

Two P domain potassium channels (version 2019.4) in the IUPHAR/BPS Guide to Pharmacology Database

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Abstract

The 4TM family of K channels mediate many of the background potassium currents observed in native cells. They are open across the physiological voltage-range and are regulated by a wide array of neurotransmitters and biochemical mediators. The pore-forming α -subunit contains two pore loop (P) domains and two subunits assemble to form one ion conduction pathway lined by four P domains. It is important to note that single channels do not have two pores but that each subunit has two P domains in its primary sequence; hence the name two P domain, or K_{2P} channels (and not two-pore channels). Some of the K_{2P} subunits can form heterodimers across subfamilies (*e.g.* $K_{2P3.1}$ with $K_{2P9.1}$). The nomenclature of 4TM K channels in the literature is still a mixture of IUPHAR and common names. The suggested division into subfamilies, described in the [More detailed introduction](#), is based on similarities in both structural and functional properties within subfamilies and this explains the "common abbreviation" nomenclature in the tables below.

Contents

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Database links

Two P domain potassium channels

<http://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=79>

Introduction to Two P domain potassium channels

<http://www.guidetopharmacology.org/GRAC/FamilyIntroductionForward?familyId=79>

Channels and Subunits

TWIK1(K_{2P}1.1)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=513>

TREK1(K_{2P}2.1)

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TASK1(K_{2P}3.1)

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TALK2(K_{2P}17.1)

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TRESK(K_{2P}18.1)

<http://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=527>

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