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OAT-3 Rabbit pAb

Catalog # AP98661

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q8TCC7
Other Accession	Q8TCC7
Reactivity	Rat, Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	59856
Physical State	Liquid
Immunogen	Recombinant human SLC22A8 protein
Isotype	IgG
Purity	affinity purified by Protein A
SIMILARITY	Belongs to the major facilitator (TC 2.A.1) superfamily. Organic cation transporter (TC 2.A.1.19) family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Human organic anion transporter (OAT) 3 (SLC22A8) is localized to the basolateral membranes of renal tubular epithelial cells and plays a critical role in the excretion of anionic compounds. Recent advances in molecular biology have identified three organic anion transporter families: the organic anion transporter (OAT) family encoded by SLC22A, the organic anion transporting peptide (OATP) family encoded by SLC21A (SLCO), and the multidrug resistance-associated protein (MRP) family encoded by ABCC. These families play critical roles in the transepithelial transport of organic anions in the kidneys as well as in other tissues such as the liver and brain. Among these families, the OAT family plays the central role in renal organic anion transport. Knowledge of these three families at the molecular level, such as substrate selectivity, tissue distribution, and gene localization, is rapidly increasing.

Additional Information

Gene ID	9376
Other Names	OAT3; Roct; S22A8_HUMAN; SLC22A8; hOAT3; Organic anion/dicarboxylate exchanger; Solute carrier family 22 member 8; S22A8_MOUSE; mOat3; Reduced in osteosclerosis transporter (Roct); S22A8_RABIT; rOAT3; solute carrier family 22 (organic anion transporter), member 8
Dilution	IHC-P=1:50-200,IHC-F=1:50-200,IF=1:50-200
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name

SLC22A8 (HGNC:10972)

Synonyms

OAT3

Function

Functions as an organic anion/dicarboxylate exchanger that couples organic anion uptake indirectly to the sodium gradient (PubMed:14586168, PubMed:15644426, PubMed:15846473, PubMed:16455804, PubMed:31553721). Transports organic anions such as estrone 3-sulfate (E1S) and urate in exchange for dicarboxylates such as glutarate or ketoglutarate (2-oxoglutarate) (PubMed:14586168, PubMed:15846473, PubMed:15864504, PubMed:22108572, PubMed:23832370). Plays an important role in the excretion of endogenous and exogenous organic anions, especially from the kidney and the brain (PubMed:11306713, PubMed:14586168, PubMed:15846473). E1S transport is pH- and chloride- dependent and may also involve E1S/cGMP exchange (PubMed:26377792). Responsible for the transport of prostaglandin E2 (PGE2) and prostaglandin F2(alpha) (PGF2(alpha)) in the basolateral side of the renal tubule (PubMed:11907186). Involved in the transport of neuroactive tryptophan metabolites kynurenate and xanthurenate (PubMed:22108572, PubMed:23832370). Functions as a biopterin transporters involved in the uptake and the secretion of coenzymes tetrahydrobiopterin (BH4), dihydrobiopterin (BH2) and sepiapterin to urine, thereby determining baseline levels of blood biopterins (PubMed:28534121). May be involved in the basolateral transport of steviol, a metabolite of the popular sugar substitute stevioside (PubMed:15644426). May participate in the detoxification/ renal excretion of drugs and xenobiotics, such as the histamine H(2)-receptor antagonists fexofenadine and cimetidine, the antibiotic benzylpenicillin (PCG), the anionic herbicide 2,4-dichloro-phenoxyacetate (2,4-D), the diagnostic agent p-aminohippurate (PAH), the antiviral acyclovir (ACV), and the mycotoxin ochratoxin (OTA), by transporting these exogenous organic anions across the cell membrane in exchange for dicarboxylates such as 2-oxoglutarate (PubMed:11669456, PubMed:15846473, PubMed:16455804). Contributes to the renal uptake of potent uremic toxins (indoxyl sulfate (IS), indole acetate (IA), hippurate/N-benzoylglycine (HA) and 3-carboxy-4-methyl-5-propyl-2- furanpropionate (CMPF)), pravastatin, PCG, E1S and dehydroepiandrosterone sulfate (DHEAS), and is partly involved in the renal uptake of temocaprilat (an angiotensin-converting enzyme (ACE) inhibitor) (PubMed:14675047). May contribute to the release of cortisol in the adrenals (PubMed:15864504). Involved in one of the detoxification systems on the choroid plexus (CP), removes substrates such as E1S or taurocholate (TC), PCG, 2,4-D and PAH, from the cerebrospinal fluid (CSF) to the blood for eventual excretion in urine and bile (By similarity). Also contributes to the uptake of several other organic compounds such as the prostanoids prostaglandin E(2) and prostaglandin F(2-alpha), L-carnitine, and the therapeutic drugs allopurinol, 6-mercaptopurine (6-MP) and 5-fluorouracil (5-FU) (By similarity). Mediates the transport of PAH, PCG, and the statins pravastatin and pitavastatin, from the cerebrum into the blood circulation across the blood-brain barrier (BBB). In summary, plays a role in the efflux of drugs and xenobiotics, helping reduce their undesired toxicological effects on the body (By similarity).

Cellular Location

Basolateral cell membrane; Multi-pass membrane protein. Note=Localizes on the brush border membrane of the choroid epithelial cells (By similarity). Localizes to the basolateral membrane of the proximal tubular cells (PubMed:11306713). Localizes on the abluminal and possibly, luminal

	membrane of the brain capillary endothelial cells (BCEC) (By similarity). {ECO:0000250, ECO:0000250|UniProtKB:Q9R1U7, ECO:0000269|PubMed:11306713}
Tissue Location	Strongly expressed in kidney (PubMed:11306713, PubMed:11912245). Weaker expression in brain and skeletal muscle (PubMed:11306713). Expressed in adrenal glands (PubMed:15864504)

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