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SLC1A5 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP9437c

Specification

SLC1A5 Antibody (Center) Blocking Peptide - Product Information

Primary Accession Q15758

SLC1A5 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 6510

Other Names
Neutral amino acid transporter B(0), ATB(0), Baboon M7 virus receptor, RD114/simian type D retrovirus receptor, Sodium-dependent neutral amino acid transporter type 2, Solute carrier family 1 member 5, SLC1A5, ASCT2, M7V1, RDR, RDRC

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.

SLC1A5 Antibody (Center) Blocking Peptide - Protein Information

Name SLC1A5 {ECO:0000303|PubMed:23756778}

Function
Sodium-coupled antiporter of neutral amino acids. In a tri- substrate transport cycle, exchanges neutral amino acids between the extracellular and intracellular compartments, coupled to the inward cotransport of at least one sodium ion (PubMed:23756778, PubMed:26492990, PubMed:17094966, PubMed:34741534, PubMed:29872227, PubMed:8702519). The preferred substrate is the essential amino acid L- glutamine, a precursor for biosynthesis of proteins, nucleotides and amine sugars as well as an alternative fuel for mitochondrial oxidative phosphorylation. Exchanges L-glutamine with other neutral amino acids such as L-serine, L-threonine and L-asparagine in a bidirectional way. Provides L-glutamine to proliferating stem and activated cells driving the metabolic switch toward cell differentiation (PubMed:23756778, PubMed:24953180). The

transport cycle is usually pH-independent, with the exception of L-glutamate. Transports extracellular L-glutamate coupled to the cotransport of one proton and one sodium ion in exchange for intracellular L-glutamine counter-ion. May provide for L-glutamate uptake in glial cells regulating glutamine/glutamate cycle in the nervous system (PubMed:32733894). Can transport D-amino acids. Mediates D-serine release from the retinal glia potentially affecting NMDA receptor function in retinal neurons (PubMed:17094966). Displays sodium- and amino acid-dependent but uncoupled channel-like anion conductance with a preference SCN(-) >> NO3(-) > I(-) > Cl(-) (By similarity). Through binding of the fusogenic protein syncytin-1/ERVW-1 may mediate trophoblasts syncytialization, the spontaneous fusion of their plasma membranes, an essential process in placental development (PubMed:10708449, PubMed:23492904).

Cellular Location
Cell membrane; Multi-pass membrane protein. Melanosome Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV

Tissue Location
Placenta, lung, skeletal muscle, kidney, pancreas, and intestine (PubMed:8702519). Expressed in CD34-positive hematopoietic progenitors (at protein level) (PubMed:24953180)

SLC1A5 Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

SLC1A5 Antibody (Center) Blocking Peptide - Images

SLC1A5 Antibody (Center) Blocking Peptide - Background

SLC1A5 (Solute carrier family 1 (neutral amino acid transporter), member 5) is a member of the Na(+)-dependent amino acid transporter superfamily. It has a broad substrate specificity, a preference for zwitterionic amino acids, and a sodium-dependence. It accepts as substrates all neutral amino acids, including glutamine, asparagine, and branched-chain and aromatic amino acids, and excludes methylated amino acids, anionic amino acids, and cationic amino acids. It acts as a cell surface receptor for feline endogenous virus RD114, baboon M7 endogenous virus and type D simian retroviruses.

SLC1A5 Antibody (Center) Blocking Peptide - References

Crowther-Swanepoel, D., et al. Nat. Genet. 42(2):132-136(2010)# Wich, C., et al. Gynecol. Obstet. Invest. 68(1):9-18(2009)# Avissar, N.E., et al. Dig. Dis. Sci. 53(8):2113-2125(2008)# Broer, S. Physiol. Rev. 88(1):249-286(2008)# Deng, X., et al. BMC Psychiatry 8, 58 (2008)