Special Issue

Cell Compartment-Specific Signaling by G Protein-Coupled Receptors

Message from the Guest Editors

G protein-coupled receptors (GPCRs) constitute the largest and most versatile family of membrane receptors. They bind to a wide range of extracellular signals, control virtually all pathophysiological processes. The initial view of GPCR signal transduction was that a few common signaling pathways emanating from GPCRs exclusively located at the cell surface converged to generate highly diffusible messengers that freely propagated through the cytosol to produce a unique response. This view began to change with many studies, indicating that GPCRs signal in discrete subcellular domains. These include not only plasma membrane microdomains, but also intracellular sites located in organelles. Studies have also established that GPCRs are part of signaling units comprising receptors spatially confined with enzymes producing and degrading cellular messengers and their target proteins. That underlies large diversity and specificity of biological responses elicited by GPCRs. In this Special Issue, we invite you to review recent evidence of GPCR signaling in specific cell compartments and to highlight how it controls key physiological functions and how its deregulation contributes to diseases.

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. Cells encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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