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Advances in Musculoskeletal Tissue Regeneration Using Mesenchymal Stromal/Stem Cells, Biomaterials, and Signaling Molecules: Second Edition

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Message from the Guest Editors

Regeneration of musculoskeletal tissues is a serious clinical challenge given that their injury and disease are leading causes of physical disability worldwide. Approved mesenchymal stromal/stem cells (MSC) and MSC products (i.e., extracellular vesicles) for stem cell-based therapy applications offer huge promise to rejuvenate musculoskeletal tissues, triggering tissue repair and healing. In parallel, the discovery of specialized biomaterials and signaling molecules has opened novel therapeutic avenues as part of tissue engineering approaches. Up-to-date, significant progress has been made in developing and optimizing the components of this therapeutic triad (cells, biomaterials, signaling molecules), but only a limited number of technologies have been successfully transferred into the clinical setting. Currently, efforts are focused on bringing closer basic science and cell-based product manufacturing techniques to potential clinical protocols. This Special Issue aims to present a state-of-the-art update on the use of MSC, biomaterials and signaling molecules for musculoskeletal therapeutic applications.



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Special Issue



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