Special Issue

Novel Drug Design and Activity Targeting Ion Channels

Message from the Guest Editors

Ion channels(ICs) are transmembrane ionotropic receptors that pass mono- and/or divalant ions when a chemical messenger, such as a neurotransmitter, activates the receptor. ICs are involved in a wide range of neurological disorders of high clinical significance, including nicotine addiction, depression and Alzimer's disease. Drugs targeting ICs can bind competitively or noncompetitively to activate or inhibit an agonist response. Molecules binding in distinct modalities can reveal how a specific IC functions, which can facilitate the development of novel therapies. In recent decades, ICs have been prime targets for drug discovery efforts, resulting in some clinical translation success, including anaesthetics, analgesics, antidepressants and addiction thearapies. ICs remain one of the most important proteins used to study structure–activity relationships (SARs) and targets for novel drug design efforts. This Special Issue invites papers on drug action and/or drug design for drugs targeting ICs.

Guest Editors

Dr. Maegan Weltzin

1. College of Natural Science and Mathematics, Department of Chemistry and Biochemistry, CNSM Division of Research, The University of Alaska Fairbanks, Fairbanks, AK, USA
2. Barrow Neurological Institute, Phoenix, AZ, USA

Dr. Dinesh Indurthi

University at Buffalo, The State University of New York, Buffalo, NY, USA

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
molecules@mdpi.com

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As the premier open access journal dedicated to molecular chemistry, now in its 30th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

Editor-in-Chief

Prof. Dr. Thomas J. Schmidt
Institute of Pharmaceutical Biology and Phytochemistry, University of Münster, Corrensstrasse 48, D-48149 Münster, Germany

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