

Preface

The first edition of this textbook was published in 1985. Since that time, studies on the biochemistry and molecular biology of lipids and lipoproteins have underscored the physiological importance of lipids. Important new roles of genes involved in lipid metabolism, and their relationship to diseases such as heart disease, diabetes, obesity, stroke, cancer, and neurological disorders, have been revealed. The 5th edition of this textbook, therefore, takes into account the major advances in these fields and, in addition, provides basic knowledge of the genes and proteins involved in lipid metabolic processes. This edition has been written with two major objectives in mind. The first is to provide students and teachers with an advanced up-to-date textbook covering the major areas in the biochemistry and molecular biology of lipids, lipoproteins, and membranes. As in previous editions of this book, the chapters are written at a level that is accessible to students who have already taken an introductory course in biochemistry and are therefore familiar with the basic concepts and principles of biochemistry and lipid metabolism. Thus, we hope that this volume will provide the basis for an advanced course for the undergraduate and graduate students with an interest in the lipid field. The second objective of this book is to satisfy the need for a general reference book for scientists and researchers who are presently working in, or are about to enter, the lipid and related fields. This book is unique in that it is not a collection of exhaustive reviews on the topics covered in each chapter, but rather is a current, readable, and critical summary of the field. Our goal was to present a clear summary of each research area. This book should allow scientists to become familiar with recent discoveries related to their own research interests, and should also help clinical researchers and medical students keep abreast of developments in basic science that are important for clinical advances in the future.

All of the chapters have been extensively revised since the 4th edition appeared in 2002. We have not attempted to describe in detail the structure and function of biological membranes or the mechanism by which proteins are assembled into membranes as these topics are covered elsewhere in a number of excellent books. The first chapter, however, contains an up-to-date summary of the principles of membrane structure as a basis for the material covered in the subsequent chapters.

As the chapters do not constitute comprehensive reviews of the various topics, we have limited the number of references cited at the end of each chapter and have emphasized recent review articles. Additional up-to-date reviews are available on all the topics included in this book. In addition, some of the primary literature is cited within the body of the text by providing the name of one of the authors and the year in which the article was published. Using this system, readers should be able to find the original citations by searching an on-line database.

The editors and contributors assume full responsibility for the content of the chapters. We shall be pleased to receive any comments and suggestions for future editions of this book.

Dennis E. Vance and Jean E. Vance
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