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NPC1L1 Blocking Peptide (N-term)

Synthetic peptide
Catalog # BP20268a

Specification

NPC1L1 Blocking Peptide (N-term) - Product Information

Primary Accession	Q9UHC9
Other Accession	NP_037521.2

NPC1L1 Blocking Peptide (N-term) - Additional Information

Gene ID 29881

Other Names
Niemann-Pick C1-like protein 1, NPC1L1

Target/Specificity
The synthetic peptide sequence is selected from aa 309-323 of HUMAN NPC1L1

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.

NPC1L1 Blocking Peptide (N-term) - Protein Information

Name NPC1L1 (HGNC:7898)

Function
Plays a major role in cholesterol homeostasis (PubMed:22095670). Critical for the uptake of cholesterol across the plasma membrane of the intestinal enterocyte (PubMed:22095670). Involved in plant sterol absorption, it transports sitosterol, although at lower rates than cholesterol (By similarity). Is the direct molecular target of ezetimibe, a drug that inhibits cholesterol absorption and is approved for the treatment of hypercholesterolemia (PubMed:15928087). May have a function in the transport of multiple lipids and their homeostasis, thereby influencing lipid metabolism regulation (PubMed:15671032). May be involved in caveolin trafficking from the plasma membrane (By similarity). In addition, acts as a negative regulator of NPC2 and down-regulates its expression and secretion by inhibiting its maturation and accelerating its degradation (PubMed:22095670).

Cellular Location
Apical cell membrane; Multi-pass membrane protein. Cell membrane {ECO:0000250|UniProtKB:Q6T3U3}; Multi-pass membrane protein. Cytoplasmic vesicle membrane; Multi-pass membrane protein. Note=Subfractionation of brush border membranes from proximal enterocytes suggests considerable association with the apical membrane fraction. Exists as a predominantly cell surface membrane expressed protein (By similarity). According to PubMed:15671032, localizes in a subcellular vesicular compartment rich in RAB5.

Tissue Location
Widely expressed. Expressed in liver. Also expressed in small intestine, pancreas, kidney, lung, pancreas, spleen, heart, gall bladder, brain, testis, stomach and muscle

NPC1L1 Blocking Peptide (N-term) - Protocols

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

- Blocking Peptides

NPC1L1 Blocking Peptide (N-term) - Images

NPC1L1 Blocking Peptide (N-term) - Background

The protein encoded by this gene is a multi-pass membrane protein. It contains a conserved N-terminal Niemann-Pick C1 (NPC1) domain and a putative sterol-sensing domain (SSD) which includes a YQRL motif functioning as a plasma membrane to trans-Golgi network transport signal in other proteins. This protein takes up free cholesterol into cells through vesicular endocytosis and plays a critical role in the absorption of intestinal cholesterol. It also has the ability to transport alpha-tocopherol (vitamin E). The drug ezetimibe targets this protein and inhibits the absorption of intestinal cholesterol and alpha-tocopherol. In addition, this protein may play a critical role in regulating lipid metabolism. Polymorphic variations in this gene are associated with plasma total cholesterol and low-density lipoprotein cholesterol (LDL-C) levels and coronary heart disease (CHD) risk. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.

NPC1L1 Blocking Peptide (N-term) - References

Hu, M., et al. Pharmacogenet. Genomics 20(10):634-637(2010)
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Teslovich, T.M., et al. Nature 466(7307):707-713(2010)
Pramfalk, C., et al. J. Lipid Res. 51(6):1354-1362(2010)
Maeda, T., et al. J. Atheroscler. Thromb. 17(4):356-360(2010)