



## Research on Skeletal and Cardiac Muscle Regeneration Mechanisms

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### Message from the Guest Editor

The myogenic and cardiomyogenic differentiations of mesenchymal or other types of stem cells *in vitro* and *in vivo* are complex processes, which include cell responsiveness to various compounds and model systems, and direct or indirect interaction between cells and extracellular components, that further regulates intracellular signalling systems and tissue functioning. Despite their diversity, the regeneration mechanisms of skeletal and cardiac muscle occur within the striated muscle environment, whose primary goal is *in vitro* targeted regulation and subsequent *in vivo* translation, thereby allowing to improve muscle functioning.

In order to better understand the myogenic and cardiomyogenic differentiation processes and their regulation, both *in vivo* and *in vitro* myogenic model systems are of crucial importance. Therefore, this Special Issue aims to collate papers focusing on *in vivo* and *in vitro* myogenic and cardiomyogenic differentiation mechanisms that highlight new external or internal inductors, cell types, ECM components, scaffolds and other biomodulators to improve the regeneration of skeletal and cardiac muscles and expand their further clinical applications.





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