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Anti-SLC22A1 Antibody

Catalog # ABO11483

Product Information

Application	WB
Primary Accession	O15245
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Solute carrier family 22 member 1(SLC22A1) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	6580
Other Names	Solute carrier family 22 member 1, Organic cation transporter 1, hOCT1, SLC22A1, OCT1
Calculated MW	61154
Application Details	Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Basolateral cell membrane ; Multi-pass membrane protein .
Tissue Specificity	Widely expressed with high level in liver. Isoform 1 and isoform 2 are expressed in liver. Isoform 1, isoform 2, isoform 3 and isoform 4 are expressed in glial cell lines. .
Source	Eukaryota
Protein Name	Solute carrier family 22 member 1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human SLC22A1(533-550aa RKAKPKENTIYLKVQTSE), different from the related mouse and rat sequences by six amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

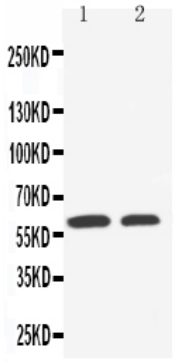
Name	SLC22A1 (HGNC:10963)
Synonyms	OCT1
Function	Electrogenic voltage-dependent uniporter that mediates the transport of a variety of organic cations such as endogenous bioactive amines, cationic drugs and xenobiotics (PubMed:11388889, PubMed:11408531, PubMed:12439218, PubMed:12719534, PubMed:15389554, PubMed:16263091, PubMed:16272756, PubMed:16581093, PubMed:19536068, PubMed:21128598, PubMed:23680637, PubMed:24961373, PubMed:34040533, PubMed:9187257, PubMed:9260930, PubMed:9655880). Functions as a pH- and Na(+)-independent, bidirectional transporter (By similarity). Cation cellular uptake or release is driven by the electrochemical potential (i.e. membrane potential and concentration gradient) and substrate selectivity (By similarity). Hydrophobicity is a major requirement for recognition in polyvalent substrates and inhibitors (By similarity). Primarily 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 (By similarity). Most likely functions as an uptake carrier in enterocytes contributing to the intestinal elimination of organic cations from the systemic circulation (PubMed:16263091). Transports endogenous monoamines such as N-1-methylnicotinamide (NMN), guanidine, histamine, neurotransmitters dopamine, serotonin and adrenaline (PubMed:12439218, PubMed:24961373, PubMed:35469921, PubMed:9260930). Also transports natural polyamines such as spermidine, agmatine and putrescine at low affinity, but relatively high turnover (PubMed:21128598). Involved in the hepatic uptake of vitamin B1/thiamine, hence regulating hepatic lipid and energy metabolism (PubMed:24961373). Also transport choline, albeit with low affinity (PubMed:40972734). 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). Transports dopaminergic neuromodulators cyclo(his-pro) and salsolinol with lower efficiency (PubMed:17460754). Also capable of transporting non-amine endogenous compounds such as prostaglandin E2 (PGE2) and prostaglandin F2-alpha (PGF2-alpha) (PubMed:11907186). May contribute to the transport of cationic compounds in testes across the blood-testis- barrier (Probable). Also involved in the uptake of xenobiotics tributylmethylammonium (TBuMA), quinidine, N-methyl-quinine (NMQ), N- methyl-quinidine (NMQD) N-(4,4-azo-n-pentyl)-quinuclidine (APQ), azidoprocainamide methoiodide (AMP), N-(4,4-azo-n-pentyl)-21- deoxyajmalinium (APDA) and 4-(4-(dimethylamino)styryl)-N- methylpyridinium (ASP) (PubMed:11408531, PubMed:15389554, PubMed:35469921, PubMed:9260930).
Cellular Location	Basolateral cell membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Lateral cell membrane; Multi-pass membrane protein. Basal cell membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Note=Localized to the sinusoidal/basolateral membrane of hepatocytes (By similarity). Mainly localized to the basolateral membrane of renal proximal tubular cells (By similarity). However, also identified at the apical side of proximal tubular cells (PubMed:19536068). Mainly expressed at the lateral membrane of

	enterocytes (PubMed:16263091). Also observed at the apical side of enterocytes (PubMed:23680637). Localized to the luminal/apical membrane of ciliated epithelial cells in bronchi (PubMed:15817714). Localized to the basal membrane of Sertoli cells (PubMed:35307651) {ECO:0000250|UniProtKB:Q63089, ECO:0000269|PubMed:15817714, ECO:0000269|PubMed:16263091, ECO:0000269|PubMed:19536068, ECO:0000269|PubMed:23680637, ECO:0000269|PubMed:35307651}
Tissue Location	Widely expressed with high level in liver (PubMed:11388889, PubMed:23680637, PubMed:9187257, PubMed:9260930). In liver, expressed around the central vein (PubMed:16263091). Expressed in kidney (PubMed:9187257, PubMed:9260930). Expressed in small intestine enterocytes (PubMed:16263091, PubMed:23680637). Localized to peritubular myoid cells, Leydig cells and moderately to the basal membrane of Sertoli cells in testes (PubMed:35307651). Expressed in tracheal and bronchial ciliated epithelium in the respiratory tract (PubMed:15817714). Also expressed in skeletal muscle, stomach, spleen, heart, placentacolon, brain, granulycytes and lymphocytes (PubMed:9187257, PubMed:9260930). [Isoform 2]: Expressed in liver and in glial cell lines. [Isoform 4]: Expressed in glial cell lines. Not expressed in liver.

Background

Solute carrier family 22(organic cation transporter), member 1, also called SLC22A1 or OCT1 is a protein that in humans is encoded by the SLC22A1 gene. This gene is mapped to 6q25.3. Polyspecific organic cation transporters in the liver, kidney, intestine, and other organs are critical for elimination of many endogenous small organic cations as well as a wide array of drugs and environmental toxins. This gene transports the polyamines spermine and spermidine. It also transports pramipexole across the basolateral membrane of the proximal tubular epithelial cells. This gene regulated by various intracellular signaling pathways including inhibition by protein kinase A activation, and endogenously activation by the calmodulin complex, the calmodulin-dependent kinase II and LCK tyrosine kinase.

Images



Anti-SLC22A1 antibody, ABO11483, Western blottingLane 1: HELA Cell LysateLane 2: A549 Cell Lysate

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