Special Issue

Immunomodulating Biomaterials for Cell Regulation in Regenerative Medicine of the Musculoskeletal System

Message from the Guest Editor

The use of alloplastic temporary biomaterials has so far focused on biological functionality and biomechanical function. Many of these biodegradable and possibly bioresorbable materials are far too often certified as having relative biocompatibility based on minimal in vitro and in vivo analyses. In addition to other more classical process technologies, other biofabrication technologies such as extrusion bioprinting are now used to advertise tissue and organ replacement in the field of tissue engineering in human medicine in promising forecasts. However, we will only be able to treat fractures, tumors, tendon/ligament injuries, degenerative inflammatory processes, etc. of the musculoskeletal system, if we pay more attention to aspects of the human immune system and especially to immune modulation (e.g., by extracellular vesicles). True 4D bioprinting, aspects of synthetic biology, multifunctional biomaterial design excluding animal-based substances are needed. This is a more promising way to generate customized, immunomodulatory, integrative biomaterials with appropriate vital target functionality.

Guest Editor

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Message from the Editor-in-Chief

The biomaterials field is one of the largest and fastest growing research areas both in the scientific community and in the industrial one. Biomaterials are the result of collaborations between different disciplines: chemistry, medicine, pharmacology, engineering and biology. The objective of this collaboration is to lead to the implementation of new devices to restore form and human body functions. The mission of the *Journal of Functional Biomaterials* (*JFB*) is to focus attention on physico-chemical characteristics and their importance in the interactions between biomaterials and living tissues. *JFB* seeks to publish studies on the preparation, performance and use of biomaterials in biomedical devices, as well as regarding their behavior in physiological environments. We are pleased to welcome you as our authors.

Editor-in-Chief

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