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PMAT(Slc29a4) Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP1087a

Specification

PMAT(Slc29a4) Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q8R139

PMAT(Slc29a4) Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 243328

Other Names
Equilibrative nucleoside transporter 4, Solute carrier family 29 member 4, Slc29a4, Ent4

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1087a was selected from the Slc29a4 region of human PMAT(Slc29a4). A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

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.

PMAT(Slc29a4) Antibody (N-term) Blocking Peptide - Protein Information

Name Slc29a4 {ECO:0000312|MGI:MGI:2385330}

Function
Electrogenic voltage-dependent transporter that mediates the transport of a variety of endogenous bioactive amines, cationic xenobiotics and drugs (PubMed:16873718, PubMed:23255610). Utilizes the physiologic inside-negative membrane potential as a driving force to facilitate cellular uptake of organic cations (By similarity). Functions as a Na(+)- and Cl(-)-independent bidirectional transporter (By similarity). Substrate transport is pH-dependent and enhanced under acidic condition, which is most likely the result of allosteric changes in the transporter structure (PubMed:16873718). Implicated in monoamine neurotransmitters uptake such as serotonin, dopamine, adrenaline/epinephrine, noradrenaline/norepinephrine, histamine and tyramine, thereby supporting a role in homeostatic regulation of aminergic neurotransmission in the central nervous

system (PubMed:23255610). Also responsible for the uptake of bioactive amines and drugs through the blood-cerebrospinal fluid (CSF) barrier, from the CSF into choroid plexus epithelial cells, thereby playing a significant role in the clearance of cationic neurotoxins, xenobiotics and metabolic waste in the brain (PubMed:23255610). Involved in bidirectional transport of the purine nucleoside adenosine and plays a role in the regulation of extracellular adenosine concentrations in cardiac tissues, in particular during ischemia (PubMed:16873718). May be involved in organic cation uptake from the tubular lumen into renal tubular cells, thereby contributing to organic cation reabsorption in the kidney (PubMed:23255610). Also transports adenine and guanidine (PubMed:16873718).

Cellular Location
Cell membrane {ECO:0000250|UniProtKB:Q7RTT9}; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Note=Localized to the apical blood-cerebrospinal fluid(CSF)-facing membrane of the choroid plexus epithelium

Tissue Location
Expressed in heart (PubMed:16873718). Expressed in choroid plexus (PubMed:23255610).

PMAT(Slc29a4) Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

PMAT(Slc29a4) Antibody (N-term) Blocking Peptide - Images

PMAT(Slc29a4) Antibody (N-term) Blocking Peptide - Background

PMAT(Slc29a4) is a member of the SLC29 family and encodes a plasma membrane protein with 11 transmembrane helices. This protein catalyzes the reuptake of monoamines into presynaptic neurons, thus determining the intensity and duration of monoamine neural signaling. It has been shown to transport several compounds, including serotonin, dopamine, and the neurotoxin 1-methyl-4-phenylpyridinium.

PMAT(Slc29a4) Antibody (N-term) Blocking Peptide - References

Barnes,K., Circ. Res. 99 (5), 510-519 (2006)Engel,K., J. Biol. Chem. 279 (48), 50042-50049 (2004)