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BOOK REVIEW

Enzymes and Their Inhibition. Drug Development

(Smith, H. J., and Simons, C. (eds.) CRC Press, Boca Raton-London-New York-Singapore, 2005, 308 p., $149.95)

DOI: 10.1134/S0006297906050191

This book continues a series of publications by CRC Press devoted to enzyme inhibitors and their application in biotechnology. It consists of five chapters written by a group of internationally distinguished experts.

Chapter 1 describes structure and functions of enzymes. Special attention is paid to primary and secondary structures and types of atomic interactions underlying their formation, properties of tertiary and quaternary structures of enzymes, and enzyme interactions with substrates and cofactors. This chapter also deals with posttranslational modification of enzymes and their classification by structural and functional features.

Chapter 2 deals with mechanisms of action of enzymes including cytochrome P450, carbonic anhydrase, and some proteases.

Chapters 3 and 4 analyze kinetics and enzyme inhibitors. Chapter 5, the largest chapter in the book, describes approaches for use of enzyme inhibitors as medical drugs. This includes the use of such inhibitors for chemotherapy of breast cancer (inhibition of aromatase activity) and prostate cancer (inhibition of 5α-reductase), use of thrombin inhibitors in the cases of uncontrolled hemorrhage, use of HIV-reverse transcriptase and protease inhibitors in HIV infection, and inhibitors of the metalloproteinase collagenase.

This book is addressed to a large audience of enzymologists, biochemists, biotechnologists, pharmacologists, and also clinicians treating patients who are candidates for therapy using various enzyme inhibitors.

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