

## SLC51 family of steroid-derived molecule transporters (version 2019.4) in the IUPHAR/BPS Guide to Pharmacology Database

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### Abstract

The SLC51 organic solute transporter family of transporters is a pair of heterodimeric proteins which regulate bile salt movements in the small intestine, bile duct, and liver, as part of the enterohepatic circulation [1, 3]. OST $\alpha$ /OST $\beta$  is also expressed in steroidogenic cells of the brain and adrenal gland, where it may contribute to steroid movement [4]. Bile acid transport is suggested to be facilitative and independent of sodium, potassium, chloride ions or protons [3, 1]. OST $\alpha$ /OST $\beta$  heterodimers have been shown to transport [<sup>3</sup>H]taurocholic acid, [<sup>3</sup>H]dehydroepiandrosterone sulphate, [<sup>3</sup>H]estrone-3-sulphate, [<sup>3</sup>H]pregnenolone sulphate and [<sup>3</sup>H]dehydroepiandrosterone sulphate [1, 3, 4]. OST $\alpha$ /OST $\beta$ -mediated transport of bile salts is inhibited by clofazimine [7]. OST $\alpha$  is suggested to be a seven TM protein, while OST $\beta$  is a single TM 'ancillary' protein, both of which are thought to have intracellular C-termini [5]. Both proteins function in solute transport and bimolecular fluorescence complementation studies suggest the possibility of OST $\alpha$  homo-oligomers, as well as OST $\alpha$ /OST $\beta$  hetero-oligomers [5, 2]. An inherited mutation in OST $\beta$  is associated with congenital diarrhea in children [6].

### Contents

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### Database links

[SLC51 family of steroid-derived molecule transporters](#)

<http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=337>

## Transporters

OST $\alpha$ (Organic solute transporter subunit  $\alpha$ )

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1915>

OST $\beta$ (Organic solute transporter subunit  $\beta$ )

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=1916>

## References

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