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SLC1A5 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9437c

Product Information

Application	WB, E
Primary Accession	Q15758
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB18498
Calculated MW	56598
Antigen Region	186-214

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
Target/Specificity	This SLC1A5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 186-214 amino acids from the Central region of human SLC1A5.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	SLC1A5 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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:17094966, PubMed:23756778, PubMed:26492990, PubMed:29872227, PubMed:34741534, PubMed:8702519, PubMed:39095408, PubMed:27272177). 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). Part of transport systems for D-amino acids. Mediates D-serine release from the retinal glia potentially affecting NMDA receptor function in retinal neurons. May contribute to D-serine reabsorption at the brush border of renal proximal tubules thus modulating the dynamics of urinary versus blood D-serine levels (PubMed:17094966, PubMed:38650461). 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, PubMed:38671230).
Cellular Location	Cell membrane; Multi-pass membrane protein. Apical cell membrane {ECO:0000250|UniProtKB:P51912}; Multi-pass membrane protein. Melanosome. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV. Restricted to the apical cell membrane of proximal tubule epithelial cells {ECO:0000250|UniProtKB:P51912, ECO:0000269|PubMed:17081065}
Tissue Location	Placenta, lung, skeletal muscle, kidney, pancreas, and intestine (PubMed:8702519). Expressed in CD34-positive hematopoietic progenitors (at protein level) (PubMed:24953180)

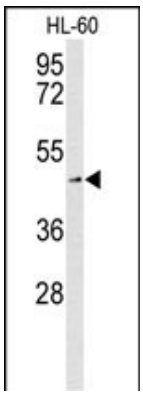
Background

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.

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)

Images



Western blot analysis of SLC1A5 Antibody (Center) (Cat. #AP9437c) in K562 cell line lysates (35ug/lane). SLC1A5 (arrow) was detected using the purified Pab.

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