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KEY=DRUG - SWANSON KAMREN

Design of Controlled Release Drug Delivery Systems

McGraw Hill Professional The goal of every drug delivery system is to deliver the precise amount of a drug at a pre-programmed rate to the desired location in order to achieve the drug level necessary for the treatment. An essential guide for biomedical engineers and pharmaceutical designers, this resource combines physicochemical principles with physiological processes to facilitate the design of systems that will deliver medication at the time and place it is most needed.

Controlled Release Veterinary Drug Delivery

Biological and Pharmaceutical Considerations

Elsevier Many controlled release veterinary drug delivery systems (CRVDDS) are presently in use, and recently there has been a host of new CRVDDS within veterinary medicine. The challenges of this area of drug delivery arise from the unique anatomy and physiology of the target animal, the cost constraints associated with the value of the animal being treated and the extended periods of time that delivery must be sustained for (often measured in months). The purpose of this book is to introduce the reader to the unique opportunities and challenges of the field of CRVDDS and to explain and discuss the basic controlled release principles underlying the development of CRVDDS. Its aim is to provide an overview of many of the areas where CRVDDS have application, and to highlight the opportunities and prospects for controlled release technology in the veterinary field. Controlled Release Veterinary Drug Delivery comprises chapters that provide workers in the field (and those interested in this area) with information on the design, development and assessment of a variety of CRVDDS. The book contains chapters that describe the relevant animal physiological and anatomical considerations alongside descriptions of current and emerging controlled release delivery systems for a variety of routes for drug delivery, and present overviews on the physical and chemical assessment of veterinary controlled release delivery systems. The veterinary area is abound with opportunities for the development of controlled release drug delivery technologies. It is an area of medicine that is open to the acceptance of novel drug delivery devices, and which readily encompasses the use of novel routes of administration. It is an area of many unmet needs, most of which offer opportunities and unique challenges for the innovative formulation scientist to provide solutions. This book will provide an insight into the biological, clinical and pharmaceutical challenges that face the formulation scientist in this interesting and diverse area of research.

Handbook of Pharmaceutical Controlled Release Technology

CRC Press The Handbook of Pharmaceutical Controlled Release Technology reviews the design, fabrication, methodology, administration, and classifications of various drug delivery systems, including matrices, and membrane controlled reservoir, bioerodible, and pendant chain systems. Contains cutting-edge research on the controlled delivery of biomolecules!

Sustained and Controlled Release Drug Delivery Systems

Fundamentals and Applications of Controlled Release Drug Delivery

Springer Science & Business Media Pitched at a level comprehensible to those new to the field, this authoritative text covers the scientific and technological fundamentals of drug delivery as well as clinical applications and the developmental potential in controlled release drug delivery.

Handbook of Pharmaceutical Controlled Release Technology

CRC Press The Handbook of Pharmaceutical Controlled Release Technology reviews the design, fabrication, methodology, administration, and classifications of various drug delivery systems, including matrices, and membrane controlled reservoir, bioerodible, and pendant chain systems. Contains cutting-edge research on the controlled delivery of biomolecules! Discussing the advantages and limitations of controlled release systems, the Handbook of Pharmaceutical Controlled Release Technology covers oral, transdermal, parenteral, and implantable delivery of drugs discusses modification methods to achieve desired release kinetics highlights constraints of system design for practical clinical application analyzes diffusion equations and mathematical modeling considers environmental acceptance and tissue compatibility of biopolymeric systems for biologically active agents evaluates polymers as drug delivery carriers describes peptide, protein, micro-, and nanoparticulate release systems examines the cost, comfort, disease control, side effects, and patient compliance of numerous delivery systems and devices and more!

Strategies to Modify the Drug Release from Pharmaceutical Systems

Woodhead Publishing Since the earliest dosage forms to modern drug delivery systems, came a great development and growth of knowledge with respect to drug delivery. Strategies to Modify the Drug Release from Pharmaceutical Systems will address principles, systems, applications and advances in the field. It will be principally a textbook and a reference source of strategies to modify the drug release. Moreover, the characterization, mathematical and physicochemical models, applications and the systems will be discussed. Addresses the principles, systems, applications and advances in the field of drug delivery Highlights the mathematical and physicochemical principles related to strategies Discusses drug release and its possible modifications

Controlled Release in Oral Drug Delivery

Springer Science & Business Media Controlled Release in Oral Drug Delivery provides focus on specific topics, complementing other books in the initial CRS series. Each chapter sets the context for the inventions described and describe the latitude that the inventions allow. In order to provide some similar look to each chapter, the coverage includes the historical overview, candidate drugs, factors influencing design and development, formulation and manufacturing and delivery system design. This volume was written along three main sections: the relevant anatomy and physiology, a discussion on candidates for oral drug delivery and the major three groups of controlled release systems: diffusion control (swelling and inert matrices); environmental control (pH sensitive coatings, time control, enzymatic control, pressure control) and finally lipidic systems.

Fundamentals of Drug Delivery

John Wiley & Sons A comprehensive guide to the current research, major challenges, and future prospects of controlled drug delivery systems. Controlled drug delivery has the potential to significantly improve therapeutic outcomes, increase clinical benefits, and enhance the safety of drugs in a wide range of diseases and health conditions. Fundamentals of Drug Delivery provides comprehensive and up-to-date coverage of the essential principles and processes of modern controlled drug delivery systems. Featuring contributions by respected researchers, clinicians, and pharmaceutical industry professionals, this edited volume reviews the latest research in the field and addresses the many issues central to the development of effective, controlled drug delivery. Divided in three parts, the book begins by introducing the concept of drug delivery and discussing both challenges and opportunities within the rapidly evolving field. The second section presents an in-depth critique of the common administration routes for controlled drug delivery, including delivery through skin, the lungs, and via ocular, nasal, and otic routes. The concluding section summarizes the current state of the field and examines specific issues in drug delivery and advanced delivery technologies, such as the use of nanotechnology in dermal drug delivery and advanced drug delivery systems for biologics. This authoritative resource: Covers each main stage of the drug development process, including selecting pharmaceutical candidates and evaluating their physicochemical characteristics. Describes the role and application of mathematical modelling and the influence of drug transporters in pharmacokinetics and drug disposition. Details the physiology and barriers to drug delivery for each administration route. Presents a historical perspective and a look into the possible future of advanced drug delivery systems. Explores nanotechnology and cell-mediated drug delivery, including applications for targeted delivery and toxicological and safety issues. Includes comprehensive references and links to the primary literature. Edited by a team of internationally-recognized experts, Fundamentals of Drug Delivery is essential reading for researchers, industrial scientists, and advanced students in all areas of drug delivery including pharmaceuticals, pharmaceutical sciences, biomedical engineering, polymer and materials science, and chemical and biochemical engineering.

Advancements in Controlled Drug Delivery Systems

IGI Global The many drawbacks of conventional dosage forms and delivery systems are overcome by designing and developing controlled release drug delivery systems, and pharmaceutical and other scientists have carried out extensive and intensive investigations in the field to explore their applications. A controlled-release drug formulation can improve product efficacy and extend patent protection. As controlled drug delivery systems continue to play a vital role in delivering various types of therapeutic agents in a controlled manner, researchers are only just scratching the surface of their full potential. Advancements in Controlled Drug Delivery Systems supplies information on translating the physicochemical properties of drugs into drug delivery systems, explores how drugs are administered via various routes, and discusses recent advancements in the fabrication and development of controlled drug delivery systems. It also underlines the methodology of controlled drug delivery system preparation and the significance, disadvantages, detailed classifications, and relevant examples. Covering topics such as machine learning and oral-controlled drug delivery, this book is ideal for pharmacists, healthcare professionals, researchers, academicians, research centers, health units, students, and pharmaceutical and scientific laboratories.

Oral Controlled Release Formulation Design and Drug Delivery

Theory to Practice

John Wiley & Sons This book describes the theories, applications, and challenges for different oral controlled release formulations. This book differs from most in its focus on oral controlled release formulation design and process development. It also covers the related areas like preformulation, biopharmaceutics, in vitro-in vivo correlations (IVIVC), quality by design (QbD), and regulatory issues.

Modeling and Control of Drug Delivery Systems

Academic Press Modeling and Control of Drug Delivery Systems provides comprehensive coverage of various drug delivery and targeting systems and their state-of-the-art related works, ranging from theory to real-world deployment and future perspectives. Various drug delivery and targeting systems have been developed to minimize drug degradation and adverse effect and increase drug bioavailability. Site-specific drug delivery may be either an active and/or passive process. Improving delivery techniques that minimize toxicity and increase efficacy offer significant potential benefits to patients and open up new markets for pharmaceutical companies. This book will attract many researchers working in DDS field as it provides an essential source of information for pharmaceutical scientists and pharmacologists working in academia as well as in the industry. In addition, it has useful information for pharmaceutical physicians and scientists in many disciplines involved in developing DDS, such as chemical engineering, biomedical engineering, protein engineering, gene therapy. Presents some of the latest innovations of approaches to DDS from dynamic controlled drug delivery, modeling, system analysis, optimization, control and monitoring. Provides a unique, recent and comprehensive reference on DDS with the focus on cutting-edge technologies and the latest research trends in the area. Covers the most recent works, in particular, the challenging areas related to modeling and control techniques applied to DDS.

Controlled Drug Delivery

Fundamentals and Applications Sustained and Controlled Release Drug Delivery Systems

Controlled Release Technologies

Old and New Prospective: Controlled Release Technologies

The history of pharmaceuticals is as old as humans are. Traditional practitioners had used drugs in one or another form in ancient times. Then came the era of traditional dosage forms including the most common and famous dosage forms e.g. tablets, capsules, syrups, etc. These dosage forms were unable to deal with the prolonged effect required, especially, when multiple frequencies of a single drug were required in a day. This originated the concept of digging new areas in the vast field of pharmaceuticals. Therefore, an idea to fabricate controlled release dosage forms went through one's head. This was a paradigm change in the arena of pharmaceutical technology from conventional to controlled release formulations. Controlled release systems are one of the powerful tools used in advanced drug delivery systems. There are different technologies used to prepare controlled release systems. Polymeric matrices, ion-exchange systems, and osmotically controlled systems are a few examples of sustained-release systems. These systems along with some more technical floating systems have been discussed here in this book, keeping pharmacy students new in the arena. Therefore, this book will accomplish the thirst of students and researchers.

Modified-Release Drug Delivery Technology

CRC Press Describing formulation challenges and their solutions in the design, development, and commercialization of modified-release drugs delivery systems, this book contains eighty papers that review recent developments in design and manufacturing techniques. It includes detailed descriptions of extended release drug products for the oral, nasal, ophthalmic, pulmonary, vaginal, dermal and transdermal pathways. With the exception of the final section addressing regulatory issues, each section covers a particular route for drug delivery and opens with an overview of the anatomical, physiological, and pharmaceutical basics of each route before moving on to cover specific technologies.

Pharmaceutical Applications of Polymers for Drug Delivery

Smithers Rapra Publishing Annotation The review focuses on the use of pharmaceutical polymer for controlled drug delivery applications. Examples of pharmaceutical polymers and the principles of controlled drug delivery are outlined and applications of polymers for controlled drug delivery are described. The field of controlled drug delivery is vast therefore this review aims to provide an overview of the applications of pharmaceutical polymers. The review is accompanied by approximately 250 abstracts taken from papers and books in the Rapra Polymer Library database, to facilitate further reading on this subject.

Chemical Aspects of Drug Delivery Systems

Royal Society of Chemistry Despite advances in the development of new drugs, a drug may never reach the target organ, or it may be difficult to achieve the necessary level of drug in the body. Large doses can result in serious side effects and can harm normal, as well as diseased, cells and organs, and for this reason it is vital that controlled release and the targeting of delivery systems must evolve in parallel to drug research. Chemical Aspects of Drug Delivery Systems reflects the modern challenge to devise effective drug delivery and targeting systems, giving particular emphasis to recent innovations in the field. Delivery systems described include carbohydrate derivatives, novel nonionic surfactant vesicles and various polymers, including polyacrylates and aqueous shellac solutions, as well as hydrogels. In addition, many of the key issues, such as the understanding of biosystems and targets and the development of materials to provide the deserved carrier and excipient properties for controlled, targeted drug delivery, are considered in depth. This book will be of equal interest to undergraduate, graduate, researcher and those in the pharmaceutical industries, and it complements two previous RSC Special Publications, Encapsulation and Controlled Release and Excipients and Delivery Systems for Pharmaceutical Formulations.

Controlled Drug Delivery Systems

CRC Press This book will describe current research on drug delivery systems that encompass four broad categories, namely: routes of delivery, delivery vehicles, payload, and targeting strategies. Where appropriate delivery vehicles and relevant release of specific agents in any of these categories in clinical application will be discussed. All chapters will highlight the translational aspects of the various technologies discussed and will provide insights into the advantages of such delivery systems over current ones in clinical or research use. Each technology reviewed in this book will have significant potential to improve patients' lives by enhancing the therapeutic efficacy of drugs. This book: Discusses the various factors that mitigate effective oral insulin delivery and the current status of research efforts to overcome these barriers along with recent clinical projections Examines the advantages and disadvantages of each drug delivery system Examines the standard method of accomplishing controlled drug release through the incorporation of the drugs within polymeric biomaterials such as capsules and microcapsules as well as other vehicles such as liposomes Discusses various controlled drug delivery systems, including sustained release delivery systems and pulse or delayed release, e.g. to target different regions of the gastrointestinal tract. In view of these wide-ranging technological areas, and the up-to-date discussions of opportunities and challenges associated with these applications, the book should provide readers from technology, materials science, pharmacology and clinical disciplines with very valuable information.

FASTtrack Pharmaceuticals

Drug Delivery and Targeting

Pharmaceutical Press Pharmaceuticals: Drug Delivery and Targeting focuses on what pharmacy students really need to know in order to pass exams, providing concise, bulleted information, chapter overviews, hints, key points, mind maps and an all-important self-assessment section which includes MCQs. This FASTtrack book systematically reviews important concepts and facts relating to the delivery and targeting of drugs. Relevant examples of delivery systems are given throughout the book with a focus on delivery systems that have actually reached clinical reality. Information is presented concisely with self assessment questions/answers and mindmaps to aid learning. The text has been updated for the new edition based on student feedback.

Drug Delivery Systems, Third Edition

CRC Press Drug delivery technologies represent a vast, vital area of research and development in pharmaceuticals. The demand for innovative drug delivery systems continues to grow, driving a variety of new developments. Drug Delivery Systems, Third Edition provides a comprehensive review of the latest research and development on drug delivery systems. Coverage includes liposomal, transmucosal, transdermal, oral, polymeric, and monoclonal antibody directed delivery. Each chapter provides a table of marketed and investigational products with numerous practical examples. The book also provides readers with a multitude of possible drug delivery systems that can be used to improve therapeutics, along with global and regulatory perspectives. This third edition contains a chapter on nanoscience and technology for drug delivery along with cutting-edge business intelligence and strategies. Written in a straightforward manner, the authors provide a global perspective on current and future advances and market opportunities. Supplying a cogent overview of the field and extensive guidance on where to get more information, it is an essential resource for anyone venturing into this area of drug development.

Chemical Engineering in the Pharmaceutical Industry

Drug Product Design, Development, and Modeling

John Wiley & Sons A guide to the important chemical engineering concepts for the development of new drugs, revised second edition The revised and updated second edition of Chemical Engineering in the Pharmaceutical Industry offers a guide to the experimental and computational methods related to drug product design and development. The second edition has been greatly expanded and covers a range of topics related to formulation design and process development of drug products. The authors review basic analytics for quantitation of drug product quality attributes, such as potency, purity, content uniformity, and dissolution, that are addressed with consideration of the applied statistics, process analytical technology, and process control. The 2nd Edition is divided into two separate books: 1) Active Pharmaceutical Ingredients (API's) and 2) Drug Product Design, Development and Modeling. The contributors explore technology transfer and scale-up of batch processes that are exemplified experimentally and computationally. Written for engineers working in the field, the book examines in-silico process modeling tools that streamline experimental screening approaches. In addition, the authors discuss the emerging field of continuous drug product manufacturing. This revised second edition: Contains 21 new or revised chapters, including chapters on quality by design, computational approaches for drug product modeling, process design with PAT and process control, engineering challenges and solutions Covers chemistry and engineering activities related to dosage form design, and process development, and scale-up Offers analytical methods and applied statistics that highlight drug product quality attributes as design features Presents updated and new example calculations and associated solutions Includes contributions from leading experts in the field Written for pharmaceutical engineers, chemical engineers, undergraduate and graduation students, and professionals in the field of pharmaceutical sciences and manufacturing, Chemical Engineering in the Pharmaceutical Industry, Second Edition contains information designed to be of use from the engineer's perspective and spans information from solid to semi-solid to lyophilized drug products.

Preparation of a Controlled Release Drug Delivery System of Indomethacin

Controlled Release in Oral Drug Delivery

Springer

Applications of Polymers in Drug Delivery

Elsevier Applications of Polymers in Drug Delivery, Second Edition, provides a comprehensive resource for anyone looking to understand how polymeric materials can be applied to current, new, and emerging drug delivery applications. Polymers play a crucial role in modulating drug delivery and have been fundamental in the successful development of many novel drug delivery systems. This book describes the development of polymeric systems, ranging from conventional dosage forms to the most recent smart systems. Regulatory and intellectual property aspects as well as the clinical applicability of polymeric drug delivery systems are also discussed. The chapters are organized by specific delivery route, offering methodical and detailed coverage throughout. This second edition has been thoroughly revised to include the latest developments in the field. This is an essential book for researchers, scientists, and advanced students, in polymer science, drug delivery, pharmacology/pharmaceuticals, materials science, tissue engineering, nanomedicine, chemistry, and biology. In industry, this book supports scientists, R&D, and other professionals, working on polymers for drug delivery applications. Explains how polymers can be prepared and utilized for all major drug delivery routes Presents the latest advances, including drug targeting, polymeric micelles and polymersomes, and the delivery of biologicals and nucleic acid therapeutics Includes appendices with in-depth information on pharmaceutical properties of polymers and regulatory aspects

Advanced Drug Delivery Systems in the Management of Cancer

Elsevier Advanced Drug Delivery Systems in the Management of Cancer discusses recent developments in nanomedicine and nano-based drug delivery systems used in the treatment of cancers affecting the blood, lungs, brain, and kidneys. The research presented in this book includes international collaborations in the area of novel drug delivery for the treatment of cancer. Cancer therapy remains one of the greatest challenges in modern medicine, as successful treatment requires the elimination of malignant cells that are closely related to normal cells within the body. Advanced drug delivery systems are carriers for a wide range of pharmacotherapies used in many applications, including cancer treatment. The use of such carrier systems in cancer treatment is growing rapidly as they help overcome the limitations associated with conventional drug delivery systems. Some of the conventional limitations that these advanced drug delivery systems help overcome include nonspecific targeting, systemic toxicity, poor oral bioavailability, reduced efficacy, and low therapeutic index. This book begins with a brief introduction to cancer biology. This is followed by an overview of the current landscape in pharmacotherapy for the cancer management. The need for advanced drug delivery systems in oncology and cancer treatment is established, and the systems that can be used for several specific cancers are discussed. Several chapters of the book are devoted to discussing the latest technologies and advances in nanotechnology. These include practical solutions on how to design a more effective nanocarrier for the drugs used in cancer therapeutics. Each chapter is written with the goal of informing readers about the latest advancements in drug delivery system technologies while reinforcing understanding through various detailed tables, figures, and illustrations. *Advanced Drug Delivery Systems in the Management of Cancer* is a valuable resource for anyone working in the fields of cancer biology and drug delivery, whether in academia, research, or industry. The book will be especially useful for researchers in drug formulation and drug delivery as well as for biological and translational researchers working in the field of cancer. Presents an overview of the recent perspectives and challenges within the management and diagnosis of cancer Provides insights into how advanced drug delivery systems can effectively be used in the management of a wide range of cancers Includes up-to-date information on diagnostic methods and treatment strategies using controlled drug delivery systems

Gibaldi's Drug Delivery Systems in Pharmaceutical Care

ASHP It is important to make therapeutics a critical component of teaching about dosage forms and to make dosage forms and drug delivery systems an integral part of therapeutics. This book will be the first to focus on the therapeutic impact of drug dosage forms. Tying together concepts of traditional pharmaceuticals with therapeutics, Drug Delivery Systems in Pharmaceutical Care demonstrates how the modern clinical pharmacist can integrate knowledge in pharmaceutical sciences and therapeutics with appreciation of patient needs and nuances to advise on preferable and optimal product choices. Each chapter represents a collaboration of a clinical pharmacist practitioner and a pharmaceutical scientist. This unique perspective takes the science of dosage form design and helps translate the theory into the pragmatic. Special Features: Case studies and problems to help students get a better understanding of concepts Well-organized chapters with outlines and objectives Summary tables and helpful figures, along with reasonable compilations of original references Final sections with 'Learning Points' that reinforce essential material. Foreword by William J. Jusko, PhD, Professor and Chair, University of Buffalo, Department of Pharmaceutical Sciences

Novel Drug Delivery Systems for Chinese Medicines

Springer Nature This book describes the essential and cutting-edge concepts based on the frontier of pharmaceutical research in TCM, underlying scientific principles, and current advancements of drug delivery systems for Chinese medicines, including sustained-release drug delivery systems, trans-nasal drug delivery systems, dermal and transdermal drug delivery systems, etc. Novel carriers and emerging technologies (such as 3D printing) are also covered. The book provides readers with an overall picture of drug delivery systems for Chinese medicines and also yields benefits for the pharmaceutical industry with regard to TCM-based drug development.

Drug Delivery

Materials Design and Clinical Perspective

Springer Current pharmaceutical and clinical approaches to the treatment of disease suffer from the inherent limitations in the specialization of drugs introduced to physiological systems. The interface of clinical and material sciences has allowed for a broad spectrum of creative approaches with the potential to alleviate these shortcomings. However, the synergy of these disciplines also presents problems in which nascent technology lacks the necessary evaluation within its intended clinical environment. Given the growing potential for materials science to address a number of unanswered therapeutic needs, it remains even more pressing to validate emerging drug delivery technologies in actual clinical environments. *Drug Delivery: Materials Design and Clinical Perspective* addresses the core fundamentals of drug delivery using material science and engineering principles, and then applies this knowledge using prominent examples from both the scientific literature and clinical practice. Each chapter focuses on a specific drug delivery technology, such as controlled-release materials, thin-film materials, or smart materials. Within each chapter, an initial section on "Engineering Concepts" reviews the relevant fundamental principles that guide rational design. The following section on "Materials Design" discusses how the design process applies engineering concepts for use in physiological systems. A third section on "Implementation" discusses current approaches in the literature which have demonstrated effective drug delivery in controlled environments. Finally, each chapter contains several sections on "Clinical Applications" which describe the validity of materials approaches from a clinical perspective; these sections review the safety and efficacy of drug delivery systems for specific, compelling medical applications. The book thereby bridges materials science with clinical medicine, and provides the reader with a bench-to-bedside view of novel drug delivery systems. · Provides a comprehensive description of drug delivery systems from a materials perspective · Includes a wide-ranging discussion of clinical applications of drug delivery systems · Presents separate chapters on controlled release materials, thin film materials, self-microemulsifying materials, smart materials, etc. · Covers fundamental engineering principles, rational materials design, implementation testing, and clinical applications for each material type

Nanotechnology for Oral Drug Delivery

From Concept to Applications

Academic Press Nanotechnology for Oral Drug Delivery: From Concept to Applications discusses the current challenges of oral drug delivery, broadly revising the different physicochemical barriers faced by nanotechnology-based oral drug delivery systems, and highlighting the challenges of improving intestinal permeability and drug absorption. Oral delivery is the most widely used form of drug administration due to ease of ingestion, cost effectiveness, and versatility, by allowing for the accommodation of different types of drugs, having the highest patient compliance. In this book, a comprehensive overview of the most promising and up-to-date engineered and surface functionalized drug carrier systems, as well as opportunities for the development of novel and robust delivery platforms for oral drug administration are discussed. The relevance of controlling the physicochemical properties of the developed particle formulations, from size and shape to drug release profile are broadly reviewed. Advances in both in vitro and in vivo scenarios are discussed, focusing on the possibilities to study the biological-material interface. The industrial perspective on the production of nanotechnology-based oral drug delivery systems is also covered. *Nanotechnology for Oral Drug Delivery: From Concept to Applications* is essential reading for researchers, professors, advanced students and industry professionals working in the development, manufacturing and/or commercialization of nanotechnology-based systems for oral drug delivery, targeted drug delivery, controlled drug release, materials science and biomaterials, in vitro and in vivo testing of potential oral drug delivery technologies. Highlights the relevance of oral drug delivery in the clinical setting Covers the most recent advances in the field of nanotechnology for oral drug delivery Provides the scientific community with data that can facilitate and guide their research

Modulation and Assessment of Controlled Released Matrix Tablet of Losartan Potassium

GRIN Verlag Wissenschaftliche Studie aus dem Jahr 2012 im Fachbereich Pharmazie, Institute of Pharmaceutical Education Boradi, Sprache: Deutsch, Abstract: Ideally, a drug should arrive rapidly at the site of action (receptor) in the optimum concentration, remain for the desired time, be excluded from other sites, and be rapidly removed when the goal is achieved. Generally, the time course of a dosage form (pharmacokinetics) in man is considered to be controlled by the chemical structure of the drug. Decreasing the rate of absorption and/or changing the dosage form provide a useful adjunct. When it is not feasible or desirable to modify the drug compound on a molecular level, often sought is a product that will require less frequent administration to obtain the required biological activity time profile. It may be desirable to decrease the absorption rate in order to obtain a more acceptable clinical response. The goal of designing sustained release matrix delivery systems is to reduce frequency of dosing or to increase the effectiveness of the drug by localizing at the site of action, reducing the dose required, or providing uniform drug delivery. Hence, designing a sustained release formulation for an antihypertensive drug may prolong therapeutic concentration of drug in the blood and decrease the frequency of dosing and also improve the patient compliance. So in the present study, attempts will be made to formulate a sustained release matrix tablets containing an antihypertensive drug. In December 1843, a patent was granted to the Englishman, William Brockedon for a machine to compress powders to form compacts. This very simple device consisted essentially a hole (or die) bored through which the powder was compressed between the two cylindrical punches; one was inserted into the base of die and at a fixed depth, the other was inserted at the top of die and struck with hammer. The invention was first used to produce compacts of potassium bicarbonate and caught the imagination of no. of pharmaceutical companies. Later, welcome in Britain was the first company to use the term "tablet" to describe the compressed dosage form.

Focal Controlled Drug Delivery

Springer Science & Business Media The concept of focal controlled drug delivery has been applied for treating illnesses that are localized to a certain tissue or organ. These delivery systems are applied directly to the diseased site and deliver a desired dose for an extended time period while minimizing systemic distribution of toxic drug. Controlled drug delivery systems have been focused on oral extended release formulations and on systemic delivery of small drugs and peptides. Despite the upsurge of interest in focal targeted drug delivery, there is currently no single reference text on the subject. By comparison, there are numerous authored and edited books on oral, systemic and transdermal drug delivery or books on biodegradable polymers as drug carriers. Thus, the aim of Focal Drug Delivery is to bring together leading experts and researchers in the field to provide an authoritative account of the essential pharmaceutical, technological, physiological and biological sciences underpinning the topic. In addition, the book will review advances in treatment options for diseases localized at a certain tissue or organ.

Novel Drug Delivery Systems

Fundamentals, Developmental Concepts, Biomedical Assessments

Novel Drug Delivery Systems and Regulatory Affairs

S. Chand Publishing Novel Drug Delivery Systems | Transdermal Drug Delivery Systems | Mucoadhesive Drug Delivery Systems | Targeted Drugdelivery Systems | Regulatory Agencies | Quality Assurance | Good Manufacturing Practices | Validation

Pharmaceutical Drug Delivery Systems and Vehicles

CRC Press Pharmaceutical Drug Delivery Systems and Vehicles focuses on the fundamental principles while touching upon the advances in the pharma field with coverage of the basic concepts, fundamental principles, biomedical rationales, preparative and characterization techniques, and potential applications of pharmaceutical drug delivery systems and vehicles.

Advanced Drug Delivery

John Wiley & Sons Provides both fundamentals and new and emerging applications *Advanced Drug Delivery* brings readers fully up to date with the state of the science, presenting the basics, formulation strategies, and therapeutic applications of advanced drug delivery. The book demonstrates how core concepts of pharmaceutical sciences, chemistry, and molecular biology can be combined and applied in order to spark novel ideas to design and develop advanced drug delivery systems for the treatment of a broad range of human diseases. *Advanced Drug Delivery* features contributions from an international team of pharmaceutical scientists. Chapters reflect a thorough review and analysis of the literature as well as the authors' firsthand experience developing drug delivery systems. The book is divided into four parts: Part I, Introduction and Basics of Advanced Drug Delivery, explores physiological barriers, stability, transporters, and biomaterials in drug delivery Part II, Strategies for Advanced Drug Delivery, offers tested and proven strategies for advanced delivery of both small molecules and macromolecules Part III, Translational Research of Advanced Drug Delivery, focuses on regulatory considerations and translational applications of advanced drug delivery systems for the treatment of cardiovascular diseases, cancer, sexually transmitted diseases, ophthalmic diseases, and brain diseases Part IV, Future Applications of Advanced Drug Delivery in Emerging Research Areas, examines stem cell research, cell-based therapeutics, tissue engineering, and molecular imaging Each chapter provides objectives and assessment questions to help readers grasp key concepts and assess their knowledge as they progress through the book. *Advanced Drug Delivery* is recommended for graduates and upper-level undergraduates in the pharmaceutical sciences who need a solid foundation in the basics. It is also recommended for pharmaceutical professionals who want to take advantage of new and emerging applications in advanced drug delivery systems.

Controlled-release Technology

Pharmaceutical Applications

Amer Chemical Society

Polysaccharides

Properties and Applications

John Wiley & Sons This book provides the whole spectrum of polysaccharides from basic concepts to commercial market applications. Chapters cover various types of sources, classification, properties, characterization, processing, rheology and fabrication of polysaccharide-based materials and their composites and gels. The applications of polysaccharides include in cosmetics, food science, drug delivery, biomedicine, biofuel production, marine, packaging, chromatography and environmental remediation. It also reviews the fabrication of inorganic and carbon nanomaterials from polysaccharides. The book incorporates industrial applications and will fill the gap between the exploration works in the laboratory and viable applications in related ventures.

Control of Biological and Drug-Delivery Systems for Chemical, Biomedical, and Pharmaceutical Engineering

John Wiley & Sons Enables readers to apply process dynamics and control theory to solve bioprocess and drug delivery problems The control of biological and drug delivery systems is critical to the health of millions of people worldwide. As a result, researchers in systems biology and drug delivery rely on process dynamics and control theory to build our knowledge of cell behavior and to develop more effective therapeutics, controlled release devices, and drug administration protocols to manage disease. Written by a leading expert and educator in the field, this text helps readers develop a deep understanding of process dynamics and control theory in order to analyze and solve a broad range of problems in bioprocess and drug delivery systems. For example, readers will learn how stability criteria can be used to gain new insights into the regulation of biological pathways and lung mechanics. They'll also learn how the concept of a time constant is used to capture the dynamics of diffusive processes. Readers will also master such topics as external disturbances, transfer functions, and input/output models with the support of the author's clear explanations, as well as: Detailed examples from the biological sciences and novel drug delivery technologies 160 end-of-chapter problems with step-by-step solutions Demonstrations of how computational software such as MATLAB and Mathematica solve complex drug delivery problems Control of Biological and Drug-Delivery Systems for Chemical, Biomedical, and Pharmaceutical Engineering is written primarily for undergraduate chemical and biomedical engineering students; however, it is also recommended for students and researchers in pharmaceutical engineering, process control, and systems biology. All readers will gain a new perspective on process dynamics and control theory that will enable them to develop new and better technologies and therapeutics to treat human disease.

Controlled Drug Delivery

The Role of Self-Assembling Multi-Task Excipients

Elsevier In complex macromolecules, minor modifications can generate major changes, due to self-assembling capacities of macromolecular or supramolecular networks. Controlled Drug Delivery highlights how the multifunctionality of several materials can be achieved and valorized for pharmaceutical and biopharmaceutical applications. Topics covered in this comprehensive book include: the concept of self-assembling; starch and derivatives as pharmaceutical excipients; and chitosan and derivatives as biomaterials and as pharmaceutical excipients. Later chapters discuss polyelectrolyte complexes as excipients for oral administration; and natural semi-synthetic and synthetic materials. Closing chapters cover protein-protein associative interactions and their involvement in bioformulations; self-assembling materials, implants and xenografts; and provide conclusions and perspectives. Offers novel perspectives of a new concept: how minor alterations can induce major self-stabilization by cumulative forces exerted at short and long distances Gives guidance on how to approach modifications of biopolymers for drug delivery systems and materials for implants Describes structure-properties relationships in proposed excipients, drug delivery systems and biomedical materials

Controlled Pulmonary Drug Delivery

Springer Science & Business Media The pace of new research and level of innovation repeatedly introduced into the field of drug delivery to the lung is surprising given its state of maturity since the introduction of the pressurized metered dose inhaler over a half a century ago. It is clear that our understanding of pulmonary drug delivery has now evolved to the point that inhalation aerosols can be controlled both spatially and temporally to optimize their biological effects. These abilities include controlling lung deposition, by adopting formulation strategies or device technologies, and controlling drug uptake and release through sophisticated particle technologies. The large number of contributions to the scientific literature and variety of excellent texts published in recent years is evidence for the continued interest in pulmonary drug delivery research. This reference text endeavors to bring together the fundamental theory and practice of controlled drug delivery to the airways that is unavailable elsewhere. Collating and synthesizing the material in this rapidly evolving field presented a challenge and ultimately a sense of achievement that is hopefully reflected in the content of the volume.