

Special Issue

Experimental Models and Applications in Muscle Regeneration

Message from the Guest Editor

Muscle tissue constitutes approximately 35–45% of human's body including all types of muscles: skeletal, cardiac and smooth. Therefore, understanding the regeneration processes of various muscles is essential for promoting a healthy. Despite the diverse mechanisms, regeneration of various muscles is a complex and multifaceted process involving the coordinated action of stem and other muscle cells together with various extracellular matrix components. Interactions within 2D and 3D cellular environments, applying various biocomponents, biomaterials, internal and external stimuli, play a crucial role in regulating the intracellular signaling pathways, metabolism, and energetics essential for muscle regeneration. To deepen our understanding of the regulatory mechanisms governing regeneration of various muscles in vivo, the development and study of in vitro models are becoming increasingly important for therapeutic applications. This issue aims to explore novel 2D and 3D experimental models that focus on the targeted regulation of metabolic, energetic, and other myogenic processes, with the ultimate goal of expanding potential clinical applications to improve muscle regeneration.

Guest Editor

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