1. Record Nr. UNINA9910493172203321

Autore	Perry Valery
Titolo	Extremism and violent extremism in Serbia : 21st century manifestations of an historical challenge / / Valery Perry (editor)
Pubbl/distr/stampa	Stuttgart, Germany : , : Ibidem Verlag, , [2019] ©2019
ISBN	3-8382-7260-9
Descrizione fisica	1 online resource (370 pages)
Disciplina	303.484
Soggetti	Radicalism - History Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9911019555903321

Autore	Hu Ming
Titolo	Oral Bioavailability and Drug Delivery : From Basics to Advanced Concepts and Applications
Pubbl/distr/stampa	Newark : , : John Wiley & Sons, Incorporated, , 2024 ©2024
ISBN	9781119660699 1119660696 9781119660668 1119660661
Edizione	[1st ed.]
Descrizione fisica	1 online resource (931 pages)
Collana	Wiley Series in Drug Discovery and Development Series
Altri autori (Persone)	LiXiaoling
Disciplina	615.19
Soggetti	Drug delivery systems Pharmacokinetics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- List of Contributors -- Foreword -- Preface -- Chapter 1 Barriers to Oral Bioavailability - An Overview -- 1.1 Introduction -- 1.1.1 Physicochemical Factors -- 1.1.2 Biological Factors -- 1.1.3 Diet and Food Effects -- 1.1.4 Drug-Drug Interactions -- 1.1.5 Scientific Disciplines Involved -- References -- Chapter 2 Solubility of Pharmaceutical Solids -- 2.1 Introduction -- 2.2 Fundamentals of Solubility -- 2.2.1 Definition -- 2.2.2 Thermodynamics of Solubility -- 2.2.3 Solubility and Dissolution -- 2.2.4 Factors that Affect Solubility -- 2.2.4.1 Solute Factors -- 2.2.4.2 Solvent Factors -- 2.2.5 Pharmaceutically Relevant Solubility -- 2.2.5.1 Medium of Solubility Determination -- 2.2.5.2 In Vitro Solubility -- 2.2.5.3 Estimation of Solubility in the GI Tract -- 2.3 Solubility and Oral Bioavailability -- 2.4 Strategies to Improve Solubility -- 2.4.1 Formulation through Salt Formation -- 2.4.2 Formulation Through Amorphous Solid Dispersions -- 2.4.3 Formulation Through Lipid and SurfactantBased Formulations -- 2.4.4 Formulation Through Other Approaches -- 2.5 Summary -- References -- Chapter 3 In Vitro Dissolution of Pharmaceutical Solids -- 3.1 Dissolution Theory and

Fundamentals -- 3.1.1 Background and Rationale -- 3.1.2 Why Dissolution Testing -- 3.1.3 Theoretical Concepts -- 3.1.4 Properties of the API -- 3.1.5 Examples of Techniques to Alter Dissolution Rate Based on the Dissolution Theory -- 3.1.5.1
Nanotechnology - Changing the Surface Area Term in the Equation -- 3.1.5.2 Solid Dispersions - Changing the Solubility Term in the Equation -- 3.2 Dissolution of Drug Products -- 3.2.1 Type of Dosage Forms and Common Dissolution Mechanisms -- 3.2.1.1 Immediate Release Dosage Forms -- 3.2.1.2 ModifiedRelease Dosage Forms -- 3.2.2 Factors Affecting Dissolution -- 3.2.2.1 Drug and Excipient Properties.
3.2.2.2 Drug Product Formulation and Processing Conditions -- 3.3 In Vitro Dissolution Methods for Ensuring Quality of Commercial Drug Products -- 3.3.1 Compendial Dissolution Apparatus -- 3.3.2 General Compendial Dissolution Conditions -- 3.4 In Vitro Dissolution Methods in Product Development -- 3.4.1 Intrinsic Dissolution Apparatus -- 3.4.2 Use of NonCompendial Apparatus -- 3.4.2.1 Surface Dissolution Imager (SDI) -- 3.4.2.2 SmallVolume Apparatus -- 3.4.2.3 Other Non Compendial Apparatus -- 3.4.3 Use of NonCompendial Dissolution Media -- 3.4.4 Use of NonSink Conditions -- 3.5 Automation in Dissolution Testing and Prediction -- 3.5.1 Automated Sampling -- 3.5.2 In Situ Analysis -- 3.6 Conclusions -- References -- Chapter 4 Biological and Physiological Features of the Gastrointestinal Tract Relevant to Oral Drug Absorption -- 4.1 Introduction -- 4.2 Biological Features of Gastrointestinal Tract -- 4.2.1 Absorption Pathways -- 4.2.1.1 Transcellular and Paracellular Absorption Pathways -- 4.2.1.2 Facilitated and CarrierMediated Absorption Pathways -- 4.2.2 Peyer's Patches -- 4.3 Physiological Features of Gastrointestinal Tract -- 4.3.1 pH of Gastrointestinal Fluids -- 4.3.2 Biliary Secretion -- 4.3.3 Gastrointestinal Microflora -- 4.3.4 Gastrointestinal Transit and Motility -- 4.3.4.1 Gastric Emptying Rate -- 4.3.4.2 Intestinal Motility -- 4.4 Other Physiological Factors -- 4.4.1 Age Effects -- 4.4.2 Gender Effects -- 4.5 Conclusion -- References -- Chapter 5 Absorption of Drugs Via Passive Diffusion and CarrierMediated Pathways -- Disclaimer -- 5.1 Introduction -- 5.2 Passive Diffusion -- 5.2.1 Passive Diffusion Described by Fick's First Law -- 5.2.2 RateLimiting Step in Intestinal Drug Absorption -- 5.2.2.1 GastricEmptying RateLimited Absorption -- 5.2.2.2 Perfusion RateLimited Absorption -- 5.2.2.3 Dissolution RateLimited Absorption.
5.2.2.4 Diffusion/Permeability RateLimited Absorption -- 5.3 Carrier Mediated Transport -- 5.3.1 Competitive, Noncompetitive, and Un competitive Inhibition -- 5.4 Summary -- References -- Chapter 6 Determinant Factors for Passive Absorption of Drugs -- 6.1 Introduction -- 6.2 Fundamentals of Drug Absorption -- 6.2.1 Gut Wall -- 6.2.2 Pathways of Absorption -- 6.2.2.1 Transcellular Pathway -- 6.2.2.2 Paracellular Pathway -- 6.2.2.3 TransporterMediated Pathway -- 6.2.2.4 Total Passive Permeation (Paracellular and Transcellular Pathways) -- 6.2.3 Driving Forces for Passive Absorption -- 6.2.3.1 Concentration Gradient -- 6.2.3.2 Pressure Gradient -- 6.3 Absorption Determining Factors -- 6.3.1 Physiological Factors -- 6.3.1.1 Gastric Emptying Time -- 6.3.1.2 Gastric pH -- 6.3.1.3 Intestinal Transit Times -- 6.3.2 Physicochemical Factors -- 6.3.2.1 Solubility -- 6.3.2.2 Permeability -- 6.3.2.3 "pH Partition Theory" and pKa -- 6.3.2.4 Particle Size and Surface Area -- 6.3.2.5 Salt Form -- 6.3.2.6 Polymorphic Form and Amorphous API -- 6.3.2.7 Lipinski Rule of 5 -- 6.3.3 Formulation Factors Affecting Oral Absorption -- 6.4 Rate Limiting Steps in Absorption and Prediction of Dosing Amount Absorbed -- 6.4.1 The Maximum Absorbable Dose (MAD) -- 6.4.2

Dose Number (Do), Absorption Number (An), and Dissolution Number (Dn) -- 6.4.3 Permeability Limited Absorption -- 6.4.4 Dissolution Rate Limited Absorption -- 6.4.5 Solubility-Permeability Limited Absorption -- 6.4.6 Estimation of the Fraction Absorbed (Fa) in General Cases -- 6.5 Overview of In Silico Prediction of Absorption and Pharmacokinetics for Oral Dosage Forms -- 6.6 Summary -- References -- Chapter 7 Protein Binding and Drug Distribution -- 7.1 Introduction -- 7.2 Protein-Drug Binding in Plasma -- 7.3 Modeling of Binding Equilibria -- 7.3.1 Stoichiometric Model -- 7.3.2 SiteOriented Model.
7.3.3 Free Drug Fraction -- 7.4 Bioanalytical Methods for Studying Drug-Protein Binding -- 7.4.1 Outline of Bioanalytical Approaches -- 7.4.2 Affinity Chromatography -- 7.4.3 Solid Phase Microextraction -- 7.4.4 Ultrafiltration -- 7.4.5 Equilibrium Dialysis -- 7.4.6 Other Approaches -- 7.4.7 Alternatives to Determining Plasma Protein Binding -- 7.5 Impact of Drug-Protein Binding on Pharmacokinetic Parameters -- 7.5.1 Volume of Distribution -- 7.5.2 Clearance -- 7.5.3 Halflife -- 7.6 Physicochemical Factors that Affect Protein-Drug Binding and Drug Distribution -- 7.7 Physiological and Pathological Factors that Affect Protein-Drug Binding and Drug Distribution -- References -- Chapter 8 Drug Transport Across the Placental Barrier -- 8.1 Introduction -- 8.2 Pharmacokinetics of Drugs Administered During Pregnancy -- 8.2.1 Absorption -- 8.2.2 Distribution -- 8.2.3 Metabolism -- 8.2.4 Excretion -- 8.3 Placental Development and Structure -- 8.4 Functions of the Human Placenta -- 8.5 Mechanisms of Drug Transport Across the Placenta -- 8.5.1 Passive Diffusion -- 8.5.2 Facilitated Diffusion -- 8.5.3 Active Transport -- 8.5.4 Endocytosis -- 8.6 Mechanisms of Drug Metabolism Within the Placenta -- 8.7 Strategies to Alter Drug Transport Across the Placenta -- 8.8 Experimental Models of the Human Placenta -- 8.8.1 Animal Models -- 8.8.2 Ex Vivo Placental Perfusion -- 8.8.3 In Vitro Trophoblast Tissue Preparations -- 8.8.4 Primary Cells from Human Placenta -- 8.8.5 Continuous Cell Lines -- 8.8.6 PlacentaonaChip -- 8.8.7 In Silico Models -- References -- Chapter 9 Biopharmaceutics Classification System: Theory and Practice -- 9.1 Introduction -- 9.2 Theory -- 9.2.1 Bioavailability and Bioequivalence -- 9.2.2 Oral Drug Absorption Prediction -- 9.2.2.1 Plug Flow Model -- 9.2.2.2 Compartmental Absorption and Transit Model.
9.2.3 Biopharmaceutics Classification System -- 9.3 BCSbased Biowaiver -- 9.4 BCS Waiver Case Studies -- 9.4.1 Case Study 1 -- 9.4.1.1 Solubility -- 9.4.1.2 Permeability -- 9.4.1.3 Dissolution -- 9.4.2 Case Study 2 -- 9.4.2.1 Solubility -- 9.4.2.2 Permeability -- 9.4.2.3 Dissolution -- 9.4.3 Case Study 3 -- 9.4.3.1 Formulation -- 9.4.3.2 Solubility -- 9.4.3.3 Dissolution -- 9.5 BCS: Additional Regulatory Applications -- 9.6 Summary -- References -- Chapter 10 Effects of Food on Drug Absorption -- 10.1 Introduction -- 10.1.1 Food-Drug Interactions (Food Effects) in Clinical Therapy and Drug Development -- 10.1.1.1 Regulatory Considerations of Food Effects -- 10.1.1.2 Food-Drug Interactions in Clinical Therapy -- 10.1.1.3 Positive, Negative, and No Food Effects -- 10.1.1.4 Absorption of Drugs -- 10.1.1.5 Metabolism and Transport in the Gastrointestinal Tract (see also Chapter 11) -- 10.1.1.6 Permeability in the Gastrointestinal Tract -- 10.1.1.7 FoodInduced Changes on Drug Bioavailability -- 10.2 Mechanisms of Food Effects -- 10.2.1 Factors Causing Positive Food Effects -- 10.2.2 Factors Causing Negative Food Effects -- 10.3 Prediction of Food Effects -- 10.4 Summary -- References -- Chapter 11 Drug Metabolism in Gastrointestinal Tract -- 11.1 Introduction -- 11.1.1 Gastrointestinal Tract (GIT) as Drug Disposition Organ -- 11.1.2 DrugMetabolizing Enzymes in GIT --

11.1.2.1 Enzymes for Phase I Metabolism -- 11.1.2.2 Enzymes for Phase II Metabolism -- 11.1.3 Regulation of DrugMetabolizing Enzymes by Nuclear Receptors -- 11.1.4 Diseases Associated with DrugMetabolizing Enzymes -- 11.2 Role of Intestinal Efflux Transporters in the Drug Disposition -- 11.2.1 Efflux Transporters in Intestine -- 11.2.1.1 Pgp -- 11.2.1.2 MRP2 -- 11.2.1.3 BCRP -- 11.2.2 Regulation of Efflux Transporters by Nuclear Receptors (See Also Chapter 41).
11.3 Drug Metabolism-Transporter Coupling in Drug Disposition in GIT.

Sommario/riassunto

This comprehensive volume, 'Oral and Drug Delivery: From Basics to Advanced Concepts and Applications', provides an in-depth exploration of the principles and challenges associated with oral drug delivery. Edited by Ming Hu and Xiaoling Li, this academic text delves into key topics such as solubility, absorption, metabolism, and the physiological barriers that affect drug delivery. It also examines advanced concepts in drug transport, metabolism, and excretion. The book's primary aim is to enhance understanding of the complex mechanisms and factors influencing oral drug bioavailability, making it an essential resource for researchers, scientists, and students in pharmaceutical sciences.