Principles of Exercise Biochemistry
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Preface

A new edition of a book originates mainly because of three major conditions: the previous edition has been sold out, there is a need for updating the information, there are new important developments. These three conditions have been fulfilled for ‘Principles of Exercise Biochemistry’. For the last couple of years, one cannot purchase a copy from any bookstore. Since the second edition, 10 years ago, there have been many new publications directed to each chapter of the book. For example, besides qualitative aspects of metabolic regulation, quantitative information has laid to the use (creatine) or disuse (carnitine) of nutrients as ergogenic aids to performance exercise. As well, specific data have been collected on amino acids involved in the energy demand under strenuous and prolonged work. The tremendous development of molecular biology tools into ‘exercise biology’ has produced an increasing number of papers devoted to what may be called the ‘omic’ explosion. Genomics, proteomics, and metabolomics are nowadays common terms used to the elucidation of gene function, expression of proteins and comprehensive analysis of all the metabolites in a tissue. The new human genome has arrived and the evolution of broad unbiased biological databases is the compulsory future research and development to integrate the molecule into the whole organism. Would it be a Pandora’s box or an Aladdin’s cave? To get the appropriate answer, the reader will most probably have to wait for the 4th edition of this book! At least, the last discoveries tell us that the skeletal muscle is sending metabolite signals to other tissues to promote the delivery of indispensable fuels for sustained contractions.

The present edition follows the new concepts of applied biochemistry which have emerged recently in the scientific literature. Instead of introducing
‘basic concepts of metabolic regulation’ Newsholme leads the reader to provocative thoughts on enzyme action. The last editions were lacking any precise information on lactate which was often considered a waste product. A new chapter by Gladden will fill in the missing gap. However, despite its interest, we had to remove one previous chapter (Exercise and Metabolic Disorders). This is due to the strict number of pages to be edited and to the marginal interest of this specific topic, not to the quality of the contributors.

Again, we want to emphasize the enthusiastic assistance of S. Karger AG (Basel) in promoting this new edition. Among those more specifically involved, we acknowledge the permanent and vigilant collaboration of Frances Green who willingly (and patiently) and constantly gave us the ‘do and don’t’ information over the whole publication procedure. Last, but not least, the merit of this book is more related to the high standing of its authors and publisher than to the willingness of the editor!

Jacques R. Poortmans, Brussels