Special Issue

Biomaterials for Drug Delivery and Advanced Therapies

Message from the Guest Editor

Advanced therapeutic medicinal products (ATMPs) represent a new frontier in personalized and regenerative therapies. The classical triad of tissueengineered products relies on cells, active molecules and biomaterials. Biomaterials serve as the crucial link in this triad, playing a dual role; they act as scaffolds to support cell adhesion and growth, and they enable the sustained and localized delivery of active ingredients. These versatile molecules can be specifically engineered to tune their mechanical and chemical properties, allowing for the customization of their behaviour and therapeutic purposes. These functions include their signalling role when interacting with cells, their ability to drive the healing and regeneration of damaged tissues, as well as the capability to encapsulate and protect other molecules, such as sensitive drugs, thereby improving their stability and bioavailability, or targeting ligands, in a precision medicine approach. In this Special Issue, I aim to highlight biomaterials, not just as ancillary components, but as central players in targeted drug delivery, signalling, inflammation and tissue regeneration.

Guest Editor

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Message from the Editor-in-Chief

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