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TMEM97 Blocking Peptide (N-term)

Synthetic peptide
Catalog # BP21745a

Specification

TMEM97 Blocking Peptide (N-term) - Product Information

Primary Accession Q5BJF2

TMEM97 Blocking Peptide (N-term) - Additional Information

Gene ID 27346

Other Names
Transmembrane protein 97, Protein MAC30, TMEM97, MAC30

Target/Specificity
The synthetic peptide sequence is selected from aa 42-56 of HUMAN TMEM97

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

TMEM97 Blocking Peptide (N-term) - 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:<a

href="http://www.uniprot.org/citations/30443021" target="_blank">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).

TMEM97 Blocking Peptide (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

TMEM97 Blocking Peptide (N-term) - Images

TMEM97 Blocking Peptide (N-term) - Background

Plays a role as a regulator of cellular cholesterol homeostasis.

TMEM97 Blocking Peptide (N-term) - 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).