

SLC54 Mitochondrial pyruvate carriers in GtoPdb v.2025.3

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Abstract

The mitochondrial pyruvate carrier (MPC) is composed of SLC54 family members (MPC1 or MPC1L and MPC2) [1, 5, 10], which form functional hetero-dimers [9, 8]. The MPC is expressed in the inner mitochondrial membrane and is responsible for the import of pyruvate into mitochondria [1, 5]. Pyruvate is oxidized to acetyl-CoA by pyruvate dehydrogenase which is localized in the mitochondrial matrix. Ubiquitous disruption of either MPC1 or MPC2 expression results in embryonic lethality [11, 12]. Clinically relevant concentrations of the insulin sensitizers, thiazolidinediones, inhibit the MPC [3]. Other clinically relevant inhibitors of the MPC complex are lonidamine [7, 8], quinolone antibacterials [6], [entacapone](#) and [nitrofurantoin](#) [8].

Contents

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Database links

[SLC54 Mitochondrial pyruvate carriers](#)

<https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=1006>

Transporters

[mitochondrial pyruvate carrier 1](#)

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=3022>

[mitochondrial pyruvate carrier 2](#)

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=3023>

[mitochondrial pyruvate carrier 1 like](#)

<https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=3024>

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