



Calcium Metabolism and Regulation

Guest Editors:

Dr. Hermann Salmhofer

Department of Internal Medicine
I, Nephrology, University Hospital
Salzburg, Müllner Hauptstrasse
48, A-5020 Salzburg, Austria

Dr. Michael Lichtenauer

Clinic of Internal Medicine II,
Department of Cardiology,
Paracelsus Medical University of
Salzburg, 5020 Salzburg, Austria

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Message from the Guest Editors

Calcium has multiple roles in biology, including cell signaling, motor function, and bone mineralization. Regulation of calcium homeostasis includes maintenance of normal blood levels, bone mineralization and inhibition of extraosseous depositions, neuronal and muscular function, intracellular compartmentation. On a systemic level, this involves complex hormonal regulation of calcium and interconnected phosphate metabolism, prevention of mineral precipitation by a multi-factorial balance between promoters and inhibitors of calcification. On a tissue level, local activation of specific proteins and enzymes may influence mineral deposition. On a cellular and subcellular level, it comprises regulation of calcium flux via ion channels and intracellular calcium shifts, as well as interaction with calcium-binding proteins for activation of further proteins and membrane functions. This Special Issue aims to give a scope of new developments in various areas of physiological and pathological calcium metabolism and regulation, including osteogenic transdifferentiation, the formation of pathological mineral depositions, and candidate molecules for the treatment of calcifying disorders.





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Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of
Odontostomatologic and
Specialized Clinical Sciences,
Sez-Biochimica, Faculty of
Medicine, Università Politecnica
delle Marche, Via Ranieri 65,
60100 Ancona, Italy

Message from the Editor-in-Chief

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