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Tumor Microenvironment

Extracellular Matrix Components – Part A

Springer

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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: Extracellular Matrix Components – Part A* 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 major contributions of different extracellular matrix 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 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 extracellular matrix components in the tumor microenvironment in various tissues. Eight chapters written by experts in the field summarize the present knowledge about distinct extracellular matrix constituents during tumor development.

Maria Angelica Miglino and colleagues from the University of Sao Paulo wrote an introductory chapter on the role of different extracellular matrix components in the tumor microenvironment. Anthony J. Hayes and James Melrose from The University of Sydney discuss the role of keratan sulfate within the tumor. Laura Alaniz and colleagues from the Universidad Nacional del Noroeste de Buenos Aires compile our understanding of hyaluronan in the tumor microenvironment. Peter Qiao and Zheng-Rong Lu from Case Western Reserve University update us with what we know about fibronectin in the tumor microenvironment. Georgina Gonzalez-Avila and colleagues from Instituto Nacional de Enfermedades Respiratorias "Ismael Cosío Villegas" summarize current knowledge on matrix metalloproteinases role in

tumor microenvironment. Mary C. Farach-Carson and colleagues from The University of Texas Health Science Center at Houston describe the influence of perlecan and its modifiers in the tumor microenvironment. Evgenia Karousou and colleagues from the University of Insubria address the importance of heparan sulfate in the tumor microenvironment. Finally, Brad Walsh and colleagues from Glytherix Ltd. give an overview of the role of glypican-1 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 my wife, Veranika Ushakova, and Mr. Murugesan Tamilsevan from Springer, who helped at every step of the execution of this project.

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