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Calcium Signaling in Cell Function and Dysfunction

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Message from the Guest Editors

The role of Ca^{2+} signaling in the context of cell function and cell survival is undoubtedly crucial and universally recognized. Indeed, variations in the intracellular Ca^{2+} level have been associated with a plethora of different stimuli and cellular responses, from fertilization to neuronal transmission to muscle contraction and endocrine secretion, just to name the most renowned. As a consequence, the dynamics of Ca^{2+} signaling need to be finely orchestrated and tightly regulated within the cell; any eventual alteration of Ca^{2+} homeostasis is likely to lead to the impairment of cell functions, impacting on cell survival and eventually conducting to cell and organ dysfunction. It is no surprise that the presence of a defective Ca^{2+} handling is a common hallmark of many human pathologies, including neurodegeneration, cardiac failure, diabetes, muscle dystrophies and cancer. In this light, the aim of this Special Issue is to provide new evidence and revise the published literature about the role of Ca^{2+} signaling, and the associated regulatory machinery, in the context of cell and tissue function both in physiological conditions as well as in stress, damage and disease conditions.

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Message from the Editorial Board

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