

Cancer Drug Discovery and Development

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Ex Vivo Engineering of the Tumor Microenvironment

 Humana Press

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To the memory of Morteza Salamat, my dear father in law, and Mrs. Sepideh Golzar, a wonderful friend who died of cancer during the preparation of this book in Iran.

Preface

While personalized or “precision” medicine is a major goal of cancer research, it has largely been relegated to the static measurement of genomic features, due to the inherent challenges of culturing tumors *ex vivo*. Recent major technological advances, however, have facilitated the ability to sustain the growth of primary tumor cells outside of the body, and to preserve and recapitulate features of the tumor microenvironment. Thus, it is now increasingly possible to expose patient-derived tumor samples to specific cancer therapies and measure responses to functional perturbations. In recognition of the growing potential of these technologies to advance the study of cancer biology and have a direct impact in the clinic, we felt it important to address the current state of patient-derived tumor models as they relate to the tumor microenvironment. We are thus pleased to provide *Ex Vivo Engineering of the Tumor Microenvironment* as a timely and comprehensive overview.

We want to sincerely thank all of the authors for their dedication and their outstanding contributions. We hope that you, as a reader, will enjoy this volume. A special thanks also goes to all of our dedicated colleagues at the Dana-Farber Cancer Institute who, with their tireless commitment toward cancer research, have become crucial factors in encouraging us to edit this book. We would also like to thank our families for their love and support. Finally, this work has ultimately been inspired by cancer patients themselves, especially those that have touched our own lives. We hope that by accelerating the development and application of these technologies, the day draws near that every individual that encounters this awful disease is cured.

Boston, MA, USA
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