

Resource Summary Report

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ChannelPedia

RRID:SCR_003807

Type: Tool

Proper Citation

ChannelPedia (RRID:SCR_003807)

Resource Information

URL: <http://channelpedia.epfl.ch/>

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Description: An information management framework for comprehensive ion channel information. It is a knowledge base system centered on genetically expressed ion channel models and it encourages researchers of the field to contribute, build and refine the information through an interactive wiki-like interface. It is web-based, freely accessible and currently contains 187 annotated ion channels with 50 Hodgkin-Huxley models (September 2014). Channelepdia provides an ideal platform to collectively build ion channel knowledge base by accommodating both structured and unstructured data. The current version of Channelpedia contains the following sections : Introduction, Genes, Ontologies, Interactions, Structure, Expression, Distribution, Function, Kinetics and Models. Newly published literature related to ion channels is automatically queried every week from PubMed and added to respective categories. Currently, Channelpedia contains ~180,000 abstracts related to ion channels from Pubmed.

Abbreviations: Channelpedia

Synonyms: Channel pedia

Resource Type: data or information resource, database

Defining Citation: [PMID:22232598](#)

Keywords: ion channel, model, cell, gene, transcript, ontology, interaction, hodgkinhuxley model, kinetics

Availability: The community can contribute to this resource, Free, Public

Resource Name: ChannelPedia

Resource ID: SCR_003807

Alternate IDs: nlx_158108

Record Creation Time: 20220129T080221+0000

Record Last Update: 20260912T200129+0000

Ratings and Alerts

No rating or validation information has been found for ChannelPedia.

No alerts have been found for ChannelPedia.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 12 mentions in open access literature.

Listed below are recent publications. The full list is available at [ASWG](#) .

Linkevicius D, et al. (2026) One model to rule them all: Unification of voltage-gated potassium channel models via deep non-linear mixed effects modelling. PLoS computational biology, 22(4), e1013078.

Mandge D, et al. (2026) eFEL: electrophysiology feature extraction library. Bioinformatics (Oxford, England), 42(6).

Makarov R, et al. (2025) DendroTweaks, an interactive approach for unraveling dendritic dynamics. eLife, 13.

Makarov R, et al. (2024) DendroTweaks: An interactive approach for unraveling dendritic dynamics. bioRxiv : the preprint server for biology.

Langthaler S, et al. (2022) Ion Channel Modeling beyond State of the Art: A Comparison with a System Theory-Based Model of the Shaker-Related Voltage-Gated Potassium Channel Kv1.1. Cells, 11(2).

Ranjan R, et al. (2019) A Kinetic Map of the Homomeric Voltage-Gated Potassium Channel (Kv) Family. Frontiers in cellular neuroscience, 13, 358.

Churchill CDM, et al. (2019) EDEn-Electroceutical Design Environment: Ion Channel Tissue Expression Database with Small Molecule Modulators. iScience, 11, 42.

M??ki-Marttunen T, et al. (2019) Biophysical Psychiatry-How Computational Neuroscience Can Help to Understand the Complex Mechanisms of Mental Disorders. Frontiers in psychiatry, 10, 534.

Eyal G, et al. (2018) Human Cortical Pyramidal Neurons: From Spines to Spikes via Models. *Frontiers in cellular neuroscience*, 12, 181.

Hinard V, et al. (2017) Annotation of functional impact of voltage-gated sodium channel mutations. *Human mutation*, 38(5), 485.

Hinard V, et al. (2016) ICEPO: the ion channel electrophysiology ontology. Database : the journal of biological databases and curation, 2016.

Law R, et al. (2015) Bioelectric memory: modeling resting potential bistability in amphibian embryos and mammalian cells. *Theoretical biology & medical modelling*, 12, 22.