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PMAT(Slc29a4) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1087a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q8R139
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB9390
Calculated MW	58099
Antigen Region	39-69

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 39-69 amino acids from the N-terminal region of mouse PMAT(Slc29a4).
Dilution	WB~~1:1000 IHC-P~~1:100~500 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 (N-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).

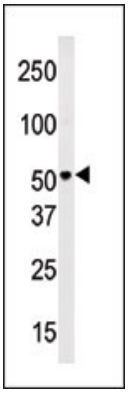
Background

PMAT(Slc29a4) is a member of the SLC29 family. It is 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.

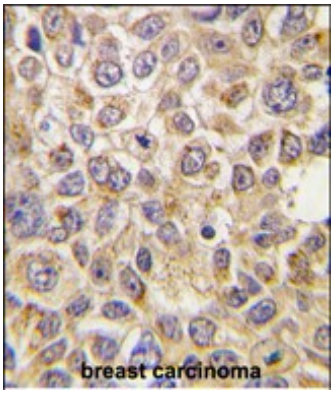
References

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

Images



Western blot analysis of anti-PMAT(Slc29a4) Antibody (N-term) (Cat. #AP1087a) in HepG2 cell line lysates (35ug/lane). PMAT(arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with PMAT(Slc29a4) Antibody (N-term) (Cat.#AP1087a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

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