SLC22A1 cDNA Clone – Solute Carrier Family 22 (Organic Cation Transporter), Member 1 (Human)

PRODUCT OVERVIEW

Product Name	SLC22A1, cDNA Clone
Full Product Name	SLC22A1 cDNA Clone
Product Gene Name	SLC22A1 cdna clone
Sequence	atgcccaccg tggatgacat tctggagcag gttggggagt ctggctggtt ccagaagcaa gccttcctca tcttatgcct gctgtcggct gcctttgcgc ccatctgtgt gggcatcgtc ttcctgggtt tcacacctga ccaccactgc cagagtcctg gggtggctga gctgagccag cgctgtggct ggagccctgc ggaggagctg aactatacag tgccaggcct ggggcccgcg ggcgaggcct tccttggcca gtgcaggcgc tatgaagtgg actggaacca gagcgccctc agctgtgtag acccccctggc tagcctggcc accaacagga gccacctgcc gctgggtccc tgccaggatg gctgggtgta tgacacgccc ggctcttcca tcgtcactga gttcaacctg gtgtgtgctg actcctggaa gctggacctc tttcagtcct gtttgaatgc gggcttcttc tttggctctc tcggtgttgg ctactttgca gacaggtttg gccgtaagct gtgtctcctg ggaactgtgc tggtcaacgc ggtgtcgggc gtgctcatgg ccttctcgcc caactacatg tccatgctgc tcttccgcct gctgcagggc ctggtcagca agggcaactg gatggctggc tacaccctaa tcacagaatt tgttggctcg ggctccagaa gaacggtggc gatcatgtac cagatggcct tcacggtggg gctggtggcg cttaccgggc tggcctacgc cctgcctcac tggcgctggc tgcagctggc agtctccctg cccaccttcc tcttcctgct ctactactgg tgtgtgccgg agtcccctcg gtggctgtta tcacaaaaaa gaaacactga agcaataaag ataatggacc acatcgctca aaagaatggg aagttgcctc ctgctgattt aaagatgctt tccctcgaag aggatgtcac cgaaaagctg agcccttcat ttgcagacct gttccgcacg ccgcgcctga ggaagcgcac cttcatcctg atgtacctgt ggttcacgga ctctgtgctc tatcaggggc tcatcctgca catgggcgcc accagcggga acctctacct ggatttcctt tactccgctc tggtcgaaat cccgggggcc ttcatagccc tcatcaccat tgaccgcgtg ggccgcatct accccatggc catgtcaaat ttgttggcgg gggcagcctg cctcgtcatg atttttatct cacctgacct gcactggtta aacatcataa tcatgtgtgt tggccgaatg ggaatcacca ttgcaataca aatgatctgc ctggtgaatg ctgagctgta ccccacattc gtcaggaacc tcggagtgat ggtgtgttcc tccctgtgtg acataggtgg gataatcacc cccttcatag tcttcaggct gagggaggtc tggcaagcct tgcccctcat tttgtttgcg gtgttgggcc tgcttgccgc gggagtgacg ctacttcttc cagagaccaa gggggtcgct ttgccagaga ccatgaagga cgccgagaac cttgggagaa aagcaaagcc caaagaaaac acgatttacc ttaaggtcca aacctcagaa ccctcgggca cctga
Molecular Weight	39,224 Da
OMIM	602607
Vector	Please Inquire
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for SLC22A1 cdna clone	MBS1270898 is a cDNA clone targeting SLC22A1.
Other Notes	Small volumes of SLC22A1 cdna clone vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SLC22A1. It may not necessarily be applicable to this product.

NCBI GI #	116497204
NCBI GeneID	6580
NCBI Accession #	BC126364
UniProt Secondary Accession #	O15395; Q9NQD4; A6NFF3; A8K1H2; C9JSU6
UniProt Related Accession #	O15245
NCBI Official Full Name	Homo sapiens solute carrier family 22 (organic cation transporter), member 1, mRNA
NCBI Official Synonym Full Names	solute carrier family 22 member 1

NCBI Official Symbol	SLC22A1
NCBI Official Synonym Symbols	OCT1; HOCT1; oct1_cds
UniProt Protein Name	Solute carrier family 22 member 1
UniProt Synonym Protein Names	Organic cation transporter 1; hOCT1
Protein Family	Solute carrier family
UniProt Gene Name	SLC22A1
UniProt Synonym Gene Names	OCT1; hOCT1
UniProt Entry Name	S22A1_HUMAN
NCBI Protein Information	solute carrier family 22 member 1
NCBI Summary for SLC22A1	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, Jul 2008]
UniProt Comments for SLC22A1	SLC22A1: Translocates a broad array of organic cations with various structures and molecular weights including the model compounds 1-methyl-4-phenylpyridinium (MPP), tetraethylammonium (TEA), N-1-methylnicotinamide (NMN), 4-(4-(dimethylamino)styryl)- N-methylpyridinium (ASP), the endogenous compounds choline, guanidine, histamine, epinephrine, adrenaline, noradrenaline and dopamine, and the drugs quinine, and metformin. The transport of organic cations is inhibited by a broad array of compounds like tetramethylammonium (TMA), cocaine, lidocaine, NMDA receptor antagonists, atropine, prazosin, cimetidine, TEA and NMN, guanidine, cimetidine, choline, procainamide, quinine, tetrabutylammonium, and tetrapentylammonium. Translocates organic cations in an electrogenic and pH-independent manner. Translocates organic cations across the plasma membrane in both directions. Transports the polyamines spermine and spermidine. Transports pramipexole across the basolateral membrane of the proximal tubular epithelial cells. The choline transport is activated by MMTS. 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. Belongs to the major facilitator (TC 2.A.1) superfamily. Organic cation transporter (TC 2.A.1.19) family. 4 isoforms of the human protein are produced by alternative splicing. Protein type: Transporter, SLC family; Transporter; Membrane protein, integral; Membrane protein, multi-pass Chromosomal Location of Human Ortholog: 6q25.3 Cellular Component: integral to plasma membrane; membrane; plasma membrane Molecular Function: acetylcholine transmembrane transporter activity; dopamine transmembrane transporter activity; norepinephrine transmembrane transporter activity; organic cation transmembrane transporter activity; protein binding; quaternary ammonium group transmembrane transporter activity; secondary active organic cation transmembrane transporter activity Biological Process: dopamine transport; multidrug transport; neurotransmitter transport; norepinephrine transport; organic cation transport
Research Articles on SLC22A1	**1.** Data show that bisindolylmaleimides (BIMs) Ro 31-8220 also blocks activity of the solute carrier organic cation transporter 1 (OCT1), involved in uptake of marketed drugs in the liver, in a protein kinase C (PKC)-independent manner.
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