

# 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 zwitterion/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.

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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

View metadata, citation and similar papers at [CORE](#)  <http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=146>

[Organic cation transporters \(OCT\)](#)

<http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=196>

Transporters

[OCT1\(Organic cation transporter 1\)](#)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1019>

[OCT2\(Organic cation transporter 2\)](#)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1020>

OCT3(Organic cation transporter 3)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1021>

#### Organic zwitterions/cation transporters (OCTN)

<http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=197>

##### Transporters

OCTN1(Organic cation/carnitine transporter 1)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1022>

OCTN2(Organic cation/carnitine transporter 2)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1023>

CT2(Carnitine transporter 2)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1024>

#### Organic anion transporters (OATs)

<http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=198>

##### Transporters

OAT1(Organic anion transporter 1)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1025>

OAT2(Organic anion transporter 2)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1026>

OAT3(Organic anion transporter 3)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1027>

Organic anion transporter 4

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1030>

OAT5(Organic anion transporter 5)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1029>

OAT4(Organic anion transporter 7)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1028>

#### Urate transporter

<http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=199>

##### Transporters

URAT1(Urate anion exchanger 1)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1031>

#### Orphan or poorly characterized SLC22 family members

<http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=200>

##### Transporters

ORCTL3(Organic cation transporter-like 3)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1032>

ORCTL4(Organic cation transporter-like 4)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1033>

FLIPT1(Fly-like putative transporter 1)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1034>

BOIT(Brain-type organic cation transporter)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1035>

ORCTL2(Organic cation transporter-like 2)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1036>

OAT6

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1037>

SLC22A23

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1038>

SLC22A24

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1039>

UST6

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1040>

solute carrier family 22 member 31

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2557>

Atypical SLC22B subfamily

<http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=859>

Transporters

synaptic vesicle glycoprotein 2A

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=2634>

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