Liposomes in the Therapy of Infectious Diseases and Cancer

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Editors

Gabriel Lopez-Berestein
Clinical Immunology/Biological Therapy
M.D. Anderson Hospital
Houston, Texas

Isaiah J. Fidler
Department of Cell Biology
M.D. Anderson Hospital
Houston, Texas

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Address all Inquiries to the Publisher
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Contributors

Jill P. Adler, Department of Biological Sciences, California State Polytechnic University, Pomona, CA 91768 **[249]**

J. Alexander, Immunology Division, University of Strathclyde, Glasgow, Scotland, United Kingdom **[215]**

T.M. Allen, Department of Pharmacology, University of Alberta, Edmonton, Alberta T6G 2H7, Canada **[405]**

Carl R. Alving, Departments of Immunology and Membrane Biochemistry, Walter Reed Army Institute of Research, Washington, DC 20307-5100 **[167]**

S. Amselem, Departments of Oncology and Membrane Biochemistry, Hadassah Medical Center and Hebrew University, Hadassah Medical School, Jerusalem, Israel **[391]**

Kathe Andrejcio, Ciba-Geigy Corporation, Pharmaceuticals Division, Summit, NJ 07901; present address: CIBA-GEIGY Ltd., Basel, Switzerland **[297,305,329]**

G. Atassi, Service de Médecine Interne et Laboratoire d'Investigation Clinique H.J. Tagnon, Institut J. Bordet, Centre des Tumeurs de l'Université Libre de Bruxelles, 1000 Brussels, Belgium **[343]**

A.J. Baillie, Pharmacy Department, University of Strathclyde, Glasgow, Scotland, United Kingdom **[215]**

Malcolm Baines, Department of Microbiology and Immunology, McGill University, Montreal, Quebec H3G 1A4, Canada **[15]**

Irma A.J.M. Bakker-Woudenberg, Department of Clinical Microbiology, Erasmus University, 3000 DR Rotterdam, The Netherlands **[275]**

Y. Barenholz, Departments of Oncology and Membrane Biochemistry, Hadassah Medical Center and Hebrew University, Hadassah Medical School, Jerusalem, Israel **[391]**

S. Berger, Zürich Institute of Pharmacology, University of Zürich, Zürich, Switzerland **[95]**

C. Brassinne, Service de Médecine Interne et Laboratoire d'Investigation Clinique H.J. Tagnon, Institut J. Bordet, Centre des Tumeurs de l'Université Libre de Bruxelles, 1000 Brussels, Belgium **[343]**

Dean E. Brenner, Departments of Clinical Pharmacology and Therapeutics, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, NY 14263 **[297]**

The numbers in brackets are the opening page numbers of the contributors' articles.

E.N. Brunette, Cancer Research Institute, University of California, San Francisco, CA 94143-0128 **[287]**

K.C. Carter, Pharmacy Department, Immunology Division, University of Strathcylde, Glasgow, Scotland, United Kingdom **[215]**

M.L. Corvo, Departamento de Tecnologia de Industrias Quimicas (LNETI), 2745 Queluz, Portugal **[417]**

André Coune, Service de Médecine Interne et Laboratoire, d'Investigation Clinique H.J. Tagnon, Institut J. Bordet, Centre des Tumeurs de l'Université Libre de Bruxelles, 1000 Brussels, Belgium **[343]**

M. Court, Research and Development Laboratories, Pharmaceuticals Division, CIBA-GEIGY Limited, Basel, Switzerland **[191]**

J. Wayne Cowens, Departments of Clinical Pharmacology and Therapeutics and Experimental Therapeutics, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, NY 14263 **[297]**

Patrick J. Creaven, Departments of Clinical Pharmacology and Therapeutics, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, NY 14263 **[297]**

D.J.A. Crommelin, Department of Pharmaceutics, University of Utrecht, 3522 AD Utrecht, The Netherlands **[105]**

M.E. Cruz, Departamento de Tecnologia de Industrias Quimicas (LNETI) 2745 Queluz, Portugal **[417]**

Joan E. Cunningham, Departments of Clinical Immunology and Biological Therapy, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[329]**

M. Kelli Cushman, Department of Clinical Pharmacology and Therapeutics, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, NY 14263 **[297]**

Barbara Dadey, Department of Medical Oncology, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, NY 14263 **[297]**

Toos Daemen, Laboratory of Physiological Chemistry, State University Groningen, Medical School, 9712 KZ Groningen, The Netherlands **[81]**

David Davis, Medical Research Council Group, Academic Department of Medicine, Royal Free Hospital School of Medicine, London NW3 2QG, United Kingdom **[35]**

Robert J. Debs, Mycobacteriology Research Laboratory, National Jewish Center for Immunology and Respiratory Medicine, Denver, CO 80206; present address: Cancer Research Institute, University of California, San Francisco, CA 94143–0128 **[177,287]**

W.H. de Jong, Department of Pathology, National Institute of Public Health and Environmental Hygiene, 3720 BA Bilthoven, The Netherlands **[105]**

Jan Dijkstra, Infectious Disease Unit, Veterans Adminstration Medical Center, West Haven, CT 06516 **[81]**

T.F. Dolan, Pharmacy Department, University of Strathcylde, Glasgow, Scotland, United Kingdom **[215]**

S. Druckmann, Departments of Oncology and Membrane Biochemistry, Hadassah Medical Center and Hebrew University, Hadassah Medical School, Jerusalem, Israel **[391]**

Nejat Düzgüneş, Cancer Research Institute and the Department of Pharmaceutical Chemistry, University of California, San Francisco, CA 94143-0128 **[177, 287]**

Daniel Estrella, Liposome Technology Inc., Menlo Park, CA 94025 **[239]**

P. Fankhauser, Research and Development Laboratories, Pharmaceuticals Division, CIBA-GEIGY Limited, Basel, Switzerland **[191, 435]**

Isaiah J. Fidler, Department of Cell Biology, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[xix,3,329]**

Joshua Fierer, U.C. San Diego School of Medicine, V.A. Medical Center, San Diego, CA 92161 **[239]**

M. Fischer, Research and Development Laboratories, Pharmaceuticals Division, CIBA-GEIGY Limited, Basel, Switzerland **[191]**

H. Frost, CIBA-GEIGY Corp., Summit, NJ 07901; present address: CIBA-GEIGY Ltd., Basel, Switzerland **[305]**

A. Gabizon, Cancer Research Institute and Liposome Technology Inc., Menlo Park, CA 94025; present address: Departments of Oncology and Membrane Biochemistry, Hadassah Medical Center and Hebrew University, Hadassah Medical School, Jerusalem, Israel **[135,391]**

P.R.J. Gangadharam, Mycobacteriology Research Laboratory, National Jewish Center for Immunology and Respiratory Medicine, Denver, CO 80206 **[177, 287]**

Nathalie Garcon, Medical Research Council Group, Academic Department of Medicine, Royal Free Hospital School of Medicine, London NW3 2QG, United Kingdom **[35]**

Brian E. Gilbert, Department of Microbiology and Immunology, Baylor College of Medicine, Houston, TX 77030 **[229]**

Micheal J. Gilbreath, Departments of Immunology and Membrane Biochemistry, Walter Reed Army Institute of Research, Washington, DC 20307-5100 **[167]**

Richard S. Ginsberg, The Liposome Company, Inc., Princeton, NJ 08540 **[205]**

Jayne Goldstein, Cancer Research Institute, University of California, San Francisco, San Francisco, CA 94143 **[177]**

D. Goren, Departments of Oncology and Membrane Biochemistry, Hadassah Medical Center and Hebrew University, Hadassah Medical School, Jerusalem, Israel **[391]**

P. Graepel, Research and Development Laboratories, Pharmaceuticals Division, CIBA-GEIGY Limited, Basel, Switzerland **[191]**

Andrew R. Greenspan, Division of Medical Oncology, Lombardi Cancer Research Center, Georgetown University Hospital, Washington, DC 20007 **[353]**

Gregory Gregoriadis, Medical Research Council Group, Academic Department of Medicine, Royal Free Hospital School of Medicine, London NW3 2QG, United Kingdom **[35]**

Daniel A. Guerra, Department of Biological Sciences, California State Polytechnic University, Pomona, CA 91768 **[249]**

Jordan U. Gutterman, Departments of Clinical Immunology and Biological Therapy, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[329]**

Tin Han, Department of Medical Oncology, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, NY 14263 **[297]**

J.R. Hanagan, CIBA-GEIGY Corp., Summit, NJ 07901; present address: CIBA-GEIGY Ltd., Basel, Switzerland **[305]**

Machiel Hardonk, Laboratory of Pathology, State University Groningen, Medical School, 9713 EZ Groningen, The Netherlands **[81]**

Loren Hatlin, U.C. San Diego School of Medicine, V.A. Medical Center, San Diego, CA 92161 **[239]**

H. Hengartner, Department of Experimental Pathology, University Hospital, University of Tübingen, Federal Republic of Germany **[95]**

C. Hollaert, Service de Médecine Interne et Laboratoire d'Investigation Clinique H.J. Tagnon, Institut J. Bordet, Centre des Tumeurs de l'Université Libre de Bruxelles, 1000 Brussels, Belgium **[343]**

Eric G. Holmberg, Department of Biochemistry, University of Tennessee, Knoxville, TN 37996-0840 **[25]**

Rick Hogue, Liposome Technology Inc., Menlo Park, CA 94025 **[239]**

Leaf Huang, Department of Biochemistry, University of Tennessee, Knoxville, TN 37996-0840 **[25]**

Robert Huben, Department of Urologic Oncology, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, NY 14263 **[297]**

Melissa M. Hudson, Department of Cell Biology and Pediatrics, University of Texas System Cancer Center, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[71]**

Jo-Ann Jedrusiak, The Liposome Company, Inc., Princeton, NJ 08540 **[205]**

Gordon Jendrasiak, Department of Pathology, East Carolina University School of Medicine, Greenville, NC 27858 **[441]**

J.S. Jorge, Departamento de Tecnologia de Industrias Quimicas (LNETI), 2745 Queluz, Portugal **[417]**

Constantine Karakousis, Department of Soft Tissue Melanoma Service, Roswell Park Memorial Institute, New York State Department of Health, Buffalo, NY 14263 **[297]**

Majeed Kareem, Department of Surgery, McGill University, Montreal, Quebec, Canada H3G 1A4 **[15]**

L. Kesavalu, Mycobacteriology Research Laboratories, National Jewish Center for Immunology and Respiratory Medicine, Denver, CO 80206 **[177]**

A.R. Khokhar, Departments of Clinical Immunology, Biological Therapy, and Medical Oncology, The University of Texas System Cancer Center, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[59]**

Eugenie S. Kleinerman, Department of Cell Biology, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[71,329]**

Vernon Knight, Department of Microbiology and Immunology, Baylor College of Medicine, Houston, TX 77030 **[229]**

Jan Koudstaal, Laboratory of Pathology, State University Groningen, Medical School, 9713 EZ Groningen, The Netherlands **[81]**

Irwin H. Krakoff, Division of Medicine, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[329]**

Ilene D. Kurzman, Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin, Madison, WI 53706 **[117]**

C. Laduron, Service de Médecine Interne et Laboratoire d'Investigation Clinique H.J. Tagnon, Institut J. Bordet, Centre des Tumeurs de l'Université Libre de Bruxelles, 1000 Brussels, Belgium **[343]**

Robert P. Lenk, The Liposome Company, Inc., Princeton, NJ 08540 **[205]**

Jose Lepe-Zuniga, Departments of Clinical Immunology and Biological Therapy, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[329]**

D. LeSher, CIBA-GEIGY Corp., Summit, NJ 07901; present address: CIBA-GEIGY Ltd., Basel, Switzerland **[305]**

Jan-Ping Lin, Liposome Technology Inc., Menlo Park, CA 94025 **[239]**

A.F. Lokerse, Department of Clinical Microbiology, Erasmus University, 3000 DR Rotterdam, The Netherlands **[275]**

F. Lopes, Departamento de Tecnologia de Industrias Quimicas (LNETI), 2745 Queluz, Portugal **[417]**

Gabriel Lopez-Berestein, Section of Immunobiology and Drug Carriers, The University of Texas System Cancer Center, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[xix, 59,263,317]**

N. Lopez, Department of Pharmacology, University of California, San Francisco, CA 94143 **[135]**

Antoine Loutfi, Department of Microbiology and Immunology, McGill University, Montreal, Quebec H3G 1A4, Canada **[15]**

E. Gregory MacEwen, Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin, Madison, WI 53706 **[117]**

Reeta Taneja Mehta, Section of Immunobiology and Drug Carriers, The University of Texas, M.D. Anderson Cancer Center, Houston, TX 77030 **[263]**

Monte S, Meltzer, Departments of Immunology and Membrane Biochemistry, Walter Reed Army Institute of Research, Washington, DC 20307-5100 **[167]**

George M. Mitilenes, The Liposome Company, Inc., Princeton, NJ 08540 **[205]**

Page S. Morahan, Department of Microbiology and Immunology, The Medical College of Pennsylvania, Philadelphia, PA 19129 **[441]**

J. Lee Murray, Department of Clinical Immunology and Biological Therapy, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[329]**

Carol A. Nacy, Departments of Immunology and Membrane Biochemistry, Walter Reed Army Institute of Research, Washington, DC 20307-5100 **[167]**

U.K. Nässander, Department of Pharmaceutics, University of Utrecht, 3522 AD Utrecht, The Netherlands **[105]**

Rajiv Nayar, The Canadian Liposome Co:, V7M 1A5 North Vancouver, British Columbia, Canada **[427]**

Wolter Oosterhuis, Laboratory of Pathology, State University Groningen, Medical School, 9713 EZ Groningen, The Netherlands **[81]**

Marc J. Ostro, The Liposome Company, Inc, Princeton, NJ 08540 **[155]**

Bijay K. Pal, Department of Biological Sciences, California State Polytechnic University, Pomona, CA 91768 **[249]**

D. Papahadjopoulos, Cancer Research Institute, University of California, San Francisco, CA 94143 **[135]**

A. Peil, Research and Development Laboratories, Pharmaceuticals Division, CIBA-GEIGY Limited, Basel, Switzerland **[191]**

T. Peretz, Departments of Oncology and Membrane Biochemistry, Hadassah Medical Center and Hebrew University, Hadassah Medical School, Jerusalem, Israel **[391]**

R. Perez-Soler, Immunobiology and Drug Carriers Section, The University of Texas System Cancer Center, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[35]**

V.K. Perumal, Mycobacteriology Research Laboratory, National Jewish Center for Immunology and Respiratory Medicine, Denver, CO 80206 **[177,287]**

B. Pestalozzi, Departments of Experimental Pathology and Medicine, University Hospital, University of Tübingen, Federal Republic of Germany **[95]**

Nigel C. Phillips, McGill Centre for Host Resistance and Department of Medicine, Montreal General Hospital Research Institute, Montreal, Quebec, Canada H3G 1A4 **[15]**

Jim S. Pieratos, Department of Biological Sciences, California State Polytechnic University, Pomona, CA 91768 **[249]**

Angelo J. Pinto, Department of Microbiology and Immunology, The Medical College of Pennsylvania, Philadelphia, PA 19129 **[441]**

A. Probst, Research and Development Laboratories, Pharmaceutical Division, CIBA-GEIGY Limited, Basel, Switzerland **[191]**

Aquilur Rahman, Division of Medical Oncology, Lombardi Cancer Research Center, Georgetown University, Washington, DC 20007 **[353,367]**

F.H. Roerdink, Laboratory of Physiological Chemistry, University of Groningen, 9712 KZ Groningen, The Netherlands **[105,275]**

Jae-Kyung Roh, Division of Medical Oncology, Georgetown University, Washington, DC 20007 **[367]**

Robert C. Rosenthal, Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin, Madison, WI 53706 **[117]**

C. Sauter, Department of Medicine, University Hospital, University of Tübingen, Federal Republic of Germany **[95]**

Kathy Savage, The Liposome Company, Inc., Princeton, NJ 08540 **[205]**

J.-C. Schaffner, Research and Development Laboratories, Pharmaceuticals Division, CIBA-GEIGY Limited, Basel, Switzerland **[191]**

Gerrit Scherphof, Laboratory of Physiological Chemistry, State University, 9712 KZ Groningen, The Netherlands **[81]**

H. Schott, University of Zürich and Institute of Organic Chemistry, University of Tübingen, Federal Republic of Germany **[95]**

Alan J. Schroit, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 **[427]**

G. Schumann, Research and Development Laboratories, Pharmaceuticals Division, CIBA-GEIGY Limited, Basel, Switzerland **[191]**

R. Schwendener, Department of Experimental Pathology, University Hospital, University of Tübingen, Federal Republic of Germany **[95]**

Jean-Paul Sculier, Service de Médecine Interne et Laboratoire d'Investigation Clinique H.J. Tagnon, Institut J. Bordet, Centre des Tumeurs de l'Université Libre de Bruxelles, 1000 Brussels, Belgium **[343]**

Henry Shibata, McGill Centre for Host Resistance and Department of Medicine, Montreal General Hospital Research Institute, Montreal, Quebec, Canada H3G 1A4 **[15]**

Howard R. Six, Department of Microbiology and Immunology, Baylor College of Medicine, Houston, TX 77030 **[229]**

T. Skripsky, Research and Development Laboratories, Pharmaceuticals Division, CIBA-GEIGY Limited, Basel, Switzerland **[191]**

Bernard W. Smith, Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin, Madison, WI 53706 **[117]**

Saburo Sone, Third Department of Internal Medicine, The University of Tokushima School of Medicine, Tokushima 770, Japan **[125]**

P.A. Steerenberg, Department of Pathology, National Institute of Public Health and Environmental Hygiene, 3720 BA Bilthoven, The Netherlands **[105]**

Deneen Stewart, Department of Microbiology and Immunology, The Medical College of Pennsylvania, Philadelphia, PA 19129 **[441]**

G. Storm, Department of Pharmaceutics, University of Utrecht, 3522 AD Utrecht, The Netherlands **[105]**

A. Sulkes, Departments of Oncology and Membrane Biochemistry, Hadassah Medical Center and Hebrew University, Hadassah Medical School, Jerusalem, Israel **[391]**

Glenn M. Swartz, Departments of Immunology and Membrane Biochemistry, Walter Reed Army Institute of Research, Washington, DC 20307-5100 **[167]**

Christine E. Swenson, The Liposome Company, Inc., Princeton, NJ 08540 **[205]**

Lloyd Tan, Medical Research Council Group, Academic Department of Medicine, Royal Free Hospital School of Medicine, London NW3 2QG, United Kingdom [35]

Janet R. Tatom, Departments of Clinical Immunology and Biological Therapy, M.D. Anderson Hospital and Tumor Institute, Houston, TX 77030 [329]

Joseph Treat, Division of Medical Oncology, Lombardi Cancer Research Center, Georgetown University Hospital, Washington, DC 20007 [353,367]

P. Trunet, CIBA-GEIGY Corp., Summit, NJ 07901; present address: CIBA-GEIGY Ltd., Basel, Switzerland [305]

P. van Hoogevest, Research and Development Laboratories, Pharmaceuticals Division, CIBA-GEIGY Limited, Basel, Switzerland [191,453]

Nico van Rooijen, Department of Histology, Free University, Amsterdam, The Netherlands [441]

J.C. Vink, Department of Clinical Microbiology, Erasmus University, 3000 DR Rotterdam, The Netherlands [275]

Alvin Volkman, Department of Pathology, East Carolina University School of Medicine, Greenville, NC 27858 [441]

Volkmar Weissig, Medical Research Council Group, Academic Department of Medicine, Royal Free Hospital School of Medicine, London NW3 2QG, United Kingdom [35]

Sam Z. Wilson, Department of Microbiology and Immunology, Baylor College of Medicine, Houston, TX 77030 [229]

Philip R. Wyde, Department of Microbiology and Immunology, Baylor College of Medicine, Houston, TX 77030 [229]

Qifu Xiao, Medical Research Council Group, Academic Department of Medicine, Royal Free Hospital School of Medicine, London NW3 2QG, United Kingdom [35]

Annie Yau-Young, Liposome Technology Inc., Menlo Park, CA 94025 [239]

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.

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G. Lopez-Berestein
Isaiah J. Fidler

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