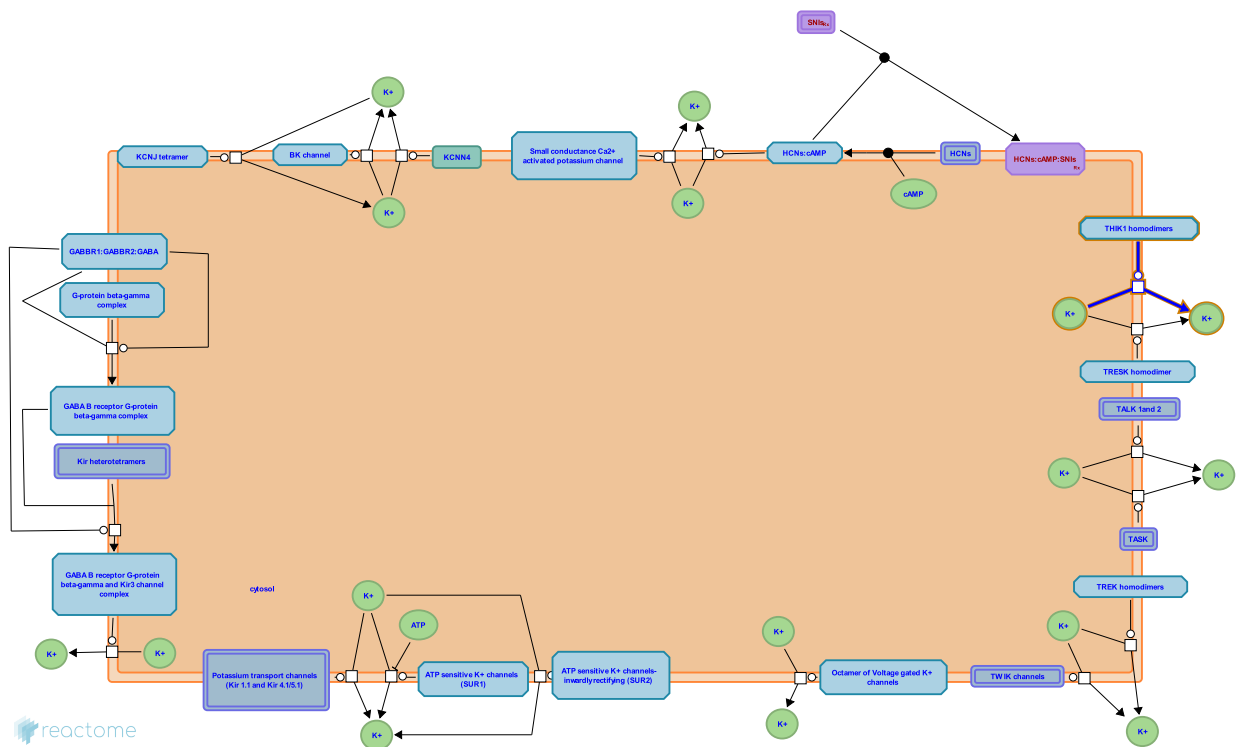


Tandem pore domain halothane-inhibited K⁺ channel (THIK)



Jassal, B., Mahajan, SS.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

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This is just an excerpt of a full-length report for this pathway. To access the complete report, please download it at the [Reactome Textbook](https://reactome.org/textbook/).

20/05/2024

Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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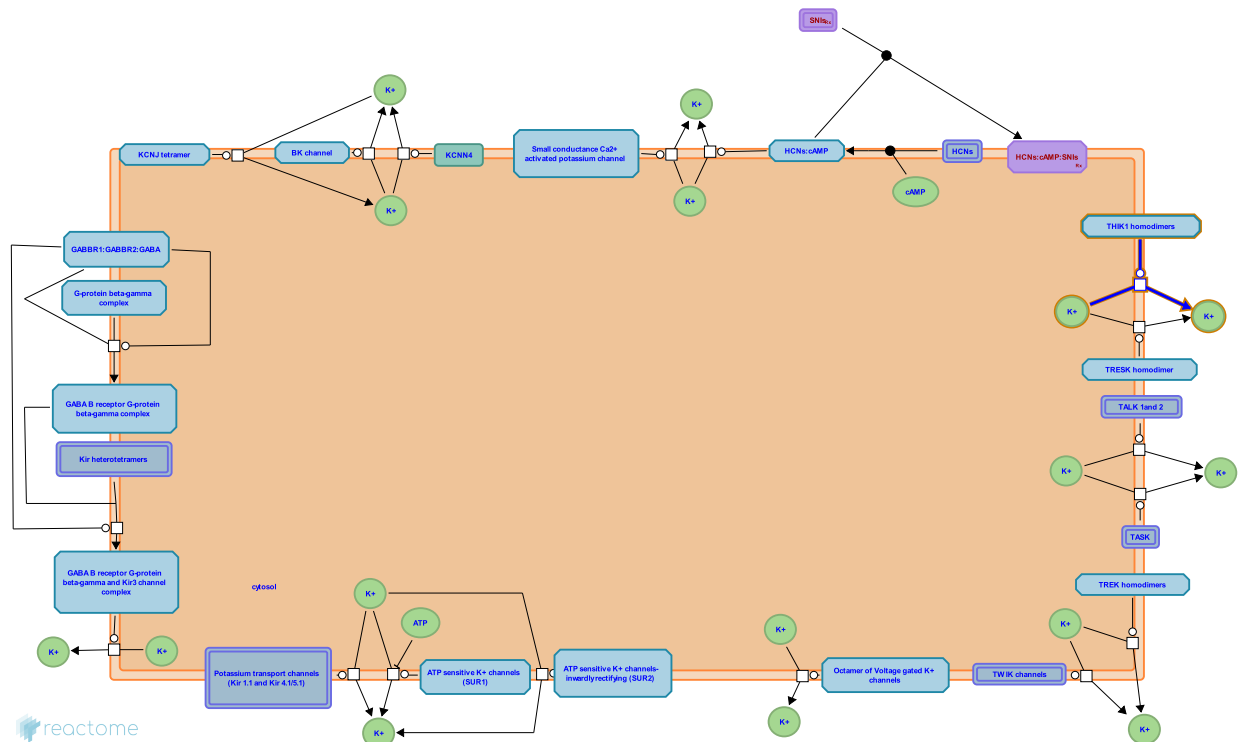
Reactome database release: 88

This document contains 1 pathway and 1 reaction ([see Table of Contents](#))

Tandem pore domain halothane-inhibited K⁺ channel (THIK) ↗

Stable identifier: R-HSA-1299287

Compartments: plasma membrane, cytosol, extracellular region



THIK channels are K⁺ leak channels that are not regulated by pH or temperature changes.

Literature references

Brown, ST., Hudasek, K., Campanucci, VA., O'Kelly, IM., Fearon, IM., Nurse, CA. (2006). Acute hypoxic regulation of recombinant THIK-1 stably expressed in HEK293 cells. *Adv Exp Med Biol*, 580, 203-8; discussion 351-9. ↗

Editions

2010-09-23	Reviewed	Jassal, B.
2011-05-23	Authored, Edited	Mahajan, SS.

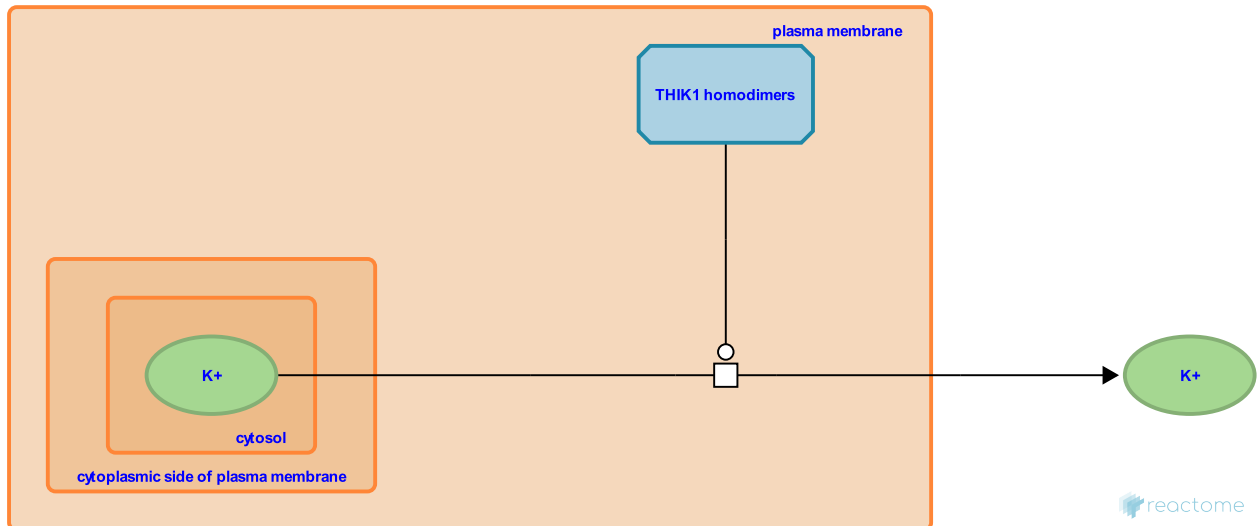
Activation of THIK [↗](#)

Location: [Tandem pore domain halothane-inhibited K⁺ channel \(THIK\)](#)

Stable identifier: R-HSA-1299297

Type: transition

Compartments: plasma membrane, extracellular region, cytosol



THIK subfamily has 2 members, THIK1 and THIK 2. THIK 1 forms functional homodimers whereas THIK2 function has not been demonstrated. THIK1 channels are inhibited by halothane. THIK1 channels form K⁺ leak channels and are not regulated by acidity or alkalinity changes.

Literature references

Derst, C., Bachmann, S., Hirsch, JR., Theilig, F., Goranova, I., Veh, RW. et al. (2008). Cellular localization of THIK-1 (K(2P)13.1) and THIK-2 (K(2P)12.1) K channels in the mammalian kidney. *Cell Physiol Biochem*, 21, 63-74. [↗](#)

Editions

2010-09-23	Reviewed	Jassal, B.
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