrane-associated protein trafficking, and stabilization of receptors at the cell surface, thereby contributing to the maintenance of cellular homeostasis(PubMed:19583955, PubMed:23922215,

	PubMed:25620095, PubMed:27378690, PubMed:28559337, PubMed:30443021, PubMed:34233061, PubMed:34799735, PubMed:35970844, PubMed:25566323). Forms a ternary complex with PGRMC1 and LDLR at the plasma membrane, promoting LDLR- mediated internalization of LDL cholesterol (PubMed:30443021). Reduces the availability of the lysosomal sterol transporter NPC1, likely through direct interaction, thereby regulating lipid transport, including cholesterol and LBPA, outside of late endosome/lysosome (PubMed:19583955, PubMed:27378690). Binds the regio- and stereoselective oxysterol 20(S)-hydroxycholesterol (20(S)-OHC). Ligand binding enhances association with NPC1 and modulates TMEM97-containing protein complexes involving PGRMC1 and TSPO, consistent with a role in cholesterol homeostasis (PubMed:34799735, PubMed:37047353). Also able to bind cholesterol (By similarity). Interacts with the salivary peptide histatin 1 (Hst 1/HTN1) at the ER membrane, which is critical for increasing mitochondria-ER contacts and stimulating Hst 1 wound healing properties (PubMed:34233061, PubMed:35970844). May alter the activity of some cytochrome P450 proteins (PubMed:22292588). Although sharing homology with sterol isomerases through the EXPERA domain, lacks sterol isomerase activity; instead, may function as a sterol or oxysterol sensor (PubMed:34880501, PubMed:25566323). Acts as an ER quality control factor by promoting proteolytic degradation of nonproductive and extramitochondrial precursor proteins in the ER membrane, thereby 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

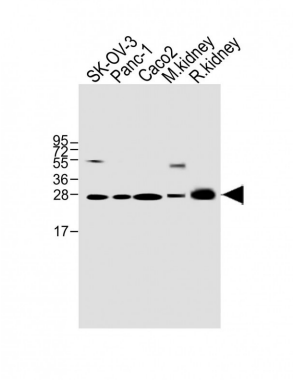
Plays a role as a regulator of cellular cholesterol homeostasis.

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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.