

1. Record Nr.	UNINA9910166645903321
Autore	Pura Munoz-Canoves
Titolo	Role of Stem Cells in Skeletal Muscle Development, Regeneration, Repair, Aging and Disease
Pubbl/distr/stampa	Frontiers Media SA, 2016
Descrizione fisica	1 online resource (220 p.)
Collana	Frontiers Research Topics
Soggetti	Neurosciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	<p>Adult stem cells are responsible for tissue regeneration and repair throughout life. Their quiescence or activation are tightly regulated by common signalling pathways that often recapitulate those happening during embryonic development, and thus it is important to understand their regulation not only in postnatal life, but also during foetal development. In this regard, skeletal muscle is an interesting tissue since it accounts for a large percentage of body mass (about 40%), it is highly amenable to intervention through exercise and it is also key in metabolic and physiological changes underlying frailty susceptibility in the elderly. While muscle-resident satellite cells are responsible for all myogenic activity in physiological conditions and become senescent in old age, other progenitor cells such as mesoangioblasts do seem to contribute to muscle regeneration and repair after tissue damage. Similarly, fibro-adipogenic precursor cells seem to be key in the aberrant response that fills up the space left from atrophied muscle mass and which ends up with a dysfunctional muscle having vast areas of fatty infiltration and fibrosis. The complex interplay between these stem/progenitor cell types and their niches in normal and pathological conditions throughout life are the subjects of intense investigation. This eBook highlights recent developments on the role of stem cells in skeletal muscle function, both in prenatal and postnatal life, and their regulation by transcriptional, post-transcriptional and epigenetic mechanisms. Additionally, it includes articles on interventions</p>

associated with exercise, pathological changes in neuromuscular diseases, and stem cell aging.
