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## Cell Compartment-Specific Signaling by G Protein-Coupled Receptors

Guest Editors:

**Dr. Philippe Marin**

IGF, Université de Montpellier,  
CNRS, INSERM, Montpellier,  
France

**Dr. Séverine Chaumont-Dubel**

Institut de Génomique  
Fonctionnelle, Université de  
Montpellier, CNRS, INSERM,  
Montpellier, France

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submissions:

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### 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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# Special Issue



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Neuroscience, UMN Twin Cities,  
6-145 Jackson Hall, 321 Church St  
SE, Minneapolis, MN 55455, USA

### **Prof. Dr. Cord Brakebusch**

Biotech Research & Innovation  
Centre, The University of  
Copenhagen, Copenhagen,  
Denmark

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*Cells* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
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