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SLC22A2 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5645

Specification

SLC22A2 Antibody (N-term) - Product Information

Application	**IHC-P, WB, FC,E**
Primary Accession	O15244
Other Accession	Q5R5H7
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**H=63,54,27 KDa**
Isotype	**Rabbit IgG**
Antigen Source	**HUMAN**

SLC22A2 Antibody (N-term) - Additional Information

Gene ID 6582

Antigen Region
57-89

Other Names
Solute carrier family 22 member 2, Organic cation transporter 2, hOCT2, SLC22A2, OCT2

Dilution
IHC-P~~1:25
WB~~1:2000
FC~~1:25

Target/Specificity
This SLC22A2 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 57-89 amino acids from the N-terminal region of human SLC22A2.

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
SLC22A2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

SLC22A2 Antibody (N-term) - Protein Information

Name SLC22A2 (HGNC:10966)

Synonyms OCT2

Function

Electrogenic voltage-dependent transporter that mediates the transport of a variety of organic cations such as endogenous bioactive amines, cationic drugs and xenobiotics (PubMed:9260930, PubMed:9687576). Functions as a Na(+)-independent, bidirectional uniporter (PubMed:21128598, PubMed:9687576). Cation cellular uptake or release is driven by the electrochemical potential, i.e. membrane potential and concentration gradient (PubMed:15212162, PubMed:9260930, PubMed:9687576). However, may also engage electroneutral cation exchange when saturating concentrations of cation substrates are reached (By similarity). Predominantly expressed at the basolateral membrane of hepatocytes and proximal tubules and involved in the uptake and disposition of cationic compounds by hepatic and renal clearance from the blood flow (PubMed:15783073). Implicated in monoamine neurotransmitters uptake such as histamine, dopamine, adrenaline/epinephrine, noradrenaline/norepinephrine, serotonin and tyramine, thereby supporting a physiological role in the central nervous system by regulating interstitial concentrations of neurotransmitters (PubMed:16581093, PubMed:17460754, PubMed:9687576). Also capable of transporting dopaminergic neuromodulators cyclo(his- pro), salsolinol and N-methyl-salsolinol, thereby involved in the maintenance of dopaminergic cell integrity in the central nervous system (PubMed:17460754). Mediates the bidirectional transport of acetylcholine (ACh) at the apical membrane of ciliated cell in airway epithelium, thereby playing a role in luminal release of ACh from bronchial epithelium (PubMed:15817714). Also transports guanidine and endogenous monoamines such as vitamin B1/thiamine, creatinine and N-1- methylnicotinamide (NMN) (PubMed:12089365, PubMed:15212162, PubMed:17072098, PubMed:24961373, PubMed:9260930). Mediates the uptake and efflux of quaternary ammonium compound choline (PubMed:9260930). Mediates the bidirectional transport of polyamine agmatine and the uptake of polyamines putrescine and spermidine (PubMed:12538837, PubMed:21128598). Able to transport non-amine endogenous compounds such as prostaglandin E2 (PGE2) and prostaglandin F2-alpha (PGF2-alpha) (PubMed:11907186). Also involved in the uptake of xenobiotic 4-(4-(dimethylamino)styryl)-N-methylpyridinium (ASP) (PubMed:12395288, PubMed:16394027). May contribute to regulate the transport of organic compounds in testis across the blood-testis-barrier (Probable).

Cellular Location

Basolateral cell membrane {ECO:0000250|UniProtKB:Q9R0W2}; Multi-pass membrane protein. Basal cell membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Note=Localized to the basal membrane of Sertoli cells (PubMed:35307651). Localized to the basolateral membrane of proximal tubule (PubMed:11912245). Localized to the luminal/apical membrane of distal tubule (PubMed:9260930). Localized to the luminal/apical membrane of

ciliated epithelial cells in bronchi (PubMed:15817714).

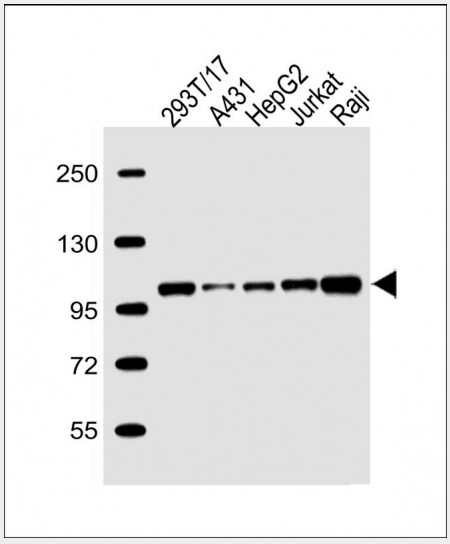
Tissue Location
Mainly expressed in kidney, in the cortex and medulla (PubMed:11912245, PubMed:12089365, PubMed:9260930). Localized in testis, mostly to peritubular myoid cells and Leydig cells and also detected along the basal membrane of Sertoli cells (PubMed:12089365, PubMed:35307651). Expressed in brain, in neurons of the cerebral cortex and in various subcortical nuclei (PubMed:12089365, PubMed:9260930, PubMed:9687576). In the brain, also detected in the dopaminergic regions of the substantia nigra (PubMed:17460754). Expressed in tracheal and bronchial ciliated epithelium in the respiratory tract (PubMed:15817714). Also detected in secretory phase endometrium, in scattered stromal cells (PubMed:17393420). Expressed in spleen, placenta, small intestine and spinal cord (PubMed:12089365, PubMed:9260930). Weakly expressed in prostate, uterus and lung (PubMed:12089365).

SLC22A2 Antibody (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SLC22A2 Antibody (N-term) - Images



All lanes : Anti-SLC22A2 Antibody (N-term) at1:2000 dilution Lane 1: 293T/17 whole cell lysate Lane 2: A431 whole cell lysate Lane 3: HepG2 whole cell lysate Lane 4: Jurkat whole cell lysate Lane 5: Raji whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 63 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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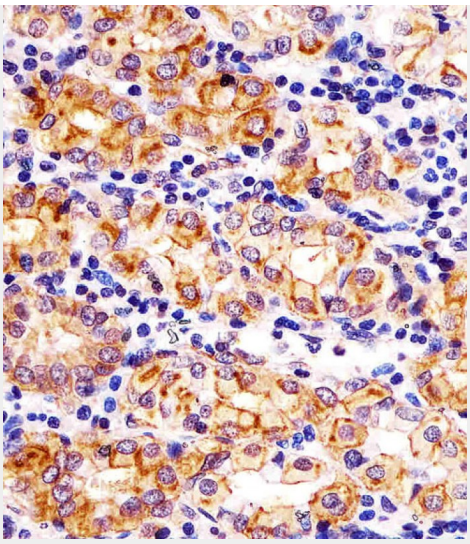
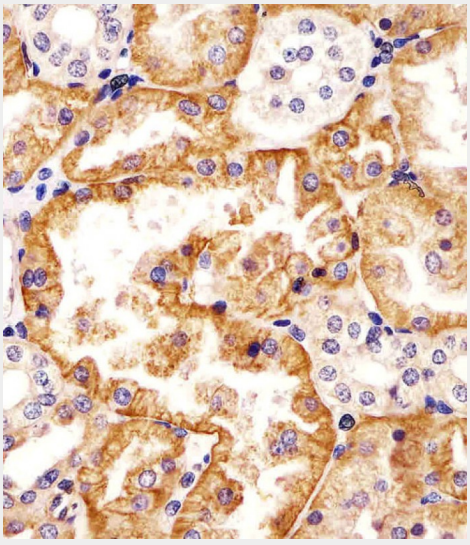


AW5645 staining SLC22A2 in human stomach tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



AW5645 staining SLC22A2 in human kidney tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

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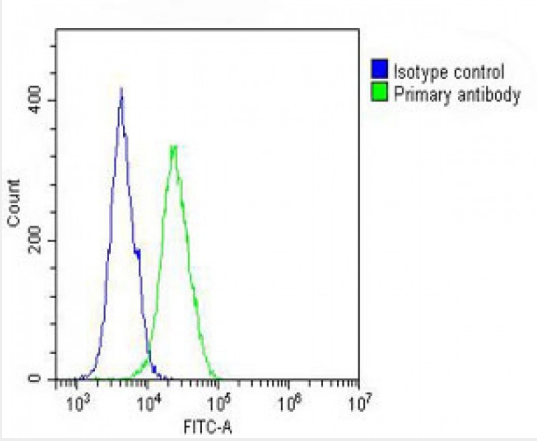

Overlay histogram showing A431 cells stained with AW5645 (green line). The cells were fixed with 2% paraformaldehyde (10 min). The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AW5645, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OH191631) at 1/200 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

SLC22A2 Antibody (N-term) - Background

Mediates tubular uptake of organic compounds from circulation. Mediates the influx of agmatine, dopamine, noradrenaline (norepinephrine), serotonin, choline, famotidine, ranitidine, histamin, creatinine, amantadine, memantine, acriflavine, 4-[4-(dimethylamino)-styryl]-N-methylpyridinium ASP, amiloride, metformin, N-1-methylnicotinamide (NMN), tetraethylammonium (TEA), 1-methyl-4-phenylpyridinium (MPP), cimetidine, cisplatin and oxaliplatin. Cisplatin may develop a nephrotoxic action. Transport of creatinine is inhibited by fluoroquinolones such as DX-619 and LVFX. This transporter is a major determinant of the anticancer activity of oxaliplatin and may contribute to antitumor specificity.

SLC22A2 Antibody (N-term) - References

Gorboulev V.,et al.DNA Cell Biol. 16:871-881(1997).
Urakami Y.,et al.J. Am. Soc. Nephrol. 13:1703-1710(2002).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Mungall A.J.,et al.Nature 425:805-811(2003).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.