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Nota di contenuto	Front Cover; Basic Principles of Drug Discovery and Development; Copyright; Dedication; Contents; Foreword; Chapter 1 - Drug Discovery and Development: An Overview of Modern Methods and Principles; DRUG DISCOVERY AND DEVELOPMENT FROM 20,000FEET (FIGURE 1.7); TARGET SELECTION: THE FIRST STEP FORWARD; HIT IDENTIFICATION: FINDING A STARTING POINT; IDENTIFY A CLINICAL CANDIDATE: JUGGLING THE PROPERTIES; QUESTIONS; References; Chapter 2 - The Drug Discovery Process: From Ancient Times to the Present Day; THE AGE OF BOTANICALS: PREINDUSTRIAL DRUG DISCOVERY PAUL EHRLICH: THE FATHER OF MODERN DRUG DISCOVERY 10 MILESTONES IN DRUG DISCOVERY; THE RISE OF BIOLOGICS AND MACROMOLECULAR THERAPEUTICS; SOCIETAL AND GOVERNMENTAL IMPACTS; REGULATORY MILESTONES; FUTURE DEVELOPMENTS IN DRUG DISCOVERY; QUESTIONS; References; Chapter 3 - Classical Targets in Drug Discovery; PROTEIN STRUCTURE; ENZYMES; INHIBITION OF ENZYMES; G-PROTEIN-COUPLED RECEPTORS (GPCRS); ION CHANNELS; MEMBRANE TRANSPORT PROTEINS (TRANSPORTERS); EMERGING TARGETS; QUESTIONS; References; Chapter 4 - In vitro Screening Systems; THE LANGUAGE OF SCREENING: BASIC TERMS; STREPTAVIDIN AND BIOTIN BIOCHEMICAL VERSUS CELLULAR ASSAYS ASSAY SYSTEMS AND

METHODS OF DETECTION; RADIOLIGAND ASSAY SYSTEMS; ENZYME-LINKED IMMUNOSORBENT ASSAY (ELISA); FLUORESCENCE-BASED ASSAY SYSTEMS; REPORTER GENE ASSAYS; KINETIC FLUORESCENT MEASUREMENT SYSTEMS; LABEL-FREE ASSAY SYSTEMS; ELECTROPHYSIOLOGICAL PATCH CLAMP; GENERAL CONSIDERATION FOR ALL SCREENING METHODS; QUESTIONS; References; Chapter 5 - Medicinal Chemistry; STRUCTURE-ACTIVITY RELATIONSHIPS AND STRUCTURE-PROPERTY RELATIONSHIPS; THE ROLE OF CHIRALITY; PUSH AND PULL IN STRUCTURE-ACTIVITY RELATIONSHIPS; QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIPS
EXEMPLARY ANIMAL MODELS BY DISEASE CATEGORYANIMAL MODELS OF INFECTIOUS DISEASE; ANIMAL MODELS OF ONCOLOGY; QUESTIONS; References; Chapter 8 - Safety and Toxicology; SOURCES OF TOXICITY; ACUTE VERSUS CHRONIC TOXICITY; CYTOTOXICITY; CARCINOGENICITY, GENOTOXICITY, AND MUTAGENICITY; DRUG-DRUG INTERACTIONS; CARDIOVASCULAR SAFETY AND TOXICOLOGY STUDIES; CENTRAL NERVOUS SYSTEM SAFETY AND TOXICOLOGY STUDIES; IMMUNE SYSTEM MEDIATED SAFETY ISSUES; TERATOGENICITY; IN VIVO TOXICITY AND SAFETY STUDIES; QUESTIONS; References; Chapter 9 - Basics of Clinical Trials; BEFORE THE CLINIC; DRUG SUPPLY DELIVERY METHODS

Sommario/riassunto

Basic Principles of Drug Discovery and Development presents the multifaceted process of identifying a new drug in the modern era, providing comprehensive explanations of enabling technologies such as high throughput screening, structure based drug design, molecular modeling, pharmaceutical profiling, and translational medicine, all areas that have become critical steps in the successful development of marketable therapeutics. The text introduces the fundamental principles of drug discovery and development, also discussing important drug targets by class, in vitro screening methods, medicin
