

Liposomes in the  
Therapy of Infectious  
Diseases and Cancer



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# Liposomes in the Therapy of Infectious Diseases and Cancer

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## Preface

The ability to target therapeutic agents selectively to different tissues has long been a goal in medicine. During the last few years, considerable attention has been focused on the use of synthetic phospholipid vesicles known as liposomes to accomplish this task. Recent clinical trials of liposomes that contain anticancer drugs, antifungal agents, or immunomodulators have carried these synthetic agents from laboratory concept to clinical reality.

To evaluate these new and exciting developments, a UCLA Colloquium, **Liposomes in the Therapy of Infectious Diseases and Cancer**, cosponsored by Ciba-Geigy, Ltd., and E.R. Squibb & Sons, was held at Lake Tahoe, California, February 16-20, 1988. The conference attracted basic researchers from academia and industry, as well as clinicians whose expertise spans a broad spectrum of medical specialties. The focus of the conference was on the development of the liposomal-drug carrier concept from physicochemistry to clinical application.

The volume is organized along the lines of the meeting. It begins with presentations about liposomes in immunobiology, proceeds to the clinical trials with liposomes in immunobiology, then to the clinical trials with liposomes as drug carriers, and ends with contributions on novel approaches in liposome development.

Considerable interest was generated by new biotechnological processes for the industrial scale-up and pharmaceutical development of liposomes. These new production techniques will have an enormous impact on availability of liposomes for general use and on commercialization of liposomal carriers.

The design of drug carrier-dependent drugs with optimal attributes of the drug and drug carrier was also discussed extensively and proved provocative. Several meeting participants examined the preclinical evaluation and development of liposomal drugs. It was the consensus that liposomal drugs be treated as new entities, in part because of the modified bioavailability and distribution of the entrapped drug.

Selective targeting of therapeutic agents to appropriate sites of action while avoiding the reticuloendothelial system is still a challenging and unresolved issue. New approaches to selective targeting as well as elaborate methods for



prolonging drug availability and improving targeting to intracellular sites were presented. The design of liposome-dependent drugs also was discussed.

Phase I clinical trials with anti-infective liposomes, antineoplastic liposomes, and liposomal immunomodulators are underway in several centers. Although those studies are in an early stage of clinical development, some of the early reports are encouraging; it is these types of clinical data that encourage further development of liposomes as drug carriers.

Special thanks are due to Ciba-Geigy, Ltd., and E.R. Squibb & Sons for generous sponsorship of this meeting. We also acknowledge additional support from Liposome Technology, Inc., Smith Kline & French Laboratories, the Canadian Liposome Company, and Syntex Research. We wish to thank the UCLA Symposia staff for excellent organization.

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