Special Issue

In Vivo and In Vitro Application of Decellularized Cardiac and Skeletal Muscles

Message from the Guest Editors

Recent years have seen the development of decellularized cardiac and skeletal muscles for both in vitro functional models and in vivo transplantation for tissue repair and regenerative medicine strategies. The basis of such applications relies on the ability of decellularized muscles to allow cell homing, identity, growth, and differentiation. Upon the decellularization process, the resulting biocompatible scaffold materials preserve the biological properties and composition of the native tissue. However, it is emerging that both the type of the decellularization method and the specific pathophysiological status of the native tissue (including aging, inflammation, diseases) can strongly affect the final composition of the decellularized muscles. As such, different environments can influence both in vivo and in vitro cell behavior and remain an intriguing aspect that needs further investigation. This Issue aims to collect the current body of scientific work related to the generation and application of decellularized cardiac and skeletal muscles as three-dimensional in vitro models and as in vivo tissue replacements.

Guest Editors

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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