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SLC22 family of organic cation and anion transporters in GtoPdb v.2025.3

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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 zwiterrion/cations (OCTN). Membrane topology is predicted to contain 12 TM domains with intracellular termini, and an extended extracellular loop at TM 1/2.

Contents

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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

SLC22 family of organic cation and anion transporters
https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=146
- Organic cation transporters (OCT)
  https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=196
  - Transporters
    - OCT1(Organic cation transporter 1)
      https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1019
    - OCT2(Organic cation transporter 2)
      https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1020
    - OCT3(Organic cation transporter 3)
      https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1021
- Organic zwitterions/cation transporters (OCTN)
  https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=197
  - Transporters
    - OCTN1(Organic cation/carnitine transporter 1)
      https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1022
    - OCTN2(Organic cation/carnitine transporter 2)
      https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1023
    - CT2(Carnitine transporter 2)
      https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1024

Organic anion transporters (OATs)
https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=198
Transporters
OAT1(Organic anion transporter 1)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1025
OAT2(Organic anion transporter 2)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1026
OAT3(Organic anion transporter 3)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1027
Organic anion transporter 4
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1030
OAT4(Organic anion transporter 7)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1028
Urate transporter
https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=199
Transporters
URAT1(Urate anion exchanger 1)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1031
Orphan or poorly characterized SLC22 family members
https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=200
Transporters
OAT10(Organic anion transporter 10)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1032
OCTL2(Organic cation transporter-like 2)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1033
FLIPT1(Fly-like putative transporter 1)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1034
BOIT(Brain-type organic cation transporter)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1035
OAT5(Organic anion transporter 5)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1029
ORCTL2(Organic cation transporter-like 2)
https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1036
OAT6
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Transporters
synaptic vesicle glycoprotein 2A
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