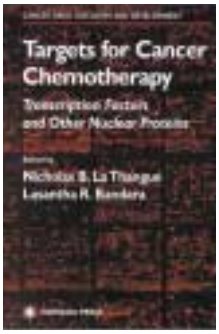
Book Reviews

Nuclear war on cancer

Targets for Cancer Chemotherapy: Transcription Factors and Other Nuclear Proteins
edited by N.B. La Thangue and L.R. Bandara, Humana Press, 2002. $165.00 (hardback) (352 pages) ISBN 0-89603-938-2



The tremendous progress in identification of the molecular mechanisms of cancer has provided anticancer drug research with numerous potential targets. Most effort has been devoted to the targeting of oncogenic kinases. Indeed, inhibitors of the kinases, Bcr-Abl and FLK3, demonstrate excellent clinical and preclinical effectiveness. However, the effectiveness of these inhibitors is restricted to subgroups of leukemias and gastric cancers in which a sole oncogenic alteration drives leukogenesis and carcinogenesis. Most cancers acquire multiple genetic alterations in downstream signaling pathways, such as the Rb–E2F pathway and c-myc. This suggests that the transcription factors, E2F and c-myc, can be considered as anticancer drug targets, although the potential toxicity to normal cells is a concern. Another transcription factor that is a logical therapeutic target is hypoxia-inducible factor 1 (HIF-1), which is needed for cancer cells to survive hypoxia and to induce angiogenesis, and might also be required for metastasis. Hence, selective inhibition of HIF-1 might be a promising direction. In contrast to kinases, the use of transcription factors in anticancer drug development is still in its infancy. However, as emphasized by the editors of *Targets for Cancer Chemotherapy: Transcription Factors and Other Nuclear Proteins*, chance favors the prepared mind. Nicholas La Thangue and Lasantha Bandara are well known for their work on the interplay between E2F, p53 and c-myc, as well as p300 and histone deacetylases, and these studies are, perhaps, responsible for the choice of topics in this book. Topics covered include the transcription factors that are most universally affected in cancer, such as E2F, activator protein 1 (AP-1), HIF-1 and c-myc, as well as histone acetyltranferases and histone deacetylases. Other interesting and informative chapters describe β-catenin, Mdm-2, breast-cancer-susceptibility proteins 1 and 2 (BRCA 1 and 2), human papillomaviruses, apoptin, steroid receptors, and also mitogen-activated and cyclin-activated kinases. E2F-1 and HIF-1 seem to be the central focus of the book, and many readers will agree that these factors are two of the central players in tumor development. Hence, E2F-1 and HIF-1 are discussed in two chapters each, from different perspectives. In his chapter, William Kaelin envisions two scenarios for targeting E2F: either with E2F antagonists to arrest the cell cycle, or with E2F agonists to induce apoptosis. This thoughtful analysis indicates that opposite approaches can be considered for clinical development, given that we understand the goal of therapeutic intervention. In another chapter, Debabrata Banerjee and Joseph Bertino describe in detail possible strategies for targeting E2F using decoy oligonucleotides, peptides and other approaches.

This book provides a detailed account of our understanding of transcription-factor oncoproteins and tumor suppressors, and of the impact that this knowledge has on cancer drug discovery. The book should be of interest to a wide readership, especially scientists working in cancer drug development, despite the fact that several possible topics are not discussed. For example, although there is a chapter focusing on Mdm-2 and ARF, there is no separate chapter covering p53. However p53 as a cell-cycle-checkpoint protein has already been extensively reviewed in other books, such as *Cell Cycle Checkpoints and Cancer* [1]. I hope that these two books will complement each other.

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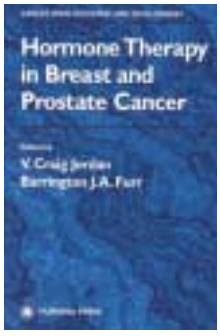
Reference

1 Blagosklonny, M.V., ed. (2002) *Cell Cycle Checkpoints and Cancer*, Landes Bioscience, Georgetown, TX, USA

Treating breast and prostate cancer

Hormone Therapy in Breast and Prostate Cancer
edited by V.C. Jordan and B.J.A. Furr. Humana Press, 2002. US$135.00 (436 pages) ISBN 0-896-03673-1



Hormone Therapy in Breast and Prostate Cancer offers an authoritative state-of-the-art account of the role of hormones in prostate and breast cancer. The book is divided into 18 chapters or sections, which cover most of our present knowledge regarding the endocrinology of these two important glands.

The introductory chapter by the editors is well written and clearly establishes the pace of the following sections. In general, the book is well organized and easy to read. Most of the chapters depict pure laboratory work, whilst a few contain a more translational approach. Nonetheless, all of the chapters are extremely useful to both researchers and clinicians.

Some of the chapters contain a superabundance of bibliographic citations that, in relation to their content, creates an imbalance in the architecture of the entire book. The same applies to the uneven quality of illustrations from one chapter to another. One constant problem is repetition from one chapter to another. For example, the same formulation is repeated more than once through the book.

Nevertheless, allowing for these small deficiencies, the book is authoritative and up-to-date, and not only provides a significant insight into the history of the endocrine understanding of breast and prostate cancer, but also provides new data that will progress the field. *Hormone Therapy in Breast and Prostate Cancer* is a worthwhile addition to a well organized library that not only provides important information for the practicing physician

