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Mechanisms for Cardiomyocyte Regeneration -- 17. Mechanisms to Induce Cardiomyocyte Proliferation -- 18. Cell Sources of Cardiomyocytes for Heart Repair -- 19. Reprograming Fibroblasts for Cardiomyocytes and Progenitors -- Section V: Translational Aspects of Cardiomyocyte Biology -- 20. Clinical Translation of Discoveries in Cardiomyocyte Biology.

Sommario/riassunto

This book is a treatise on cardiomyocytes, the most important cell for the contractile function of the heart. There has been significant progress in our understanding of the function-related structure, developmental processes and their determinants, mechanisms of cell cycle regulation, post-natal growth, energy metabolism, and reversible and irreversible response of cardiomyocytes to diverse forms of physiological stress and injury. There is also more clarity on the alterations in the biological mechanisms in cardiomyocytes that lead to pathological states and the changes in the cells that occur secondary to disease conditions. Thanks to these advances in knowledge, there have been great gains in attempts to identify disease biomarkers and therapeutic targets for better management of patients with heart diseases. Possibilities to induce regeneration or proliferation of cardiomyocytes and thus repair and or regenerate the damaged heart are also on the horizon. .