

Preface

In the past decade, adipose tissue has emerged as a dynamic organ, producing a wide spectrum of adipokines (e.g., hormones, growth factors, cytokines) and playing an important role in the pathogenesis of obesity and its associated metabolic disorders. Consequently, research into the biology and pathophysiology of adipose tissue has attained an unparalleled stature. Since the publication of the first edition of *Adipose Tissue Protocols*, the field has grown enormously, and the techniques and experimental approaches used have undergone radical expansion and revision, warranting a new edition of this text. The second edition combines updates of a selection of chapters from the first edition, with a large number of new contributions covering both conventional and state-of-the-art methodologies, as well as whole animal, cellular, and molecular approaches that have emerged or been extended to adipose tissue research during the past few years.

Unlike many other research areas in which the use of standard techniques and off-the-shelf kits is often sufficient and satisfactory, research involving adipose tissues and adipocytes requires considerable expertise. The methods compiled here are contributed by internationally recognized experts in their respective fields who have many years of experience not only in using these techniques, but also in troubleshooting and perfecting them. Consequently, each chapter contains a step-by-step description of the method and, more importantly, it provides invaluable tips and tricks to safeguard against potential mishaps and pitfalls. The chapters are arranged in a logical order, progressing from an overview of adipose tissue biology to detailed protocols covering all key aspects of adipose tissue research. *Adipose Tissue Protocols, Second Edition* will undoubtedly be an essential manual for newcomers to this burgeoning area, as well as a valuable addition to the laboratories and offices of more experienced researchers.

I would like to express my gratitude to all the authors who have made this book possible and thank Professor John Walker, the Series Editor, for the invitation to edit this second edition. My thanks are also due to Mr. Andrew Williams for his diligent assistance during the final stages of editing, proofreading, and collating. Last, but not least, a special thank you to Dr. Haiyan Guan for her help and support throughout the preparation of this book.

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