

SLC22A1 Antibody (C-term) Blocking peptide
Synthetic peptide
Catalog # BP13944b**Specification**

SLC22A1 Antibody (C-term) Blocking peptide - Product InformationPrimary Accession [O15245](#)**SLC22A1 Antibody (C-term) Blocking peptide - Additional Information****Gene ID** 6580**Other Names**

Solute carrier family 22 member 1, Organic cation transporter 1, hOCT1, SLC22A1, OCT1

Target/Specificity

The synthetic peptide sequence used to generate the antibody AP13944b was selected from the C-term region of SLC22A1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SLC22A1 Antibody (C-term) Blocking peptide - Protein Information**Name** SLC22A1 ([HGNC:10963](#))**Synonyms** OCT1**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:9187257, PubMed:11388889, PubMed:9655880, PubMed:11408531, PubMed:15389554, PubMed:16263091, PubMed:16272756, PubMed:16581093, PubMed:<a

[19536068](http://www.uniprot.org/citations/19536068), PubMed: [21128598](http://www.uniprot.org/citations/21128598), PubMed: [23680637](http://www.uniprot.org/citations/23680637), PubMed: [24961373](http://www.uniprot.org/citations/24961373), PubMed: [34040533](http://www.uniprot.org/citations/34040533), PubMed: [12439218](http://www.uniprot.org/citations/12439218), PubMed: [12719534](http://www.uniprot.org/citations/12719534)). 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](http://www.uniprot.org/citations/16263091)). Transports endogenous monoamines such as N-1-methylnicotinamide (NMN), guanidine, histamine, neurotransmitters dopamine, serotonin and adrenaline (PubMed: [9260930](http://www.uniprot.org/citations/9260930), PubMed: [24961373](http://www.uniprot.org/citations/24961373), PubMed: [35469921](http://www.uniprot.org/citations/35469921), PubMed: [12439218](http://www.uniprot.org/citations/12439218)). Also transports natural polyamines such as spermidine, agmatine and putrescine at low affinity, but relatively high turnover (PubMed: [21128598](http://www.uniprot.org/citations/21128598)). Involved in the hepatic uptake of vitamin B1/thiamine, hence regulating hepatic lipid and energy metabolism (PubMed: [24961373](http://www.uniprot.org/citations/24961373)). 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](http://www.uniprot.org/citations/15817714)). Transports dopaminergic neuromodulators cyclo(his-pro) and salsolinol with lower efficiency (PubMed: [17460754](http://www.uniprot.org/citations/17460754)). Also capable of transporting non-amine endogenous compounds such as prostaglandin E2 (PGE2) and prostaglandin F2-alpha (PGF2-alpha) (PubMed: [11907186](http://www.uniprot.org/citations/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), azidoprocaïnamide methiodide (AMP), N-(4,4-azo-n-pentyl)-21- deoxyajmalinium (APDA) and 4-(4-(dimethylamino)styryl)-N- methylpyridinium (ASP) (PubMed: [9260930](http://www.uniprot.org/citations/9260930), PubMed: [11408531](http://www.uniprot.org/citations/11408531), PubMed: [15389554](http://www.uniprot.org/citations/15389554), PubMed: [35469921](http://www.uniprot.org/citations/35469921)).

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:9260930, PubMed:9187257, PubMed:11388889, PubMed:23680637). In liver, expressed around the central vein (PubMed:16263091). Expressed in kidney (PubMed:9260930, PubMed:9187257). 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, placenta, colon, brain, granulocytes and lymphocytes (PubMed:9260930, PubMed:9187257). [Isoform 2]: Expressed in liver and in glial cell lines. [Isoform 4]: Expressed in glial cell lines. Not expressed in liver.

SLC22A1 Antibody (C-term) Blocking peptide - Protocols

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

- [Blocking Peptides](#)

SLC22A1 Antibody (C-term) Blocking peptide - Images

SLC22A1 Antibody (C-term) Blocking peptide - Background

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 is one of three similar cation transporter genes located in a cluster on chromosome 6. The encoded protein contains twelve putative transmembrane domains and is a plasma integral membrane protein. Two transcript variants encoding two different isoforms have been found for this gene, but only the longer variant encodes a functional transporter. [provided by RefSeq].

SLC22A1 Antibody (C-term) Blocking peptide - References

Takahashi, N., et al. J. Hum. Genet. 55(11):731-737(2010) Jablonski, K.A., et al. Diabetes 59(10):2672-2681(2010) Hu, M., et al. Pharmacogenet. Genomics 20(10):634-637(2010) Gambineri, A., et al. J. Clin. Endocrinol. Metab. 95 (10), E204-E208 (2010) :Becker, M.L., et al. Neurogenetics (2010) In press :