

Preface

The search for anticancer drugs employs scientists from a large number of disciplines and requires communication across the boundaries which often separate fields of research. When Professor Mandel asked us to edit a special issue of *Biophysical Chemistry* on 'Biophysical Aspects of Cancer Chemotherapy', we were very excited by the possibility of facilitating that communication. On the one hand, biophysical chemistry has made important contributions to the understanding and development of cancer therapy. We wanted pharmacologists to appreciate the possibilities and limitations of biophysical techniques. On the other, anticancer therapy poses many interesting and fundamental questions. We also wanted an issue which might suggest new areas of research to the practicing biophysicist.

Thanks to the conscientious efforts of the contributing authors, we have been able to assemble papers which we feel represent current biophysical research in this area. We have grouped the papers into four sections according to the mechanisms of action: (I) Covalent Interactions with DNA: The Example of Platinum Antitumor Drugs; (II) Non-covalent Interactions with Nucleic Acids; (III) Drug-Membrane Interactions; (IV) Photochemically Activated Antitumor Drugs. Two themes reoccur throughout these papers. First, biophysical techniques provide a unique view of drug-target interactions. The detailed structural and dynamical information which results is essential for understanding the molecular bases of the cytotoxicity and systemic toxicity of these drugs. Second, biophysical measurements might contribute to the development of new antitumor compounds. Structure-activity relations for biophysical and pharmacological effects have been compared and some interesting correlations are reported.

We are grateful to Professor Mandel for the opportunity to edit this Special Issue and hope that it will help broaden the role of biophysics in anticancer research.

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