This volume is the first one of a new series which is promised a great future. For the scientists working in the field of the pineal gland, it will be of great interest, as it contains review articles written by experts.

The first volume contains 6 articles of a long series which deal exclusively with one particular aspect. These articles, edited by R. J. Reiter, represent the first steps to be acquired in the knowledge of the pineal gland. These articles are also of interest to biologists, biochemists and physiologists. The first paper is by M. Karasek on the ultrastructure of the mammalian pineal gland. It is a very concise description of the pine-alocytes and the nerve cell, mainly sympathetic, and fibers, as well as the vascularisation and the calcarceous concretions of the pineal gland.

The second paper by W.A. Gern and CM. Karn deals with the function of the principal indolamine secreted by the pineal and extrapineal tissue like the retina, the Harderian gland. Pineal gland function and its evolution is further discussed in the third article by B. Vivien-Roels and P. Pévet. The importance of the pineal gland in seasonal reproduction is precisely described in mammals as in nonmammalian vertebrates. In addition, the role of 5-methoxyindoles in relation with environmental lighting conditions and with special reference to seasonal environmental temperature is well analyzed in different species and climates. This chapter is of particular importance to those who are interested in environmental endocrinology. The two next articles are of great value for those who are endo-crinologists. They deal with the physiology of secretion of melatonin in mammals by B.D. Goldman and the pineal-thyroid interactions by J. Vriend. The interactions of pineal gland and day length, the effects of melatonin administration, and of pinealectomy on gonadal and thyroid functions are described in a very precise manner, particularly in view of the difficult tasks of describing complicated experiments: melatonin having either inhibitory or counter inhibitory effects. All these chapters open up new questions: the action of neurotransmitters and neuropeptides on the pineal gland and the mechanism of action of melatonin. To further investigate these points, R.J. Reiter has included in the first volume an important chapter on the application of immunologic techniques to the study of pineal indolealkylamines by G.M. Brown et al. The authors review in an excellent manner the production of antigens, antisera for measuring melatonin and one of its precursors, N-acetylseryotonin. They make also an excellent analysis of the immunohistochemical procedures for the visualization and quantitation of melatonin and N-acetylseryotonin in tissues.

This first volume is an important tool for the scientists involved in the field of the pineal gland. The quality of the review articles and the importance of the bibliography make it valuable. At the same time, the authors give their own opinions on many still controversial issues making the
reading of this book lively and very attractive. For those who wish to enter the field, this book is an excellent opening.

P. Sizomenko, Genève
T. Suzuki
Physiology of Adrenocortical Secretion
Frontiers of Hormone Research, vol. 11
S. Karger, Basel 1983
VIII + 216 pp.
SFr. 132.- / DM 158.- / US$ 79.25
ISBN 3-8055-3644-5

In the past few years, considerable advances have been made in our understanding of ACTH secretion, for example the discovery and structural analysis of CRF, and of the action of ACTH and related opioids-lanocortin peptides, such as gamma-MSH, at the cellular and molecular level. It is just these aspects of the physiology of the pituitary-adrenal axis that are the most fascinating ones at the present time. However, the more ‘classical’ type of experiments, such as testing adrenocortical secretion in response to internal or external stimuli, chemical substances, hormones, neurropharmacological agents or by lesions at the hypo-thalamo-pituitary level or in various parts of the brain, are also a requisite for studying adrenocortical secretion. These aspects are covered extensively by T. Suzuki’s ‘Physiology of adrenocortical secretion’. The author, who has been active in this field for a long time, presents a considerable amount of interesting data, mainly from his own work in dogs. However, most of the studies are confined to the inner zones of the adrenal cortex and there is hardly a mention of the regulatory role of the capsular layer. A valuable compilation of older references is included but scarcely any later than 1980, presumably due to the long period between the collection of references and actual publication. The book is therefore somewhat outdated. Nevertheless, for the reader interested in Suzuki’s own work and in particular in adrenocortical secretion in dogs, the book represents a valuable text.

Dr. A. Eberle, Basel
Rona M. MacKie Malignant Melanoma
Pigment Cell, vol. 6
Karger, Basel 1983
VIII + 204 pp.
SFr. 139.- / DM 166.- / US$ 83.25
ISBN 3-8055-3690-9

The ‘Pigment Cell’ series, originally published as the Proceedings of the International Pigment Cell Conferences, has now found a new editor, Professor Rona MacKie, who successfully continued the series with a volume on ‘Malignant Melanoma’. The book contains ten invited reviews on biological and clinical aspects of malignant melanoma, covering a wide range of the achievements in this field of the past decade. The volume opens with a summary of epidemiologic studies designed to detect factors that may influence incidence or degree of risk. Basic problems of diagnosis and prognosis are considered in two subsequent chapters, which use histological features to establish guidelines for clinical decisions concerning disease behaviour and nature of melanocytic proliferation. Other chapters summarize knowledge on the
immunology of melanoma, including melanoma antigens, immunogenetics, and melanoma-
specific immune reactions, discuss the diagnostic significance of biochemical markers, and
explore the importance of ste-
roid hormone receptors. Of special interest are contributions dealing with the clinical features
and management of intraocular melanoma and the unusual site-related characteristics of the
disease as observed in the Far East. The volume concludes with aspects of current therapeutic
strategies, in particular with surgical approaches and with adjuvant treatment of melanoma. The
book is an instructive reference work that in addition contains a substantial amount of new
results, and therefore it can be recommended to all those interested in a concise survey of the
field of human malignant melanoma. Dr. A. Eberle, Basel
E. Gurpide, R. Calandra Hormones and Cancer
Progress in Clinical and Biological Research,
vol. 142
Alan R. Liss, New York 1984
XIII + 327 pp.; E 37.00
ISBN 0-8451-0142-0
This volume contains the proceedings of an international symposium held in Buenos Aires in
May 1983 and summarizes the research of numerous laboratories. It begins with a presentation
of de Sombre—a true pioneer in that field—on recent progress in determining estrogen receptors
in human breast cancer tissue by use of monoclonal antibodies. The subsequent chapter of Nenci
is a review on the cytochemical techniques to investigate the action of estradiol in normal and
neoplastic tissue, without sufficiently considering possible pitfalls of the method, which are well
documented in that field. Other contributions deal with the molecular endocrinology of breast
epithelium cells using models like mouse mammary explants or permanent human mammary
carcinoma cell lines. A very informative part describes efforts to extend our present knowledge
on the hormone-dependent growth of breast cancer cells to endometrium and endome-
trium carcinoma. Four papers on the glucocorticoid receptor field are concerned with receptor structure
and determination, with the action of glucocorticoids in the immune system, and with the
possible clinical application of glucocorticoid receptor measurements. Last but not least, the
spectrum of steroid receptorology is completed by a publication on the determination of
androgen receptors in human prostate biopsies.
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The volume ends with two contributions that do not fit into the context: one on the mechanism of
action of anabolic steroids in skeletal muscle, the other on ectopic hormone production in human
tumors.
In conclusion, the volume contains a lot of information in numerous papers of variable quality.
The contributions dealing with clinical applications do not offer new results, therefore the book
is certainly not useful for the clinician. However, for people working experimentally in the field,
it presents several very informative papers which are well worth reading.
U. Eppenberger, Basel
M.C. Neville, M.R. Neffert
Lactation
Physiology, Nutrition, and Breast-Feeding
Plenum Press, New York 1983
The editors and main authors are two female scientists, a physiologist and a pediatrician, both from the University of Colorado, School of Medicine, Denver. 16 further co-authors have contributed their extensive knowledge to this very comprehensive work. The book deals with all aspects of lactation: the anatomy of the mammary gland, the mechanisms of milk secretion, the regulation and hormonal control of lactation, nutritional and immunologic significance of breastfeeding, infant and maternal problems as well as psychological implications of lactation, composition of milk, drugs and environmental agents in mother’s milk and finally lactation and contraception as well as breastfeeding and breast cancer. Each of the 15 chapters is concluded by exhaustive documentations, more than 1,700 references altogether. This excellent work offers plenty of important and fascinating, scientifically based information. Nevertheless, it is not only a mere compilation of facts, it is written by authors with wide experience and scientific engagement for all problems of lactation and the womanly art of breast-feeding. Its lecture is highly recommended for both, practitioner and scientists, mainly for obstetricians and pediatricians.

O. Tönz, Luzern

H.C. Hemker

Handbook of Synthetic Substrates
Synthetic substrates have become an important tool for the study of blood coagulation and fibrinolysis. This handbook is a long-awaited compilation of the substrates used at present, and it provides the reader with a number of valuable details. The first chapter reviews the basic knowledge on enzyme kinetics; the second chapter presents the methodology concerning chromogenic substrates. The third chapter compiles a vast range of substrates, together with numerous physicochemical data and experimental details. The fourth chapter then gives examples of determinations that can be carried out with chromogenic substrates. Finally the book ends with a good collection of the literature in this field.

The book is certainly a valuable aid for the haematology research laboratory; it is concise and carefully edited, and the contributions by the different specialists are well-integrated into H.C. Hemker’s text.

Dr. A. Eberle, Basel

Hiroo Imura, Hidetsu Kuzuya

Hormone Receptors and Receptor Diseases
This volume on ‘Hormone Receptors and Receptor Diseases’ represents the proceedings of a symposium held on this subject in Kyoto in August 1982. Grouped into eight sections, the book contains a nice collection of 21 contributions (mainly from Japan and North America), treating receptors of various peptide and steroid hormones and focussing on receptor function and receptor disorders. Particularly this last aspect has received growing attention in the last few years, since research in this field has clearly demonstrated that in various endocrine disorders it is not only the secretion of the hormones but also abnormalities at the level of the receptors that can cause the problems.

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The first section of the book consists of three chapters on insulin receptors. Kahn’s well-illustrated contribution on structure, biosynthesis and phosphorylation of the insulin receptor is followed by a chapter on insulin internalization and degradation (by Inoue and Kuzuye, the editors of this volume) and by a chapter on an aspect of insulin receptor regulation. The second section contains two papers on growth hormone receptors of which one is treating the generation of monoclonal anti-receptor antibodies. The third and the fourth sections of the book are the ones most closely related to the main topic of the book, receptor disorders inducing diseases.

Thyrotropin receptor antibodies and Graves’ disease is well reviewed by Hall and Smith (UK) who originally detected the cause of this disorder. The subsequent chapters also focus on anti-TSH receptor antibodies, adding new insight into their pathophysiological role. The fourth section opens with an excellent treatise on pseudohyoparathyroidism and PTH receptor defects by Rasmussen.

The rest of the book is less coherent. Five rather short and diverse contributions on steroid hormone receptors are followed by one on thyroxin receptors and a three-page chapter on in vivo and in vitro expression of the human proopiomelanocortin gene. Although these last authors have an outstanding reputation in their field, the chapter is erratic and should not have been included. The same is true for the next two contributions. In summary, the first part of the book contains excellent chapters which are worth reading. It would, however, have been advantageous to reduce the number of chapters and to extend the treatment of the most interesting topics.

Dr. A. Eberle, Basel

Mary T. McQuillan Annual Research Reviews

In the introduction to this compendium on somatostatin, the editor indicates that the objectives are to deal with the rapidly evolving knowledge on somatostatin. This edition is a follow-up and extension of two preceding volumes. It differs from comparable books in that it is not the result of a symposium. Instead it is a compilation of monographic reviews on the physiology, origin, chemistry, pharmacology and clinical aspects of somatostatin. The subject has been divided into 16 chapters. Each chapter follows a uniform and predictable pattern which ends with a brief and often stimulating discussion of projections for the future. Besides the chapters dealing with cellular origin, distribution, isolation, characterization and biosynthesis, two main fields are covered: evidence supporting the role of somatostatin as a physiological regulator of hormonal secretion and nutrient flux, and evidence supporting a role of somatostatin as a neurotransmitter or neuromodulator. The book provides a useful source for those individuals interested in the different aspects of somatostatin in a rapidly advancing and expanding field. The references at the end of the book are extensive and a valuable resource. The greatest value of this text is in providing a reasonably complete review of the literature up until late 1981. It is, however, a pity that such a book is only published at the end of 1983. It would have been more useful if publication could have been speedier – the publisher might consider this when planning further editions likely to have a limited readership. Ch. Beglinger, Basel

R. D’Agata, M.B. Lipsett
Recent Advances in Male Reproduction: Molecular Basis and Clinical Implications

This book deals with the problems of infertility, testicular physiology, ultrastructure, particularly Sertoli-cell physiology, hypothalamus-pituitary-gonadal axis and the treatment of male
infertility. 154 researchers from all around the world have made 34 contributions, giving the reader an excellent insight into research in male infertility. The Sertoli cell, Ley-dig cell, gonadotrophins and GnRH topics are extensively discussed and recent findings about inhibin, ABP, local regulation of Leydig cells are discussed in detail. This book is recommended as a good reference on recent research into infertility for those dealing with this problem.

F. Hadziselimovic, Basel

Book Reviews

Kenneth W. McKerns

Regulation of Gene Expression by Hormones


The ninth monograph sponsored by the International Foundation for Biochemical Endocrinology deals with gene regulation by hormones in normal and neoplastic eukaryotic cells. The knowledge of the mechanism of action of steroid hormones has made considerable progress in the last few years, and therefore monographs presenting novel methodological aspects for the study of gene expression by steroid hormones, such as RNA-DNA hybridization techniques and recombinant DNA technology, are very valuable for the endocrinologist interested in molecular aspects. The first two of the twelve chapters discuss the regulation of expression of specific proteins by estrogen in estrogen-sensitive human breast cancer, and the third chapter presents cellular aspects of estrogen-induced hamster adenocarcinoma. The next two chapters describe effects of progesterone on mammary cells in the stimulation of milk-fat synthesis and the interaction of steroids with prolactin at the level of the casein gene. The regulation of gene expression by estrogen in rat uterus has been studied by measuring the biosynthesis of estrogen-induced proteins as markers (chapter 6) or by determining RNA populations through RNA-DNA hybridization techniques (chapter 7). An example for the regulation of one specific gene by ovarian hormones is presented in chapter 8 which reviews utero-globin and its gene. Of the last four chapters, two are devoted to the regulation and expression of genes of pituitary and hypothalamic peptide hormones (growth hormone, prolactin, vasopressin). One chapter treats the effect of ovarian steroids on receptor modulation and chromatin binding and one chapter reviews the control of gene expression in rat ventral prostate by androgenic hormones. The book has a high standard, is well edited and is a modern reference work. A. Eberle, Basel