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Calcium Signaling in Mammalian Cells: From Physiology to Pathology

Guest Editor:

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Message from the Guest Editor

The changes in intracellular Ca2+ concentration ([Ca2+]i) regulate a wide repertoire of functions, such as exocytosis, gene expression, metabolism, proliferation, and cell death. In the case of excitable tissues, calcium signals with different spatiotemporal characteristics modulate and integrate the activity of myriads of cells. Intracellular Ca2+ homeostasis is maintained by Ca2+ ATPases, exchangers, ion channels, and buffer systems, including calcium-binding proteins, internal stores, and mitochondria. This machinery provides Ca2+ inflow and outflow, while G-protein coupled receptors are considered the key modulators of Ca2+ dynamics. Taking into account the pivotal role of Ca2+ in cellular physiology, it is not surprising that a disruption in Ca2+ handling may be the reason behind or consequence of different pathologies. In this regard, pharmacological correction of Ca2+ homeostasis may serve as a therapeutic approach for the treatment of several diseases. This Special Issue on "Calcium Signaling in Mammalian Cells: from Physiology to Pathology" welcomes research dealing with any aspects of intracellular Ca2+ signaling in mammalian cells in health and diseases.

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Message from the Editor-in-Chief

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