Book Reviews

T.A.W. Splinter, H.I. Scher (eds)
Neoadjuvant Chemotherapy in Invasive Bladder Cancer
The publication represents the proceedings of a workshop held in San Francisco in May 1989 and reflects input from American and European urologic oncologists, radiotherapists, and medical oncologists. A good deal of what is presented depends partially on previously discussed and published clinical trials with additional commentary and follow-up. Nonrandomized clinical trials provide a good deal of the new material as well as a discussion on assessment of response. In the latter instance, it is difficult to extend beyond individual cooperative groups application of any of that material to a current individual clinical setting.
Some of the material is somewhat dated and it is unfortunate that the material could not be published earlier. However, it is a timely contribution of high quality and recommended for general interest.
Gerald P. Murphy, Atlanta, Ga.

is no obvious criterion for the order in which these genes are exposed. This is somewhat confusing and could preclude, for beginners in particular, a general view of oncogene biology.
As already mentioned, the second chapter is about src. Although src studies have been proven to be invaluable, much less attention has been devoted in this book to several other equally interesting genes, which have been concentrated in the first chapter. If the aim of the book is to give a general view on oncogenes, this should be taken into account by readers.
Finally, a major topic in oncogene studies is the cloning and the definition of oncogene promoters, in particular in the last few years. Perhaps this aspect of protooncogene biology is, at least for some protooncogenes, underestimated in this book. Since promoter studies promise to be a major tool in oncogene investigation, more attention should be dedicated to this relatively new aspect.
S. Garattini, Milan

David G. Thomassen, Paul Nettesheim Biology, Toxicology, and Carcinogenesis of Respiratory Epithelium

The last few years of cancer research have been characterized by a substantial improvement in our understanding of the molecular basis of cancer. The vast majority of this has been provided by the identification and characterization of the transforming elements of oncogenic viruses and the subsequent demonstration that ‘oncogenes’ are indeed derived from normal regulatory genes involved in normal growth and metabolism.
These rapid advances have made it necessary that both basic investigators and clinicians understand the biology of oncogenes, how they participate in normal cell metabolism and when they are involved in the neoplastic process. This book, which is the second of two parts, is an attempt to provide an introduction to the major characteristics of many of the oncogenes described to date.

The first part of the book is a description of many oncogens, including for each of them, the structure, cellular localization, pattern of expression and proposed function. The second chapter is completely devoted to the src oncogene, whereas the third chapter deals with the activation of protooncogenes in cancer.

Although the author has probably succeeded in providing a book with the most salient facts of many presently known oncogenes, there are some points to be raised.

In the first chapter, the various protooncogenes are not divided, as usually done, into classes related to the function-, putative or well established, of the encoded protein. The consequence is that there

This interesting book focuses on recent advances of experimental studies of the respiratory epithelium and it is based on a meeting on The Biology, Toxicology, and Carcinogenesis of Respiratory Epithelium’ hosted by the Lovelance Inhalation Toxicology Research Institute in Albuquerque, N.Mex., USA, in November 1988. Contents are divided into three parts: biology, toxicology and carcinogenesis, and the parts contain 9, 5 and 6 articles, respectively; furthermore, presentation in the different parts are beautifully summarized by R.C. Boucher, D.G. Thomassen and P. Nettesheim, respectively. Each article contains attractive new findings. When I started to read the book, I could not stop reading until coming to the end, – it was so exciting.

In the part on Biology of Respiratory Epithelium, progenitor cells or stem cells, growth and differentiation are widely discussed and the important role of secretory cells and type II cells as progenitor cells is emphasized. The multistage progression in squamous differentiation is also noted. A powerful novel culture method, a denuded trachea (and bronchus) repopulated with respiratory epithelial cells is introduced. This method might open a new avenue in the field of the detailed respiratory differentiation and carcinogenesis.

In the part on Toxicology, effects of toxic substances, such as oxidant, asbestos, formaldehyde, diesel exhaust and nitrosoamines to the respiratory epithelium are widely reviewed from the viewpoint of injury and repair of the epithelial cells. Readers will be able to obtain new evidence on DNA adduct, DNA methylation, etc. The tolerance to toxic substances is another important biological response of the epithelium. Enzymatic changes of respiratory cells are closely related to tolerance. The elucidation of the mechanism of tolerance is strongly expected.

In the third part on Carcinogenicity, differentiation, dedifferentiation, growth factors, oncogenes, and recessive oncogenes during neoplastic progression of respiratory epithelial cells are extensively discussed. It is noted that neoplastic changes progressed in a multi-step manner as indicated by carcinogenesis in other organs. It is beautifully demonstrated that hyperoxic condition is critical for development of tumors in neuroendocrine lung carcinogenesis. Using normal human bronchial cells it is demonstrated that in vitro transformation of human cells is not easy although multiple oncogenes are transfected. The important role of oncogenes and recessive oncogenes in lung carcinogenesis has been expected, but it was not clear. The autocrine
growth factor hypothesis in carcinogenesis is another attractive subject even in lung
carcinogenesis. Readers will enjoy a detailed review on this subject.
Reading through the whole book, readers expect that a new exciting integration of biology,
toxicology and carcinogenesis of the respiratory epithelium is imminent. It is most suitable for
the scientists and doctors who wish to learn about the current front of studies on the respiratory
epithelium.
The book is offset printing with a hard cover; it has complete references.
H. Sugano, Tokyo
Proto-Oncogenes in Cell Development
471–92686–8
The new Ciba Foundation symposium book entitled Proto-Oncogenes in Cell Development
discusses the most interesting questions of cell development. The participants are well-known
experts in this field, and the symposium provides them a good possibility to express their opinion
more freely than in a paper written for a scientific journal. Each chapter consists of a lecture and
a discussion with the participants of the meeting. The lectures give several preliminary results
that induce very high level discussions. There are relatively few technical data; however, each
chapter provides a rich source of references.
All the lectures study the cell development at molecular level, in an up-to-date molecular
biological approach. In each chapter, the authors concentrate on the regulation of developmental
processes. This book provides further evidence that oncogene products, growth factors and other
cytokines are members of a network, and influence biological processes in intimate cooperation
with each other.
Alternative forms of the same growth factor (PDGF) make an even more delicate regulation
possible. The physiological role of proto-oncogenes is a challenging question of biology. The
activity of mos, src and mas oncogenes is described in normal cells, which confirms their
function in normal cell growth and differentiation. Meinkoth et al. constructed a very elegant
experimental system to study the signal transduction; with minor modifications their approach
can be a very useful tool for studies on this phenomenon. Moolenaar and van Corven present
data showing that lysophos-
phatidic acid evokes at least three separate signalling cascades. These are only a few examples
from the many fascinating reports compiled in this volume.
The recent Ciba Foundation issue is definitely not a textbook, as basic knowledge on molecular
biology is required for the understanding of the lectures. It can be recommended, however, to
every scientist dealing with developmental biology.
K. Lapis, Budapest
Sam Briinner, Bent Langj’eldt (eds) Advances in Breast Cancer Detection
Recent Results in Cancer Research Springer, Heidelberg 1990 XI+ 195 pp.; 53 fig.; 53 tables;
This volume forms a synthesis of recent contributions in the field of breast cancer detection
based on the papers delivered on the Fourth International Copenhagen Symposium on Detection
of Breast Cancer in 1988. Major topics of interest are primary mammography studies in the
USA, Sweden and Iceland. Stereotactic X-ray-guided fine-needle aspiration techniques are
discussed. The role of ultrasound in the early detection of breast cancer is elaborated. A survey
of breast self-examination is conducted. Risks and benefits of early detection techniques are
assessed. The book is an up-to-date source of information for those involved in the diagnostic management of breast cancer patients.

S. Eckhardt, Budapest

Joji Utsunomiya, Henry T. Lynch (eds) Hereditary Colorectal Cancer

Colorectal cancer has turned into one of the most fruitful human models to study the molecular genetic changes underlying the development and progression of cancer. This is due to a number of factors including the recognition and careful epidemiological analysis of a number of hereditary colorectal cancer syndromes, the presence of a well-defined adenoma-carcinoma sequence and the easy accessibility of the colorectal mucosa to obtain relevant cells or tissue. For this fascinating model to be fully exploited it is necessary to bring experts with widely differing background together, in particular epidemiologists, geneticists, molecular biologists, pathologists, oncologists and gastroenterologists. This is exactly what happened at the symposium devoted to ‘Hereditary Colorectal Cancer’ that took place in 1989 in Kobe, Japan. The proceedings of this symposium, edited by Utsunomiya and Lynch, have now appeared under the same title. This book clearly reflects the interdisciplinary atmosphere of this meeting and provides clinical data on the poly-

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posis syndromes and hereditary nonpolyposis colorectal cancer, covers cytomolecular aspects of hereditary and sporadic colorectal cancer and sets the stage for the applications of intermediate bio-markers and chemoprevention. Each chapter contains a summarizing contribution by a leading expert in the field. Obviously in books like these there is some redundancy and overlap. It is difficult, however, to find another text that covers this difficult subject in such an authoritative way.

J. Wils, Roermond

Michel Gautherie (ed)
Biological Basis of Oncologic Thermotherapy
(Clinical Thermology)
Subseries Thermotherapy
Springer, Heidelberg 1990
XI+ 169 pp.; 116 fig.; 28 tables; DM 148.-

Donald W. W. Newling, William G. Jones Prostate Cancer and Testicular Cancer

This book is an edition in a series by the EORTC Group, with American counterparts, dealing with past organ site program presentations on prostate cancer principally, and with some material on testicular cancer as an afterthought.
The book will be of interest to those engaged in clinical trials and, to a limited degree perhaps, to others. It represents a continuing dialogue which has promoted better worldwide understanding in these diverse areas.

Gerald P. Murphy, Atlanta, Ga.
The series Clinical Thermology has been enriched by the volume Biological Basis of Oncologic Thermotherapy; this treatment modality is by now gaining increasingly clear shape, in particular in oncology.

The heat-induced alterations are discussed competently, giving the present state of knowledge and the complexity of the matter their due. The literature is operated exemplarily and well compiled, making the huge material easily accessible.

The book consists of three sections, with 2 radiotherapists and 1 pathophysiologist as authors. The first section, Biological Basis of Thermotherapy, contains methods of hyperthermia, temperature transfer, cell killing, responses of normal tissues and tumors, and, eventually, combination therapy. The second section deals with pathophysiology of hyperthermia, the third is devoted to the response to heat shock.

In terms of comprehensiveness the book meets all demands.

H. Wrba
Vienna