1. Record Nr. UNINA9910733728803321

| | |
|---|---|
| Titolo | Cardiac Mechanobiology in Physiology and Disease / / edited by Markus Hecker, Dirk J. Duncker |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023 |
| ISBN | 3-031-23965-2 |
| Edizione | [1st ed. 2023.] |
| Descrizione fisica | 1 online resource (VIII, 353 p. 1 illus.) |
| Collana | Cardiac and Vascular Biology, , 2509-7849 ; ; 9 |
| Disciplina | 658<br>612.17 |
| Soggetti | Cardiovascular system<br>Physiology<br>Biophysics<br>Cell interaction<br>Medicine - Research<br>Biology - Research<br>Regenerative medicine<br>Cardiovascular Physiology<br>Mechanobiological Cell Signaling<br>Biomedical Research<br>Regenerative Medicine and Tissue Engineering |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references. |
| Nota di contenuto | Foreword -- Cardiac mechanoperception and mechanotransduction - Mechanisms of stretch sensing in cardiomyocytes and implications for cardiomyopathy -- Mechanotransduction in heart development -- Mechanobiology of cardiac growth in health and disease -- The role of mechanosensitive signaling cascades in repair and fibrotic remodeling of the infarcted heart -- Mechanobiology of cardiac fibroblasts in cardiac remodelling -- Mechanobiology of cardiac remodelling in cardiomyopathy -- Biophysical Stretch Induced Differentiation and Maturation of Induced Pluripotent Stem Cell-derived Cardiomyocytes -- Mechanical Considerations of Myocardial Tissue and Cardiac |

Regeneration -- Mechanobiology of Exercise-Induced Cardiac Remodeling in Health and Disease -- Cardiac microvascular endothelial cells and pressure overload-induced cardiac fibrosis -- Cellular and Subcellular Mechanisms of Ventricular Mechano-Arrhythmogenesis -- Computational biomechanics of ventricular dyssynchrony and resynchronization therapy -- Therapeutic innovations for heart failure.

Sommario/riassunto

This book presents the latest findings in the field of cardiac mechanobiology in health and disease. Cardiac mechanobiology provides knowledge of all aspects of mechanobiology of the heart. Cardiomyogenesis is discussed as well as the mechanobiology of cardiac remodeling and regeneration. The molecular mechanisms of mechanoperception and mechanotransduction in cardiomyocytes are explained, as well as stretch induced differentiation of cardiomyocytes derived from induced pluripotent stem cells. This volume of the series Cardiac and Vascular Biology complements the volume Vascular Mechanobiology in Physiology and Disease (volume 8) published in this series. The book is aimed at clinicians as well as researchers in cardiovascular biology, bioengineering and biophysics, and also represents an educational resource for young researchers and students in these fields.