Special Issue

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

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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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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