

"Pharmaceutical Process Scale-Up. Drugs and the Pharmaceutical Sciences Volume 118"

Michael Levin (Editor), Marcel Dekker, New York; 2002, 566 pages, \$ 195, ISBN 0-8247-0625-0

This series from Marcel Dekker is still going strong, and shows no sign of losing quality. I think that this latest addition is a gem. It deals with the procedures of transferring the results from research and development obtained on a laboratory scale to the pilot plant and finally to complete production scale in the pharmaceutical industry. The editor of this volume wishes to provide insight into the practical aspects of such process scaling-up. It achieves this goal admirably, and also provides a sound scientific basis for the scaling-up procedure.

The book starts with a detailed discussion of dimensional analysis and scale-up in theory. This gets right down to the nitty-gritty of what scaling-up is actually all about. It can be a bit tricky in places, especially if you are new to the idea of dimensional analysis. The author tries to make the life of the reader somewhat easier, however, by giving illustrative, simple examples. We thus read "What is the correlation between the baking time and the weight of a Christmas turkey?" The remaining chapters consider scale-up of the various drug delivery systems. We find here good chapters on parenterals, nonparenteral liquids and semisolids, biotechnology-derived products, dry blending, powder handling, granulation, fluid bed technology, tableting and film coating. Each chapter gives a good overview of scaling-up of the particular product concerned and makes reference to the use of dimensional analysis described in the first chapter. The book contains a large number of substantial appendices, which are a guide for the industry. In general, this is a very useful contribution to a rather dry subject. Many readers new to the field will be surprised at just how quantitative a scale-up process can be. If you are looking for a detailed, yet understandable summary of scale-up, then this is the book for you.

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PII: S0939-6411(02)00092-9

"Medical Applications of Liposomes"

Danilo D. Lasic[†], Demetrios Papahadjopoulos[†] (Editors), Elsevier, Amsterdam, New York; 1998, 794 pages, 236.50 (\$ 236.50), ISBN 0-444-82917-2

"The initial interest in liposomes as a model membrane system and also as a drug carrier was based on their innate

properties. This is the part in liposome development that can be characterized as serendipity, and includes a long list of useful properties: self assembly to a closed, relatively permeable membrane system; recognition by the RES macrophage system in blood, which can result in antigen presentation, macrophage activation, macrophage killing, and elimination of intracellular parasitic infections; lowering of the surface tension in the lung alveoli; penetration into the skin through hair follicles."

This statement by the editors of the book's content in the last chapter summarizes the various properties of liposomes, which are reported in the book covering the development of liposomal products from "bench to bedside".

For this purpose the editors have selected 77 experts in various fields of liposome research and development to report in 39 chapters on their scientific efforts. The particular chapters do not only show the numerous successes in liposome research, which have resulted in a variety of pharmaceutical products on the market or at least in clinical studies. They all also contain the essential literature, which is indispensable for all scientists interested in this research area. On 770 pages, numerous informative tables, microscopic and electron microscopic pictures, and schematic diagrams support the carefully written text.

In Section I, the editors and G. Gregoriadis, as another outstanding liposome scientist and promoter, introduce the scope of the book and give a list of the recent reviews on liposomes.

Section II covers the research on the stimulation of immune response and vaccination. Among other topics, the chapters show studies on major histocompatibility complex class I and II presentation of liposomal antigens, liposomes for conventional and DNA vaccination, and virosomes (i.e. liposomes mimicking viral envelopes).

In Sections III and IV, the strategies of liposomal treatment of infectious diseases and cancer are summarized including the use of conventional and sterically stabilized liposomes, as well as the possibility of specific targeting.

Section V gives an overview on attempts of the use of conventional and cationic liposomes for gene therapy with DNA or antisense oligonucleotides.

Section VI deals with other liposome applications and gives first an overview. Then particular scientific fields like pulmonary applications, liposomes as blood substitute, liposomes for topical use or as contrast agents are discussed.

The step from scientific efforts to therapeutic application is shown in Sections VII and VIII with industrial manufacturing and clinical testing of liposome pharmaceuticals. Here some companies involved in liposome development describe their products.

In the last section, Section IX, the editors give future perspectives on liposome research and development: size control, tailored release properties, ligand-directed targeting, and sterical stabilization are not novel areas of interest, but are worth further careful and more detailed investigations.