# Microbial Biochemistry

*Georges N. Cohen*
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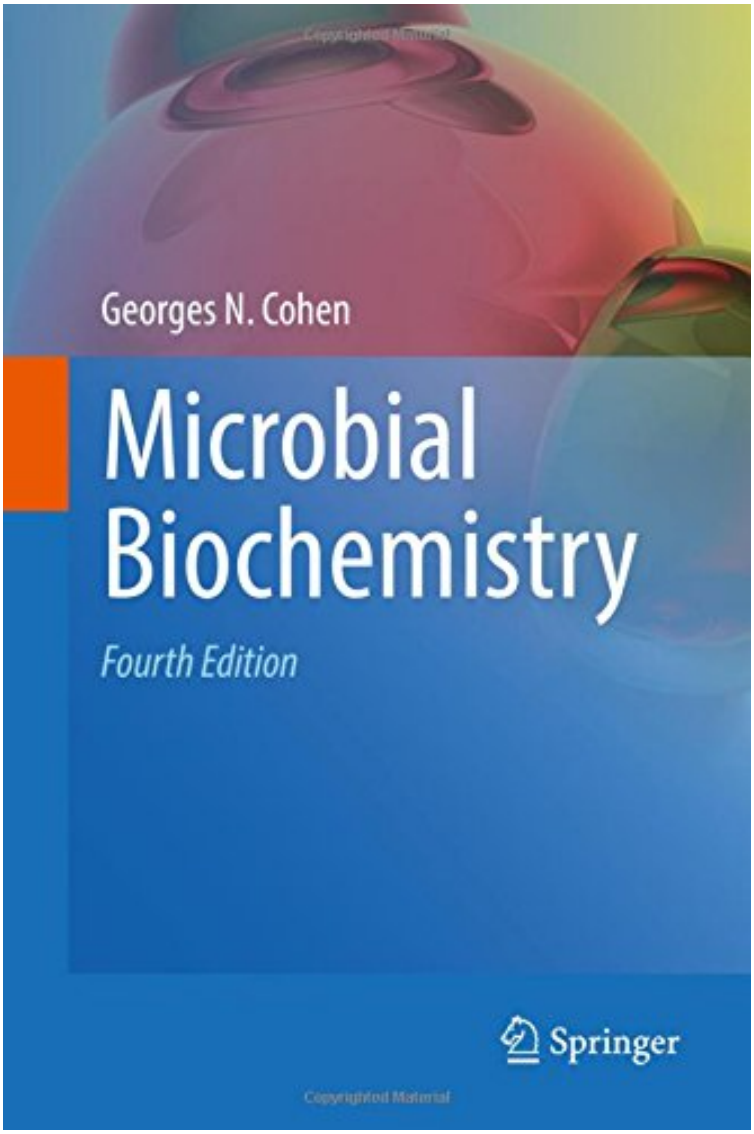




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**Georges N. Cohen : Microbial Biochemistry** before purchasing it in order to gage whether or not it would be worth my time, and all praised Microbial Biochemistry:

This book focusses on microbial physiology, biochemistry and genetics and provides the reader with detailed information on a number of microbial pathways. Insight into microbial biochemistry have allowed for the formulation

of concepts that have turned out to be important in the study of higher organisms. In the first section, the principles of bacterial growth are given, as well as a description of the different layers that enclose the bacterial cytoplasm, and their role in obtaining nutrients from the outside media through different permeability mechanism, which are described in detail. A chapter is devoted to allostery, which is indispensable for the comprehension of many regulatory mechanisms described throughout the book. The second section analyses the mechanisms by which cells obtain the energy necessary for their growth; Glycolysis, the pentose phosphate pathway, the tricarboxylic and the anaplerotic cycles. Two chapters are devoted to classes of microorganisms rarely dealt with in textbooks, namely the Archaea, mainly the methanogenic bacteria, and the methylotrophs. Eight chapters describe the principles of regulation at the transcriptional level, with the necessary knowledge of the machineries of transcription and translation. The next fifteen chapters deal with the biosynthesis of the cell building blocks, amino acids, purine and pyrimidine nucleotides and deoxynucleotides, water-soluble vitamins and coenzymes, isoprene and tetrapyrrole derivatives and vitamin B12. The two last chapters are devoted to the study of protein-DNA interactions and to the evolution of biosynthetic pathways. The considerable advances made in the last thirty years in the field by the introduction of gene cloning and sequencing and by the exponential development of physical methods such as X-ray crystallography, nuclear magnetic resonance and cryo-electron microscopy have helped in presenting microbial metabolism as a highly multidisciplinary field of study.

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