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# Calcium Signaling and Transport in Health and Disease: Recent Developments and New Insights

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## Message from the Guest Editors

Calcium signaling and transport play critical roles in various physiological processes. Calcium ions are pivotal in mediating cellular functions such as muscle contraction, neurotransmitter release, cell proliferation and controlled death during organ development or responses to injury. Mechanotransducing calcium signals triggered by shear stress or stretch are crucial to maintaining cellular integrity and function in the bone, cartilage, vascular, and epithelial cells. Mitochondrial calcium uptake is essential for energy production and apoptosis regulation. The dysregulation of calcium homeostasis can result in a range of pathologies, including hypertension, cardiovascular and renal diseases, neurodegenerative disorders, inflammation, osteoporosis, and obesity. Calcium also plays a paramount role in cancer biology, where alterations in calcium signaling pathways can influence cell proliferation and migration. This Special Issue will highlight recent research advances in the field of calcium signaling and transport through original research, review, and communication articles, as well as brief reports.

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