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Two-pore domain potassium channels (K_{2P}) in GtoPdb v.2023.1

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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-pore domain, or K_{2P} channels (and not two-pore channels). Some of the K_{2P} subunits can form heterodimers across subfamilies (*e.g.* K_{2P}3.1 with K_{2P}9.1). 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-pore domain potassium channels (K_{2P})
https://www.guidetopharmacology.org/GRAC/FamilyDisplayForward?familyId=79
Introduction to Two-pore domain potassium channels (K_{2P})
https://www.guidetopharmacology.org/GRAC/FamilyIntroductionForward?familyId=79

Channels and Subunits

- TWIK1(K_{2P}1.1)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=513
- TREK1(K_{2P}2.1)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=514
- TASK1(K_{2P}3.1)
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- TRAAK1(K_{2P}4.1)
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- TASK2(K_{2P}5.1)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=517
- TWIK2(K_{2P}6.1)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=518
- K_{2P}7.1
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=519
- TASK3(K_{2P}9.1)
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- TREK2(K_{2P}10.1)
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- THIK1(K_{2P}13.1)
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- TASK5(K_{2P}15.1)
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- TALK1(K_{2P}16.1)
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- TALK2(K_{2P}17.1)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=526
- TRESK(K_{2P}18.1)
  https://www.guidetopharmacology.org/GRAC/ObjectDisplayForward?objectId=527

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