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SLC15A4 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP18130c

Specification

SLC15A4 Antibody (Center) Blocking Peptide - Product Information

Primary Accession Q8N697

SLC15A4 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 121260

Other Names
Solute carrier family 15 member 4, Peptide transporter 4, Peptide/histidine transporter 1, hPHT1, SLC15A4, PHT1, PTR4

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.

SLC15A4 Antibody (Center) Blocking Peptide - Protein Information

Name SLC15A4 (HGNC:23090)

Function
Proton-coupled amino-acid transporter that mediates the transmembrane transport of L-histidine and some di- and tripeptides from inside the lysosome to the cytosol, and plays a key role in innate immune response (PubMed:16289537, PubMed:25238095, PubMed:29224352). Able to transport a variety of di- and tripeptides, including carnosine and some peptidoglycans (PubMed:29224352, PubMed:31073693). Transporter activity is pH-dependent and maximized in the acidic lysosomal environment (By similarity). Involved in the detection of microbial pathogens by toll-like receptors (TLRs) and NOD-like receptors (NLRs), probably by mediating transport of bacterial peptidoglycans across the endolysosomal membrane: catalyzes the transport of certain bacterial peptidoglycans, such as muramyl dipeptide (MDP), the NOD2 ligand, and L-alanyl-gamma-D-glutamyl-meso-2,6-diaminoheptanedioate (tri-DAP), the NOD1 ligand (PubMed:25238095, PubMed:29224352).

Required for TLR7, TLR8 and TLR9-mediated type I interferon (IFN-I) productions in plasmacytoid dendritic cells (pDCs) (PubMed:25238095). Independently of its transporter activity, also promotes the recruitment of innate immune adapter TASL to endolysosome downstream of TLR7, TLR8 and TLR9: TASL recruitment leads to the specific recruitment and activation of IRF5 (PubMed:32433612). Required for isotype class switch recombination to IgG2c isotype in response to TLR9 stimulation (By similarity). Required for mast cell secretory-granule homeostasis by limiting mast cell functions and inflammatory responses (By similarity).

Cellular Location
Lysosome membrane; Multi-pass membrane protein. Endosome membrane; Multi-pass membrane protein. Early endosome membrane {ECO:0000250|UniProtKB:Q91W98}; Multi-pass membrane protein

Tissue Location
Highly expressed in skeletal muscle. Moderately expressed in kidney, liver, and heart. Weakly expressed in colon and brain. Expressed in low levels throughout the gastrointestinal tract and in Caco-2 cells. Expressed in retinal fragment epithelium (RPE) and neural retina. Expressed in small intestine, stomach, duodenum, jejunum, ileum and colon.

SLC15A4 Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

SLC15A4 Antibody (Center) Blocking Peptide - Images

SLC15A4 Antibody (Center) Blocking Peptide - Background

Proton oligopeptide cotransporter. Transports free histidine and certain di-and tripeptides.

SLC15A4 Antibody (Center) Blocking Peptide - References

He, C.F., et al. Lupus 19(10):1181-1186(2010)Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :Han, J.W., et al. Nat. Genet. 41(11):1234-1237(2009)Takeuchi, F., et al. J. Hum. Genet. 53(4):314-324(2008)Bhardwaj, R.K., et al. Eur J Pharm Sci 27(5):533-542(2006)