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OAT1 / SLC22A6 Rabbit pAb

Catalog # AP99053

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q4U2R8
Other Accession	Q4U2R8
Reactivity	Human, Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	61816
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human OCT-1
Epitope Specificity	285-550/550
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the major facilitator (TC 2.A.1) superfamily. Organic cation transporter (TC 2.A.1.19) family.
Post-translational modifications	Glycosylated. Glycosylation at Asn-113 may occur at a secondary level. Glycosylation is necesssary for proper targeting of the transporter to the plasma membrane.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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	9356
Other Names	HOAT1; OAT1; PAHT; ROAT1; NKT; Orctl1; mOat1; S22A6_HUMAN; SLC22A6; Organic anion transporter 1 (hOAT1); PAH transporter (hPAHT); Renal organic anion transporter 1 (hROAT1); S22A6_MOUSE; Kidney-specific transport protein; Novel kidney transcript (mNKT); Organic anion transporter 1 (mOAT1); Renal organic anion transporter 1 (mROAT1); S22A6_RAT; Organic anion transporter 1 (rOAT1); renal organic anion transporter 1 (rROAT1); solute carrier family 22 member 6; solute carrier family 22 (organic anion

transporter), member 6

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
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	SLC22A6 (HGNC:10970)
Synonyms	OAT1, PAHT
Function	Secondary active transporter that functions as a Na(+)- independent organic anion (OA)/dicarboxylate antiporter where the uptake of one molecule of OA into the cell is coupled with an efflux of one molecule of intracellular dicarboxylate such as 2-oxoglutarate or glutarate (PubMed:11669456, PubMed:11907186, PubMed:14675047, PubMed:22108572, PubMed:23832370, PubMed:28534121, PubMed:9950961). Mediates the uptake of OA across the basolateral side of proximal tubule epithelial cells, thereby contributing to the renal elimination of endogenous OA from the systemic circulation into the urine (PubMed:9887087). 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). Transports prostaglandin E2 (PGE2) and prostaglandin F2-alpha (PGF2-alpha) and may contribute to their renal excretion (PubMed:11907186). Also mediates the uptake of cyclic nucleotides such as cAMP and cGMP (PubMed:26377792). Involved in the transport of neuroactive tryptophan metabolites kynurenate (KYNA) and xanthurenate (XA) and may contribute to their secretion from the brain (PubMed:22108572, PubMed:23832370). May transport glutamate (PubMed:26377792). Also involved in the disposition of uremic toxins and potentially toxic xenobiotics by the renal organic anion secretory pathway, helping reduce their undesired toxicological effects on the body (PubMed:11669456, PubMed:14675047). Uremic toxins include the indoxyl sulfate (IS), hippurate/N- benzoylglycine (HA), indole acetate (IA), 3-carboxy-4- methyl-5-propyl- 2-furanpropionate (CMPF) and urate (PubMed:14675047, PubMed:26377792). Xenobiotics include the mycotoxin ochratoxin (OTA) (PubMed:11669456). May also contribute to the transport of organic compounds in testes across the blood-testis-barrier (PubMed:35307651).
Cellular Location	Basolateral cell membrane; Multi-pass membrane protein. Basal cell membrane; Multi-pass membrane protein. Note=Localized to the basolateral membrane of renal proximal tubular cells (PubMed:9887087) Localized to the basal membrane of Sertoli cells (PubMed:35307651)
Tissue Location	Strongly expressed in kidney (PubMed:10049739, PubMed:10462545, PubMed:10964714, PubMed:9887087, PubMed:9950961) Expressed at lower level in liver, skeletal muscle, brain and placenta (PubMed:10049739, PubMed:10462545, PubMed:9887087, PubMed:9950961). In kidney, found at the basolateral membrane of the proximal tubule (PubMed:9887087). In testis, primarily localized to the basal membrane of Sertoli cells and weakly expressed in Leydig cells and vascular endothelial cells (PubMed:35307651).

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