
Preface

During the past decade, significant progress in molecular and cellular techniques has greatly advanced our understanding of the wound healing process. Many of these new techniques have been utilized in the context of more classic models of wound healing. The combination of new and classic approaches has allowed scientists to make exciting discoveries in the field of tissue repair, resulting in an explosion of information about the healing process. Importantly, these new findings have great relevance beyond wound healing itself. The injury repair process cuts across many disciplines, extending to such broad fields as cancer, inflammation, and atherosclerosis. The relevance of the field to these many disciplines has generated great interest in models and methods for the study of wound healing. The goal of *Wound Healing: Methods and Protocols* is to provide scientists from many disciplines with a compendium of classic and contemporary protocols from recognized experts in the field of wound healing. We hope this volume will be useful not only to those working within the field itself, but also to scientists from other disciplines who wish to adapt wound healing models to their own experimental needs.

The process of wound healing encompasses many different biologic processes, including epithelial growth and differentiation, fibrous tissue production and function, angiogenesis, and inflammation. For this reason, the choice of model systems is broad, and includes a large array of both in vivo and in vitro models. We could not, of course, include all of the many available experimental models of wound healing. Instead, we have attempted to assemble a cross section of practical techniques, many of which are widely used.

This volume is organized into two broad sections. Part I presents model systems for the study of wound healing, whereas Part II describes methods for the analysis and manipulation of the healing wound. Part I includes thirteen separate in vivo models and four in vitro models of wound healing, as well as several reviews of specific model systems in which underlying systemic and genetic conditions influence the healing process. Part II provides multiple methods for the analysis of the individual biologic processes observed in the healing wound. In many cases, several different approaches to a single process are provided in order to allow the scientist to select the approach most applicable to the problem at hand. We hope this text will become a valuable reference source for both basic and clinical scientists interested in initiating or expanding their efforts in the study of wound healing.

We are very grateful to our large group of contributors who gave so willingly of their expertise and provided the chapters within this volume. We wish to thank the series editor, Dr. John Walker, for his guidance during the development and realization of this book, and the president of Humana Press, Mr. Thomas Lanigan, for the opportunity to prepare this volume. We also thank Mr. Craig Adams at Humana Press and Mr. Benjamin Levi for their valuable editorial assistance. Finally, our sincere thanks to our families for their patience and encouragement during the completion of this book.

Luisa A. DiPietro
Aime L. Burns