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SLC22A2 Blocking Peptide (N-term)

Synthetic peptide
Catalog # BP21683a

Specification

SLC22A2 Blocking Peptide (N-term) - Product Information

Primary Accession O15244

SLC22A2 Blocking Peptide (N-term) - Additional Information

Gene ID 6582

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

Target/Specificity
The synthetic peptide sequence is selected from aa 77-89 of HUMAN SLC22A2

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.

SLC22A2 Blocking Peptide (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:9687576, PubMed:21128598). Cation cellular uptake or release is driven by the electrochemical potential, i.e. membrane potential and concentration gradient (PubMed:9260930, PubMed:9687576, PubMed:15212162). 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:9687576, PubMed:16581093, PubMed:17460754). 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:9260930, PubMed:12089365, PubMed:15212162, PubMed:17072098, PubMed:24961373). 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:9260930, PubMed:12089365, PubMed:11912245). 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:9260930, PubMed:12089365, 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:9260930, PubMed:12089365). Weakly expressed in prostate, uterus and lung (PubMed:12089365).

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SLC22A2 Blocking Peptide (N-term) - Protocols

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

- Blocking Peptides

SLC22A2 Blocking Peptide (N-term) - Images

SLC22A2 Blocking Peptide (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 Blocking Peptide (N-term) - References

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