



# **Growth Factors and Cytokines in Skeletal Muscle Development, Growth, Regeneration and Disease (Advances in Experimental Medicine and Biology)**

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This book describes the diverse roles that growth factors and cytokines play in skeletal muscle. The extracellular environment has profound effects on the biology of skeletal muscle. The soluble portion of this environment includes a rich milieu of growth factors and cytokines which have been shown to regulate virtually all facets of the response of skeletal muscle to external stimuli, whether it be exercise induced metabolic shifts, remodeling in response to trauma or loading of the ongoing pathology associated with neuromuscular disease.

The chapters included in this work illustrate growth factors that directly affect skeletal muscle cells and those which influence non-muscle cells that contribute to the biology of skeletal muscle as a whole tissue. The current state of the art, with the advent of systems biology, allows for the delineation of signaling networks which are regulated by suites of growth factors. This is in stark contrast to early more traditional studies, which only examined the effects of isolated growth factors on the activity of skeletal muscle precursor cells in tissue culture.

The work presented in this volume ranges from reviewing and analyzing the roles of individual growth factors in detail, to the complex interplay of multiple soluble factors in the control of muscle functional, and dysfunctional states. The material covered in this volume will particularly suit readers from a range of research fields spanning general muscle biology and physiology, and those working on diseases and conditions affecting skeletal muscle both directly and indirectly.

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