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Tumor Microenvironment

Non-Hematopoietic Cells

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Preface

This book's initial title was "Tumor Microenvironment". However, due to the current great interest in this topic, we were able to assemble more chapters than would fit in one book, covering tumor microenvironment biology from different perspectives. Therefore, the book was subdivided into several volumes.

This book, *Tumor Microenvironment: Non-hematopoietic Cells*, presents contributions by expert researchers and clinicians in the multidisciplinary areas of medical and biological research. The chapters provide timely detailed overviews of recent advances in the field. This book describes the major contributions of different non-hematopoietic components in the tumor microenvironment during cancer development. Further insights into these mechanisms will have important implications for our understanding of cancer initiation, development, and progression. The authors focus on the modern methodologies and the leading-edge concepts in the field of cancer biology. In recent years, remarkable progress has been made in the identification and characterization of different components of the tumor microenvironment in several tissues using state-of-the-art techniques. These advantages facilitated identification of key targets and definition of the molecular basis of cancer progression within different organs. Thus, the present book is an attempt to describe the most recent developments in the area of tumor biology which is one of the emergent hot topics in the field of molecular and cellular biology today. Here, we present a selected collection of detailed chapters on what we know so far about the non-hematopoietic components in the tumor microenvironment in various tissues. Eight chapters written by experts in the field summarize the present knowledge about distinct non-hematopoietic components during tumor development.

Nikitha K. Pallegar and Sherri L. Christian from Memorial University of Newfoundland discuss the role of adipocytes in the tumor microenvironment. Fabio Corsi and colleagues from the Università degli studi di Milano describe fibroblasts in the tumor microenvironment. Lan Coffman and colleagues from the University of Pittsburgh School of Medicine compile our understanding of mesenchymal stem cells in the tumor microenvironment. Hidenori Shiraha and colleagues from Okayama University Faculty of Medicine update us with what we know about hepatic stellate cells in liver tumor. Divya Thomas and Prakash Radhakrishnan from the University of Nebraska Medical Center focus on the pancreatic stellate cells, as key orchestrators of the pancreatic tumor microenvironment. Jolanta Niewiarowska and colleagues from

Medical University of Lodz summarize current knowledge on endothelial cells in the tumor microenvironment. Sophia Ran and Lisa Volk-Draper from Southern Illinois University School of Medicine address the importance of lymphatic endothelial cell progenitors in the tumor microenvironment. Finally, Takuichiro Hide and Yoshihiro Komohara from Kitasato University School of Medicine give an overview of oligodendrocyte progenitors in the tumor microenvironment.

It is hoped that the articles published in this book will become a source of reference and inspiration for future research ideas. I would like to express my deep gratitude to Veranika Ushakova, my wife, and Mr. Murugesan Tamilsevan, from Springer, who helped at every step of the execution of this project.

Belo Horizonte, Minas Gerais, Brazil

Alexander Birbrair

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