

1. Record Nr.	UNINA9910138987203321
Titolo	Enzyme technologies : pluripotent players in discovering therapeutic agents / / edited by Hsiu-Chiung Yang, Wu-Kuang Yeh, James R. McCarthy
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2014 ©2014
ISBN	1-118-73990-6 1-118-73989-2
Descrizione fisica	1 online resource (366 p.)
Collana	Chemical Biology of Enzymes for Biotechnology and Pharmaceutical Applications ; ; Volume II
Classificazione	SCI010000
Altri autori (Persone)	YangHsiu-Chiung YehWu-Kuang <1942-> McCarthyJ. R
Disciplina	615.3
Soggetti	Enzyme inhibitors Enzymes - Pharmacokinetics Drugs - Design
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Enzyme Technologies: Pluripotent Players in Discovering Therapeutic Agents; Copyright; Contents; Contributors; Preface; PART A ENZYMES - ESSENTIAL WORKHORSES IN PHARMACEUTICAL RESEARCH; 1 ASSAY TECHNOLOGIES FOR PROTEASES; I. INTRODUCTION; II. PROTEASE ACTIVITY ASSAYS; III. ASSAYS FOR SOME CLINICALLY SIGNIFICANT PROTEASES; IV. COMPUTATIONAL APPROACHES FOR PROTEASE IDENTIFICATION AND CHARACTERIZATION; 2 DISCOVERY AND DEVELOPMENT OF ISOZYME-SELECTIVE INHIBITORS INVOLVED IN LIPID METABOLISM; I. INTRODUCTION; II. DIACYLGLYCEROL ACYLTRANSFERASE (DGAT) III. ACYL-COA: CHOLESTEROL ACYLTRANSFERASE (ACAT)IV. CONCLUSIONS AND FUTURE PERSPECTIVES; References; 3 COVALENT ENZYME INHIBITION IN DRUG DISCOVERY AND DEVELOPMENT; I. INTRODUCTION; II. MECHANISM OF INHIBITION: MECHANISTIC TYPES BY PRINCIPLE OF INHIBITION; III. KINETICS: CONCEPTUAL AND

EXPERIMENTAL CONSIDERATIONS; IV. SPECIFIC EXAMPLES OF COVALENT INHIBITORS; V. COVALENT ADDUCT WITH COFACTOR ALONE; VI. FULLY IRREVERSIBLE NONCOVALENT INHIBITION; VII. REVERSIBILITY AND DRUG RESISTANCE; VIII. PSEUDO-IRREVERSIBLE INHIBITION; IX. IRREVERSIBLE INHIBITORS AS TOOLS: ACTIVITY-BASED PROTEOMICS (ABP) X. MBI OF CYPsXI. THE PROBLEM OF HAPtenATION; XII. CONCLUSION; References; 4 PRECLINOMICS: ENZYME ASSAYS AND RODENT MODELS FOR METABOLIC DISEASES; I. INTRODUCTION; II. EVOLVING ENZYME ASSAYS; III. DEVELOPING NEW RAT MODEL FOR METABOLIC DISEASES; IV. ZDSD RAT: EVALUATING CURRENT DRUGS; V. EXISTING RODENT MODELS: ESTABLISHING POSITIVE CONTROLS; VI. EXISTING RODENT MODELS AND ONE CANCER PATIENT: TESTING NUTRITIONAL SUPPLEMENT (ALKA VITA); VII. CONCLUDING REMARKS; References; PART B ENZYMES - INDISPENSABLE TOOLS FOR IMPROVING DRUGGABILITY; 5 ENZYMES AND TARGETED ACTIVATION OF PRODRUGS I. INTRODUCTIONII. ENDOGENOUS ENZYMES; III. NONENDOGENOUS ENZYMES; IV. CONCLUDING REMARKS; References; 6 EVOLUTION OF AN ORALLY ACTIVE PRODRUG OF GEMCITABINE; I. INTRODUCTION; II. PREPARATION OF GEMCITABINE PRODRUGS; III. ADVANTAGE OF CYCLOPROPYL ESTER PRODRUGS; IV. ISSUES WITH CYCLOPROPYL ESTERS OF GEMCITABINE; V. ALTERNATIVE PRODRUGS OF GEMCITABINE; VI. CO-CRYSTALS OF VALPROATE AMIDE OF GEMCITABINE; VII. STABILITY OF VALPROATE AMIDE PRODRUG; VIII. BIOAVAILABILITY OF AMIDE PRODRUG; IX. ANTITUMOR ACTIVITY OF PRODRUG; X. SUMMARY; References  
7 ENZYMATICALLY ACTIVATED PHOSPHATE AND PHOSPHONATE PRODRUGSI. INTRODUCTION; II. PHOSPHATE GROUP USED FOR SOLUBILITY ENHANCEMENT; III. PHOSPHATE AND PHOSPHONATE PRODRUGS; IV. CONCLUSIONS; References; PART C ENZYMES - POWERFUL WEAPONS FOR CORRECTING NATURE ' S ERRORS; 8 TREATMENT OPTIONS FOR MUCOPOLYSACCHARIDOSIS TYPE II (HUNTER'S SYNDROME); I. INTRODUCTION; II. HISTORY; III. BIOCHEMISTRY; IV. GENETICS; V. CLINICAL MANIFESTATION; VI. MANAGEMENT AND TREATMENT; VII. FUTURE PERSPECTIVES; References; 9 ENZYME REPLACEMENT THERAPY FOR FABRY DISEASE; I. INTRODUCTION  
II. THE STRUCTURE AND CATALYTIC MECHANISMS OF HUMAN ALPHA-GALACTOSIDASE A

---

#### Sommario/riassunto

"This book highlights how, what, and where enzymes have become critical in pharmaceutical and biotechnology research. It provides in-depth reviews of recent developments in select topics on biosynthesis, biocatalysis, and chemical biology of enzymes. Broad coverage of enzymatic assays includes emerging assay technologies for key enzyme classes in pharmaceutical research. In addition to new developments in proteomics, this book includes two emerging technologies in Life Sciences: metabolomics (including glycomics and lipidomics) and preclinomics. This volume reviews important progress on the chemical biology of enzymes in the post-genomic era"--

---