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Regulation of Cellular Metabolism by Nutrient Sensing Pathways

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Message from the Guest Editors

Dear Colleagues,

In multicellular organisms, fluctuations in nutrient availability can influence an individual cell's metabolic homeostasis. Consequently, it is critical for a cell to be able to perceive its external and internal environment. Cells respond to energy states, macronutrients and micronutrients, and their metabolites. To do this effectively, cells have developed various systems that can sense these various molecules. Modulation of cellular metabolism can be achieved through mechanisms involving receptors, transporters and binding proteins, transcription factors, post-transcriptional regulation, post-translational modifications, feedback regulation of enzyme activity, protein–protein interactions, and nutrient structure. The intent of this Special Issue is to increase our knowledge of specialized sensing mechanisms and associated signaling pathways by which cellular metabolism is regulated in response to nutrients and how these processes contribute to metabolic homeostasis or dysfunction in various cell types.

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Guest Editors



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Special Issue



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