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# Preface

Tissue culture techniques were first developed at the beginning of the 20th century and have undergone dramatic changes and improvements since that time. They are invaluable tools for the exploration of numerous biological questions related both to cellular processes and to the signaling mechanisms that regulate them. At some point in their careers, virtually every scientist, technician, and many medical professionals have a need to utilize cell culture systems, regardless of their area of specialization.

Our objective in preparing this book was to provide the novice cell culturist with sufficient information to perform the basic techniques, to ensure the health and identity of their cell lines, and to be able to isolate and culture specialized primary cell types. It is not the intent to educate cell culturists on any specific cell type or organ system, but rather to offer clear methodologies pertinent to current areas of investigation, as well as provide a valuable resource book for years to come. It is anticipated that many readers will have a solid background in the fundamentals of anatomy, histology, and biochemistry, but little or no experience in cell culture. We anticipate that this book will prove a useful resource for technicians, graduate students, postdoctoral fellows, as well as to the research leaders (both basic scientists and clinicians) and those cell culture experts who are moving toward the use of new model systems.

The chapters that follow provide step-by-step instructions for the isolation and growth of various primary cell types. In addition, they illustrate the techniques required for defining the properties of various types of cells, as well as for cell differentiation and expansion of cultures for large-scale experimentation.

Finally, we wish to extend our sincerest appreciation to all the contributors who willingly took their time to share their expertise and knowledge, and to the many individuals who assisted us in the preparation of this book. Special thanks go to Christine Kelly who was instrumental in maintaining organization amidst the chaos.

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<http://www.springer.com/978-1-58829-284-1>

Basic Cell Culture Protocols

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2005, XII, 371 p., Hardcover

ISBN: 978-1-58829-284-1

A product of Humana Press