

Kcnq4 transports K⁺ from the cytosol to the extracellular region

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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

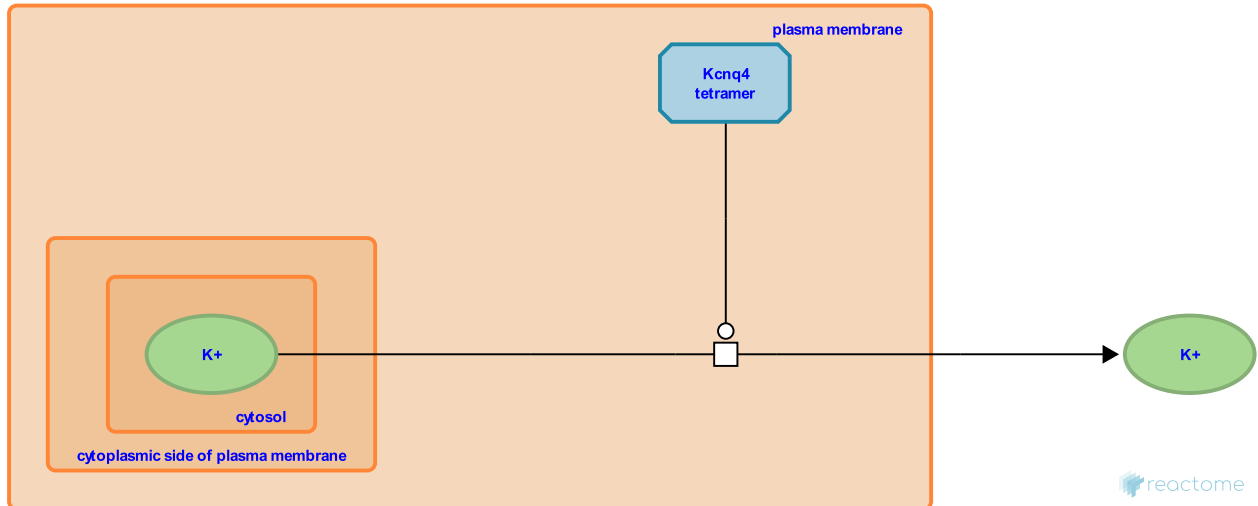
This document contains 1 reaction ([see Table of Contents](#))

Kcnq4 transports K⁺ from the cytosol to the extracellular region ↗

Stable identifier: R-MMU-9659557

Type: transition

Compartments: plasma membrane



Kcnq4 located on the basal membrane of outer hair cells (OHCs) (Kharkovets et al. 2000, Beisel et al. 2000, Kharkovets et al. 2006, Beisel et al. 2005, Winter et al. 2006) and inner hair cells (Kharkovets et al. 2000, Beisel et al. 2005) transports potassium ions along the concentration gradient from the cytosol to the extracellular region (Kharkovets et al. 2006). The resulting efflux of potassium is believed to be responsible for the I(K,n) current that plays a role in setting the resting potential of the cell and in repolarizing the cell (Oliver et al. 2003, Xu et al. 2007). Kcnq4 is located predominantly in the basal membrane of OHCs (Kharkovets et al. 2000, Winter et al. 2006) and absence of Kcnq4 causes increased depolarization and degeneration of OHCs (Kharkovets et al. 2006).

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