Resource Summary Report

Generated by dkNET on May 11, 2025

IonChannelGenealogy

RRID:SCR_014194
Type: Tool

Proper Citation

IonChannelGenealogy (RRID:SCR_014194)

Resource Information

URL: http://icg.neurotheory.ox.ac.uk/

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Description: A database that provides a comprehensive and quantitative assay of ion channel models currently available in the neuroscientific modeling community. Specifically, it contains analyses of the ion channel models from NEURON. The database quantifies the similarity in kinetics between models using a series of standardized voltage clamp simulation protocols and subsequent cluster analysis. Citation links and duplications of channels, along with similarity of kinetics between channel models, are combined into genealogical trees and dendrograms that are searchable through the ICG web interface. ICG also experimentally recorded current traces and provides tools for uploading new channel models.

Abbreviations: ICG

Synonyms: ICGenealogy

Resource Type: data or information resource, database

Keywords: database, ion channel model, neuron, kinetic, dendrogram, genealogical tree

Funding:

Availability: Available to the research community, The community can contribute to this resource

Resource Name: IonChannelGenealogy

Resource ID: SCR_014194

Record Creation Time: 20220129T080319+0000

Record Last Update: 20250507T060958+0000

Ratings and Alerts

No rating or validation information has been found for IonChannelGenealogy.

No alerts have been found for IonChannelGenealogy.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 6 mentions in open access literature.

Listed below are recent publications. The full list is available at dkNET.

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

Hjorth JJJ, et al. (2021) Predicting Synaptic Connectivity for Large-Scale Microcircuit Simulations Using Snudda. Neuroinformatics, 19(4), 685.

Mäki-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.

Podlaski WF, et al. (2017) Mapping the function of neuronal ion channels in model and experiment. eLife, 6.

Guet-McCreight A, et al. (2016) Using a Semi-Automated Strategy to Develop Multi-Compartment Models That Predict Biophysical Properties of Interneuron-Specific 3 (IS3) Cells in Hippocampus. eNeuro, 3(4).

Sharpee TO, et al. (2016) 25th Annual Computational Neuroscience Meeting: CNS-2016. BMC neuroscience, 17 Suppl 1(Suppl 1), 54.