Special Issue

Ion Channels in Pain: Mechanisms and Therapeutics

Message from the Guest Editors

Many voltage-gated and ligand-gated ion channels are enriched in sensory pathways of central and peripheral nervous systems and are crucial for sensory physiology and pain pathogenesis. Pronociceptive ion channels are a major class of drug targets for modulating pain sensation and controlling chronic pain. A greater understanding of ion channel modulation in sensory pathways is not only important for delineating pain mechanisms but is also crucial for facilitating the development of new strategies for the treatment of pain. This Special Issue aims to provide up-to-date information on the topics related to sensory ion channels, their gene expression and mechanisms of regulation under physiological and pathophysiological conditions, novel small molecule compounds and biologics targeting ion channels, and new strategies for pain treatment. The studies may include experimental research and systematic reviews in this field and are expected to include new insights and challenges in ion channels in pain, ion channel regulatory interactomes, ion channels and neuronal excitability, novel biomarkers, and ion channel targeting strategies that might be developed as pain treatment tools.

Guest Editors

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Deadline for manuscript submissions

closed (30 August 2024)



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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. Cells encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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