SLC22 family of organic cation and anion transporters (version 2019.4) in the IUPHAR/BPS Guide to Pharmacology Database

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Abstract

The SLC22 family of transporters is mostly composed of non-selective transporters, which are expressed highly in liver, kidney and intestine, playing a major role in drug disposition. The family may be divided into three subfamilies based on the nature of the substrate transported: organic cations (OCTs), organic anions (OATs) and organic zwitterions/cations (OCTN). Membrane topology is predicted to contain 12 TM domains with intracellular termini, and an extended extracellular loop at TM 1/2.

Contents

This is a citation summary for SLC22 family of organic cation and anion transporters in the Guide to Pharmacology database (GtoPdb). It exists purely as an adjunct to the database to facilitate the recognition of citations to and from the database by citation analyzers. Readers will almost certainly want to visit the relevant sections of the database which are given here under database links.

GtoPdb is an expert-driven guide to pharmacological targets and the substances that act on them. GtoPdb is a reference work which is most usefully represented as an on-line database. As in any publication this work should be appropriately cited, and the papers it cites should also be recognized. This document provides a citation for the relevant parts of the database, and also provides a reference list for the research cited by those parts.

Please note that the database version for the citations given in GtoPdb are to the most recent preceding version in which the family or its subfamilies and targets were substantially changed. The links below are to the current version. If you need to consult the cited version, rather than the most recent version, please contact the GtoPdb curators.

Database links

SLC22 family of organic cation and anion transporters
http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=146

Organic cation transporters (OCT)
http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=196

Transports
OCT1(Organic cation transporter 1)
http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1019
OCT2(Organic cation transporter 2)
Organic cation transporters (OCTN)

- OCT3 (Organic cation transporter 3)
- OCTN1 (Organic cation/carnitine transporter 1)
- OCTN2 (Organic cation/carnitine transporter 2)
- CT2 (Carnitine transporter 2)

Organic anion transporters (OATs)

- OAT1 (Organic anion transporter 1)
- OAT2 (Organic anion transporter 2)
- OAT3 (Organic anion transporter 3)
- OAT4 (Organic anion transporter 4)
- OAT5 (Organic anion transporter 5)
- OAT7 (Organic anion transporter 7)

Urate transporter

- URAT1 (Urate anion exchanger 1)

Orphan or poorly characterized SLC22 family members

- ORCTL3 (Organic cation transporter-like 3)
- ORCTL4 (Organic cation transporter-like 4)
- FLIPT1 (Fly-like putative transporter 1)
- BOIT (Brain-type organic cation transporter)
- ORCTL2 (Organic cation transporter-like 2)
- OAT6
- SLC22A23
- SLC22A24
Atypical SLC22B subfamily

Transporters
synaptic vesicle glycoprotein 2A

References


Ligands in the Treatment of Epilepsy and Beyond. *CNS Drugs* **30**: 1055-1077 [PMID:27752944]


