

Book Reviews

Specialized Drug Delivery Systems—Manufacturing and Production Technology (Drugs and the Pharmaceutical Sciences Series/41). Edited by Praveen Tyle. Marcel Dekker, New York, 1990, x + 475 pp., \$99.75.

This book provides the pharmaceutical scientist with valuable information on the regulatory, manufacturing, and production aspects of selected specialized drug delivery systems. It is divided into two parts—basic considerations and specific applications.

The first chapter is an introduction to specialized drug delivery systems addressing present and future challenges to the pharmaceutical industry and the technology transfer from research to production. It includes a brief discussion of physicochemical, biopharmaceutical, and pharmacokinetic properties relevant to novel drug delivery systems. Chapter 2 gives a general overview of issues of importance during the technology transfer. Regulatory considerations from an FDA perspective are described and discussed in detail in Chapter 3. This chapter comprises more than one-third of the book. Part two of the book (Chapters 4 through 11) discusses specific drug delivery systems in varying depth. Chapters 4 and 5, on microencapsulation and nanoparticles, provide little new information on scale-up or manufacturing considerations. An excellent discussion of liposome technology follows in Chapter 6. Various processing methods including ultrasonic equipment, homogenization, and microfluidization for the preparation of dispersed systems are described in Chapter 7. Chapter 8 discusses theoretical aspects and the different types and polymerization processes of hydrogels. The manufacturing of multilayer matrix transdermal devices and of soft gels is addressed in Chapters 9 and 10, followed by the last chapter on the large-scale production of aerosol products.

The editor was successful in assembling a group of industrial and regulatory experts to develop the subject area and to present it adequately. The chapters are clearly written and well illustrated. The inclusion of tables of contents in the beginning of each chapter as well as a longer index section could have added to the readability. The chapter on regulatory aspects is too long compared to the remaining chapters. Manufacturing considerations of other novel drug delivery systems (e.g., implants or novel oral systems) could have been included.

This book is the first of its kind, addressing an interesting aspect of novel drug delivery systems. I can strongly recommend it to scientists working in the area of novel drug delivery systems and as a valuable addition to all research libraries.

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Targeted Therapeutic Systems. Edited by Praveen Tyle and Bhanu P. Ram. Marcel Dekker, New York, 1990, xv + 388 pp., ISBN 0-8247-8181-3, \$125.00.

A variety of targeted therapeutic systems which utilize monoclonal antibody, immunoconjugates, or liposomes are currently being evaluated as new pharmaceutical products. They offer the possibility of delivering drugs and/or therapeutic agents to specific target tissues. In this book several site-specific systems for the delivery of drugs are discussed, with a special emphasis on monoclonal antibody-directed therapeutics and their use in cancer therapy.

This multiauthored volume is number 3 in a series entitled "Targeted Diagnostics and Therapy." The book is organized into four parts and contains 21 chapters. The introductory chapter (Part One) discusses the principles of monoclonal antibody, immunoconjugates, and targeted drug delivery systems. This is followed by three parts in which these topics are discussed in greater detail.

Part Two specifically covers monoclonal antibody. Various chapters discuss the large-scale production and purification of monoclonal antibody, regulatory concerns in the manufacturing and testing of monoclonal antibody, and possible therapeutic applications of monoclonal antibody. Part Three deals with immunoconjugates including antibody–drug conjugates, antibody–toxin conjugates, and radioimmunoconjugates. Drug or toxin selection, coupling methods, and pharmacokinetic and targeting issues are discussed in detail. The current status of antibody–toxin conjugates and radioimmunoconjugates for tumor therapy are also discussed. In Part Four specialized therapeutic applications are presented. One chapter discusses the use of monoclonal antibody–drug conjugates in the treatment of teratocarcinoma. In additional chapters other carriers currently being utilized in targeted therapeutic systems are discussed. These include liposomes, low-density lipoprotein (LDL), and particulate carriers such as polymethacrylic nanoparticles.

The book meets its goal of presenting new knowledge generated in the research and development of self-directed diagnostic and therapeutic agents. The authors are experts in their fields. The chapters are well referenced, clearly presented, and up to date. Although there is some overlap between chapters, the material is presented in a logical and well-organized fashion. Terms and concepts are sufficiently explained and readers from diverse backgrounds will find it informative. This book would be useful for clinicians, scientists, management, and anyone who is involved in or interested in the design, development, and production of targeted drug delivery systems. Therapy using targeted therapeutic systems such as immunoconjugates or liposomes is still in its infancy. The limitations and problems associated with the development of such promising therapeutics are discussed in this book, as are possible solutions and future research directions.

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