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PMAT(Slc29a4) Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1087b

Product Information

Application	WB, E
Primary Accession	Q8R139
Other Accession	Q7RTT9
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB09282
Calculated MW	58099
Antigen Region	452-481

Additional Information

Gene ID	243328
Other Names	Equilibrative nucleoside transporter 4, Solute carrier family 29 member 4, Slc29a4, Ent4
Target/Specificity	This PMAT(Slc29a4) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 452-481 amino acids of mouse PMAT(Slc29a4).
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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	PMAT(Slc29a4) Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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).

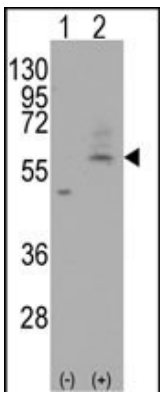
Background

PMAT(Slc29a4) is a member of the SLC29 family and encodes a plasma membrane protein with 11 transmembrane helices. This protein catalyzes the re-uptake 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.

References

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

Images



Western blot analysis of PMAT(Slc29a4) (arrow) using rabbit polyclonal PMAT(Slc29a4) Antibody (C-term) (Cat.#AP1087b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the PMAT(Slc29a4) gene (Lane 2) (Origene Technologies).