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Gastrointestinal Mucosal Repair and Experimental Therapeutics

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Preface

Over the last decade, considerable progress has been made in understanding cellular and molecular mechanisms involved in mucosal injury and repair in the gastrointestinal tract. These significant findings provide a fundamental basis to identify the etiology and pathogenesis of various gut mucosal injury-related diseases and to develop new therapeutic approaches. This book is to provide a timely and long-lasting guide for investigators in the field of gut mucosal injury and repair, and has been divided into three main sections: *Epithelial restitution, Mucosal repair and ulcer healing,* and *Experimental therapeutics.* The first section highlights the early rapid mucosal restitution and focuses on the roles of extracellular matrix, cytoskeleton, cytokines, $\text{Ca}^{2+}$ signaling, polyamines, and the protein kinase C/DAG pathways. The second section is devoted to aspects of chronic mucosal healing and concentrates on the roles of primary response gene expression, angiogenesis and angiogenic growth factors, platelets, and the mechanisms of cell renewal after injury in special circumstances such as ischemia/reperfusion and *Helicobacter pylori* infection. The third section is designed to explore new therapeutic approaches that are based on the scientific development and achievements during the last decade. We concentrate on potential clinical applications of nitric oxide-releasing agents, polysaccharides, nitric oxide synthase modulators, growth factors, prostaglandins, and cyclooxygenase inhibitors. Therefore, this book not only covers the current state-of-the-art findings relevant to gut mucosal injury and repair, but also provides the underlying conceptual basis and knowledge regarding experimental therapeutics for gastrointestinal mucosal injury-related diseases in the future.

We would like to take this opportunity to thank Karger Publishers, especially Dr. Thomas Karger and Mr. Peter Roth, who have made a great effort to
make this book possible. We are indebted to all the contributors who have shared and contributed their invaluable research experiences and knowledge with us and to the medical community at large. And last but not least, we express our sincere thanks to our families for their generous support throughout the years.

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