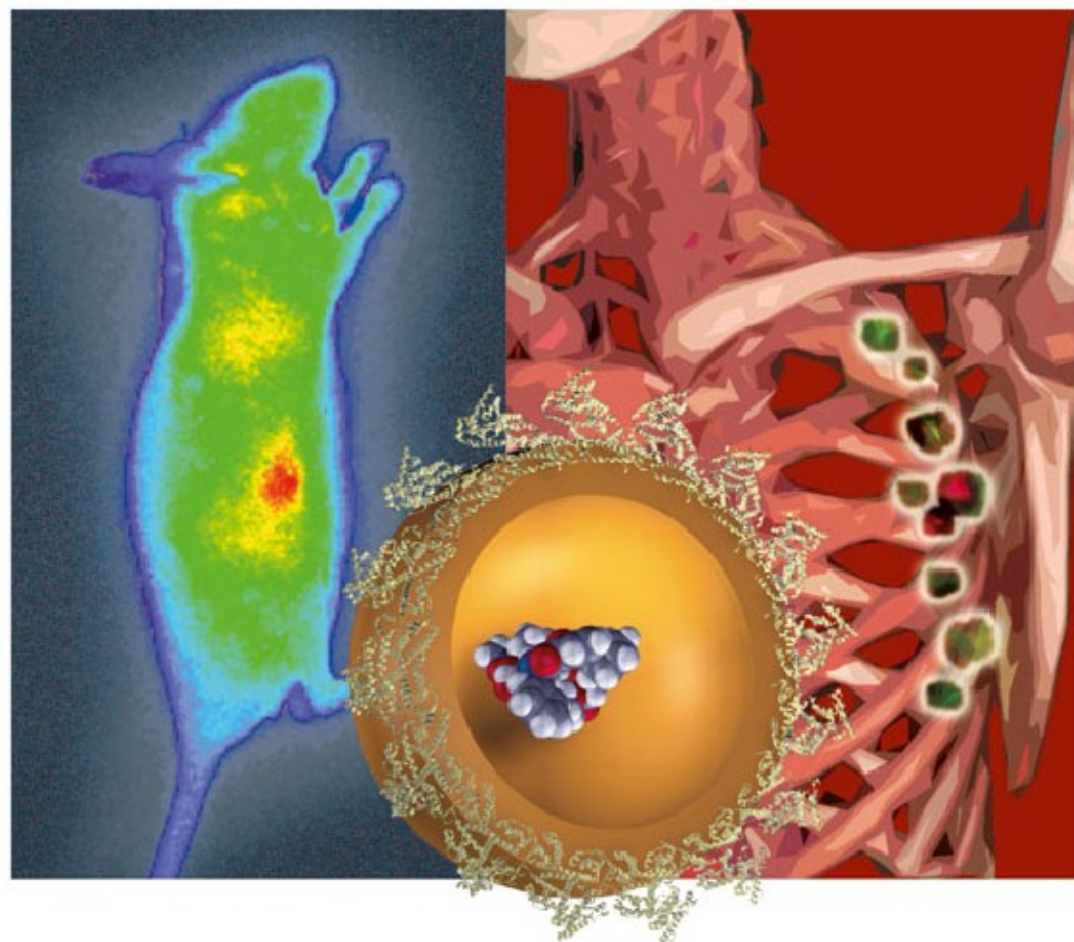


Edited by Felix Kratz, Peter Senter
and Henning Steinhagen

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Drug Delivery in Oncology

From Basic Research to Cancer Therapy
Volume 1



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and Henning Steinhagen

Drug Delivery in Oncology

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Foreword

It is highly likely that the reason our therapies so often fail our patients with cancer is that either (i) those therapies actually never get to their intended targets or (ii) those therapies are “intercepted” by similar targets on normal cells. If we want to understand why many of our therapies fail our patients, and what we can do to possibly remedy those failures, this book *Drug Delivery in Oncology* can help all of us achieve that understanding – and with this book it will be a state-of-the-art understanding.

Drs. Kratz, Senter, and Steinhagen have assembled a respectable breadth of both seasoned and precocious investigators to put together this very special treatise (49 chapters in all). The chapters are well written with basic science, preclinical, and clinical perspectives.

The book begins with a history and the limitations of conventional chemotherapy. Expert discussions of the vascular physiology of tumors that affect drug delivery (and how to defeat those issues) then follow. There are excellent discussions of the neonatal Fc receptor, development of cancer targeted ligands, and antibody-directed enzyme prodrug therapy (ADEPT).

A very special part of this book is the emphasis on tumor imaging. Again, the authors are major experts in this field, which undoubtedly will continue to mature to enable us to document whether or not our therapeutics actually make it to their intended target(s) – and if not, why not.

There are impressive chapters on macromolecular drug delivery systems, including biospecific antibodies, antibody–drug conjugates, and antibody–radionuclide conjugates. Up-to-date discussions of polymer-based drug delivery systems including PEGylation, thermoresponsive polysaccharide-based and even low-density lipoprotein–drug complexes are also presented.

Those with an interest in learning about nano- and microparticulate drug delivery systems can study liposomes to immunoliposomes, to hydrogels, micelles, albumin–drug nanoparticles, and even carbon nanotubes, which are all covered in this book.

Other special delivery systems covered include peptides–drug conjugates, vitamin–drug conjugates, and growth factor–drug conjugates, conjugates of drugs with fatty acids, RNA and RNA interference delivery, and specific targeted organ drug delivery.

As investigators who want to more effectively treat and indeed cure cancer we have many worries. The first of these is that many of our therapeutics just do not make it into the targets in the tumors. This book gives the reader a comprehensive insight into multiple ways to address this problem. A second major worry is that we are losing our pharmacologists who can solve those drug delivery issues. The editors and the authors of this incredible treatise give us comfort that these pharmacologists are alive and well, and thinking as to how they can contribute to getting control of this awful disease.

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