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“With a carefully selected range of topics, this book is a must-have for all of those who work in the field. Covering topics that go from rare diseases to cancer, this volume gathers the expertise of numerous researchers to clearly demonstrate that targeting enzymes for pharmaceutical purposes is not just a thing from the past. It is a flourishing field with a great future.”

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Prof. Gao-Wei Zheng
East China University of Science and Technology, China

This volume of *Pharmaceutical Biocatalysis* starts with a discussion on the importance of biocatalytic synthesis approaches for a sustainable and environmentally friendly production of pharmaceuticals and active pharmaceutical ingredients. Among the enzymes discussed in detail with respect to their pharmaceutical relevance are cyclic nucleotide phosphodiesterases playing an important role in modulating signal transduction in various cell types; human DOPA decarboxylase, related to Parkinson's disease and aromatic amino acid decarboxylase deficiency; and phospholipase D enzymes as drug targets. Isocitrate dehydrogenase 1 and 2 mutations are novel therapeutic targets in acute myeloid leukemia. An additional chapter is devoted to the use of enzymes for prodrug activation in cancer therapy. The other topics include small-molecule inhibitors targeting receptor tyrosine kinases in cancer, β -lactams and related compounds as antibacterials, non-vitamin K oral anticoagulants for the treatment of thromboembolic diseases, and the molecular mechanisms for statin pleiotropy and its clinical relevance in cardiovascular diseases. The last chapter is a review of lysosomal storage disorders with an overview of approved drugs for treating these disorders by enzyme replacement therapy.



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