



Cardiac Calcium Channels in Cardiovascular Function and Disease

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Message from the Guest Editors

Calcium (Ca²⁺) signaling and the interacting networks regulate a plethora of cellular processes, such as gene expression, inflammation, synaptic transmission, induction of synaptic plasticity, excitation–contraction coupling, stimulus–secretion coupling or embryonic development.

This Special Issue will address the structure, function, and regulation of different types of Ca²⁺ channels in the heart as well as the consequences of their dysregulation, beginning with the L-type Ca²⁺ channels or dihydropyridine receptors (DHPR) at the cell membrane and the Ca release channels or ryanodine receptors (RyR2), at the sarcoplasmic reticulum (SR). These two Ca channels are main players in the process that, starting at the surface membrane level, ends inside the cell at the myofilaments level, to produce contraction, a mechanism known as excitation–contraction coupling (ECC). Alteration of this mechanism leads to cardiac arrhythmias, as well as different processes of cell death, such as apoptosis and necrosis.





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Message from the Editor-in-Chief

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