1. Record Nr. UNINA9910808929703321 Autore Kenakin Terrence P Titolo A pharmacology primer: theory, applications, and methods // Terry Kenakin Burlington, MA;; London,: Academic Press, c2006 Pubbl/distr/stampa **ISBN** 1-280-70765-8 9786610707652 0-08-046530-7 Edizione [2nd ed.] Descrizione fisica 1 online resource (319 p.) Disciplina 615.1 615/.7 Soggetti Pharmacology Drugs Chemicals - Physiological effect Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Previous ed.: London: Elsevier, 2004. Nota di bibliografia Includes bibliographical references and index. Front cover: A PHARMACOLOGY PRIMER THEORY, APPLICATION, AND Nota di contenuto METHODS: Copyright page: Foreword to Second Edition: Foreword to First Edition; Table of contents; Chapter 1. What Is Pharmacology?; 1.1 About This Book: 1.2 What Is Pharmacology?: 1.3 The Receptor Concept; 1.4 Pharmacological Test Systems; 1.5 The Nature of Drug Receptors; 1.6 Pharmacological Intervention and the Therapeutic Landscape; 1.7 System-independent Drug Parameters: Affinity and Efficacy; 1.8 What Is Affinity?; 1.9 The Langmuir Adsorption Isotherm; 1.10 What Is Efficacy?; 1.11 Dose-response Curves 1.12 Chapter Summary and Conclusions1.13 Derivations: Conformational Selections as a Mechanism of Efficacy; References; Chapter 2. How Different Tissues Process Drug Response; 2.1 Drug Response as Seen Through the "Cellular Veil"; 2.2 The Biochemical Nature of Stimulus-response Cascades; 2.3 The Mathematical Approximation of Stimulus-response Mechanisms: 2.4 System Effects on Agonist Response: Full and Partial Agonists; 2.5 Differential Cellular Response to Receptor Stimulus; 2.6 Receptor Desensitization and

Tachyphylaxis; 2.7 The Measurement of Drug Activity

2.8 Advantages and Disadvantages of Different Assay Formats2.9 Drug Concentration as an Independent Variable; 2.10 Chapter Summary and Conclusions; 2.11 Derivations; References; Chapter 3. Drug-Receptor Theory; 3.1 About This Chapter; 3.2 Drug-Receptor Theory; 3.3 The Use of Mathematical Models in Pharmacology; 3.4 Some Specific Uses of Models in Pharmacology; 3.5 Classical Model of Receptor Function; 3.6 The Operational Model of Receptor Function; 3.7 Two-state Theory; 3.8 The Ternary Complex Model; 3.9 The Extended Ternary Model; 3.10 Constitutive Receptor Activity

3.11 The Cubic Ternary Complex Model3.12 Chapter Summary and Conclusions; 3.13 Derivations; References; Chapter 4. Pharmacological Assay Formats: Binding; 4.1 The Structure of This Chapter; 4.2 Binding Theory and Experiment; 4.3 Complex Binding Phenomena: Agonist Affinity from Binding Curves; 4.4 Experimental Prerequisites for Correct Application of Binding Techniques; 4.5 Chapter Summary and Conclusions; 4.6 Derivations; References; Chapter 5. Agonists: The Measurement of Affinity and Efficacy in Functional Assays; 5.1 Functional Pharmacological Experiments

5.2 The Choice of Functional Assays5.3 Recombinant Functional Systems; 5.4 Functional Experiments: Dissimulation in Time; 5.5 Experiments in Real Time Versus Stop Time; 5.6 The Measurement of Agonist Affinity in Functional Experiments; 5.7 Estimates of Relative Efficacy of Agonists in Functional Experiments; 5.8 Chapter Summary and Conclusions; 5.9 Derivations; References; Chapter 6. Orthosteric Drug Antagonism; 6.1 Introduction; 6.2 Kinetics of Drug-Receptor Interaction; 6.3 Surmountable Competitive Antagonism; 6.4 Noncompetitive Antagonism; 6.5 Agonist-Antagonist Hemi-equilibria 6.6 Resultant Analysis

Sommario/riassunto

The Second Edition will continue this tradition of better preparing researchers in the basics of pharmacology. In addition, new human interest material including historical facts in pharmacology will be added. A new section on therapeutics will help readers identify with diseases and drug treatments.*Over 30 new figures and tables*More human interest information to provide readers with historical facts on pharmacology research*New section on therapeutics to help identify diseases and drug treatments*New section on new biological concepts relevant to pharmacological researc