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Molecular Mechanisms and Therapeutic Potential of Ion Channels in Human Diseases

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Deadline for manuscript submissions:
closed (20 May 2024)

Message from the Guest Editors

Dear Colleagues,

Ion channels are transmembrane proteins that play a fundamental role in the rapid signaling of biological membranes. They have evolved to mediate the rapid passage of ion species, exploiting their electrochemical gradient, to carry out various biological functions, including the genesis and propagation of nerve impulses, muscle contraction, the release of signaling molecules, cell proliferation, differentiation, migration, and death. Both loss- or gain-of-function mutations in ion channels lead to human hereditary diseases, including cystic fibrosis, malignant hyperthermia, central core disease, cerebellar ataxia, tubular aggregate myopathy, Stormorken disease, etc. In addition, the altered expression and function of unmutated ion channels also indirectly contributes to or amplifies the pathogenesis of specific diseases.

For this Special Issue, we invite papers focused on the ion channels in human diseases, with a particular emphasis on the mechanism by which the altered function/expression of ion channels impacts the disease phenotype. Data on a possible use of ion channel modulators as new therapeutic strategies are also welcome.

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Message from the Editor-in-Chief

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