

Skeletal Muscle Atrophy and Metabolic Adaptation

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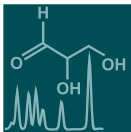
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Message from the Guest Editors

Skeletal muscle atrophy is characterized by a decrease in muscle mass, which leads to muscle weakness and disability. It occurs in response to numerous events (e.g., denervation, starvation, aging, unloading, or disuse) and is associated with numerous diseases (e.g., amyotrophic lateral sclerosis, diabetes, and cancer cachexia). Regardless of the trigger, muscle atrophy appears when an unbalance between protein synthesis and proteolysis occurs. Among the skeletal muscle adaptative responses, changes in metabolism often occur in parallel to changes in muscle mass. Beyond being just a consequence, metabolic adaptation may actively regulate muscle mass. Metabolism and mitochondrial activity indeed may affect the muscle stem cell state and lineage specification, as well as control proteostatic pathways, thereby modulating muscle homeostasis. Casting light on the regulatory mechanisms underlying skeletal muscle atrophy and metabolic adaptation is important for understanding tissue homeostasis during diseases and for potentially leading to therapeutic steps forward in medicine. In this Special Issue, we seek manuscripts that aim to address the role of metabolic alteration in regulating muscle mass. Potential topics include, but are not limited to, metabolic remodeling in skeletal muscle atrophy, metabolic regulation of stem cell biology or catabolic pathways, and nutritional intervention or exercise to counteract muscle wasting.





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Message from the Editor-in-Chief

The metabolome is the result of the combined effects of genetic and environmental influences on metabolic processes. Metabolomic studies can provide a global view of metabolism and thereby improve our understanding of the underlying biology. Advances in metabolomic technologies have shown utility for elucidating mechanisms which underlie fundamental biological processes including disease pathology. *Metabolites* is proud to be part of the development of metabolomics and we look forward to working with many of you to publish high quality metabolomic studies.

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