tion may be especially important for investigators in developing countries where rheumatic fever remains a public health problem and where facilities for storage of specimens at −70°C may not be readily available.

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Book Review

Trends and Future Perspectives in Peptide and Protein Drug Delivery

(Drug Targeting and Delivery Volume 4)

Edited by Vincent H. L. Lee, Mitsuru Hashida and Yutaka Mizushima

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To be the editor or co-editor of a volume of conference proceedings is not an easy task. The usefulness of such a collection of papers is dependent on rapid publication such that the volume represents state-of-the-art technology. One practical way of reducing printing and publication time is to prepare the book from camera ready copy (CRC). It is usual for the authors to be given a set of instructions, which contain guidelines on the typeface, font size, spacing etc., in order to generate some uniformity. A scan of this volume, however, suggests that many of the authors were either not in possession of manuscript preparation guidelines or chose to ignore them. The first two chapters illustrate the case in point. Chapter 1, the sole occupant of section I, presents an overview of peptide and protein drug delivery written by Lee, one of the editors. Although the contents of this chapter do provide a reasonable introduction to the remainder of the volume, the typeface and layout of the text make it an extremely difficult read. If this was not enough, the chapter is riddled with grammatical and typographical errors, including the classical misspelling of the word "accommodate". This reviewer is also somewhat puzzled by some of the author's statements such as "...oral route has to make room for mucosal routes..." and "...all the mucosal routes suffer from a low surface area for absorption...". Although my physiology classes were taken some twenty-five years ago, I do recall that the gastrointestinal surface was described as mucosal and that the lining of the duodenum, jejunum and ileum were specially adapted to provide a large surface area for absorption!

In complete contrast to chapter 1, chapter 2 (by Peppas) illustrates just how good CRC can be. This chapter is well set out and quite readable, although I have to admit to consulting my dictionary to look up the meaning of the word "reptation". As a general up-to-date introduction to protein diffusion in hydrogels it is invaluable. The remaining two chapters of Section II cover the use of poly(ortho esters) for the delivery of peptides and proteins and new delivery systems for recombinant proteins. Chapter 3, written by industrial scientists from Genentech Inc., illustrates the problems that may be encountered in developing the right delivery system for specific proteins and gives much food for thought—it should be read by every pharmaceutical scientist about to enter the protein drug arena.

Section III of this volume is entitled "Transport Enhancement of Peptide and Protein Drugs Across Selected Absorptive Barriers". There are five chapters which cover transport enhancement across the gastrointestinal tract, skin and the blood–brain barrier. Iontophoretic delivery, the most promising mechanism for enhancing peptide permeation through skin, is described in two chapters; the contribution by Sage et al providing true insight into practical issues. The remaining three sections cover targeting, the methods used to improve the pharmacokinetic and pharmacodynamic properties of peptide and protein drugs, and delivery of oligonucleotides and genes.

Provided the frustration generated by continually changing typefaces can be overcome, the reader will find that this volume contains a collection of useful and interesting chapters, provided by leaders in their specialist fields. The balance of contributions from academia and industry ensures that both the basic science and the practical developmental issues are covered in depth. There should be a copy in the libraries of those institutions working in the area of peptide and protein drugs.

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