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Nota di contenuto	Front Cover; TENDON REGENERATION; Copyright; CONTENTS; CONTRIBUTORS; PREFACE; SECTION 1 - Biology and Physiology of Tendons; Chapter 1 - Tendon Physiology and Mechanical Behavior: Structure-Function Relationships; 1. TENDON STRUCTURE AND COMPOSITION; 2. TENDON MECHANICS; 3. MULTISCALE MECHANICS AND STRUCTURE-FUNCTION CHARACTERIZATION; 4. MECHANICAL AND COMPOSITIONAL VARIATIONS IN TENDONS WITH DIFFERENT FUNCTIONS; LIST OF ABBREVIATIONS; GLOSSARY; REFERENCES; Chapter 2 - Tendon Resident Cells-Functions and Features in Section I- Developmental Biology and Physiology of Tendons; 1. INTRODUCTION 2. TENDON CELLS-ORIGIN AND SPECIFICATION 3. TENDON CELLS-ECM SYNTHESIS, ASSEMBLY, AND TISSUE MATURATION; 4. CELL-ECM INTERACTIONS; 5. MECHANOREGULATION OF TENDON CELLS; 6. CONCLUSION; LIST OF ABBREVIATIONS; GLOSSARY; REFERENCES; Chapter 3 - Mechanobiology of Embryonic and Adult Tendons; 1. INTRODUCTION; 2. EMBRYONIC TENDON; 3. POSTNATAL TENDON; 4. MECHANICAL CUES EXPERIENCED BY EMBRYONIC, POSTNATAL, AND ADULT TENDONS; 5. STUDIES IN THE EMBRYO SUGGEST MECHANICAL FACTORS INFLUENCE EMBRYONIC TENDON DEVELOPMENT; 6. IN VITRO STUDIES SUGGEST MECHANICAL FACTORS INFLUENCE EMBRYONIC

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LIST OF ABBREVIATIONSGLOSSARY; REFERENCES; Chapter 5 - Tendinopathy II: Etiology, Pathology, and Healing of Tendon Injury and Disease; 1. EPIDEMIOLOGY; 2. DEFINITIONS; 3. TENDINOPATHY ETIOLOGY; 4. PATHOLOGY; 5. SUMMARY AND CONCLUSIONS; LIST OF ABBREVIATIONS; GLOSSARY; REFERENCES; SECTION 3 - Tendon Regenerative Medicine Approaches; Chapter 6 - Cell-Based Approaches for Tendon Regeneration; 1. INTRODUCTION; 2. TENDON ENDOGENOUS REGENERATION; 3. ISOLATION PROCEDURES OF TENDON RESIDENT CELLS; 4. ALTERNATIVE STEM CELLS SOURCES FOR CELL-BASED TENDON TISSUE ENGINEERING  
5. MOVING CELL THERAPIES INTO THE CLINICS6. CONCLUSION; LIST OF ABBREVIATIONS; GLOSSARY; REFERENCES; Chapter 7 - The Role of Growth Factors in Tendon Stimulation; 1. INTRODUCTION; 2. GROWTH FACTORS; 3. PLATELET-RICH PLASMA; 4. CONCLUSIONS; LIST OF ABBREVIATIONS; REFERENCES; SECTION 4 - Scaffolds-Based Approaches; Chapter 8 - Engineering Anisotropic 2D and 3D Structures for Tendon Repair and Regeneration; 1. INTRODUCTION; 2. ANISOTROPIC SPONGES; 3. ANISOTROPIC SELF-ASSEMBLED FIBERS; 4. ANISOTROPIC ELECTROSPUN FIBERS; 5. ANISOTROPIC IMPRINTED SUBSTRATES; 6. CONCLUSIVE REMARKS  
LIST OF ABBREVIATIONS

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### Sommario/riassunto

Tendon Regeneration: Understanding Tissue Physiology and Development to Engineer Functional Substitutes is the first book to highlight the multi-disciplinary nature of this specialized field and the importance of collaboration between medical and engineering laboratories in the development of tissue-oriented products for tissue engineering and regenerative medicine (TERM) strategies. Beginning with a foundation in developmental biology, the book explores physiology, pathology, and surgical reconstruction, providing guidance on biological approaches that enhances tendon regeneration practi

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