



## BOOK REVIEWS

**Recent Progress in Hormone Research—Vol. 46:** Edited by J. H. Clark. Published 1990 by Academic Press, San Diego. 361 pp. ISBN: 0-12-571146-8. Price at June 1992: \$85.00.

This series provides a superior summary of the most recent developments in the field of hormone research. This volume covers the following main topics:

- Molecular basis of androgen insensitivity.
- Tissue-specific expression of the growth hormone gene and its control by growth hormone factor-1.
- Molecular characterization of mammalian Tachykinin receptors and a possible epithelial potassium channel.
- Guanylate cyclase receptor family.
- Insulin-like growth factor-binding proteins.
- Growth hormone receptor and binding protein.
- Mutations in the insulin receptor gene in genetic forms of insulin resistance.
- Characteristics of the cAMP response unit.
- Inhibin: role and secretion in the rat.
- Structure of the lutropin/choriogonadotropin receptor.
- Search for the gene for multiple endocrine neoplasia Type 2A.

This book would be useful for those working in the fields of biology, endocrinology, molecular biology, physics, and reproduction, as well as for advanced students.

**Recent Progress in Hormone Research—Vol. 47.** Edited by C. W. Bardin. Published 1991 by Academic Press, San Diego. 405 pp. ISBN: 0-12-571147-6. Price at February 1992: \$79.00.

Tools of modern science have led to enhanced understanding of biology. Nowhere is this more apparent than in the field of endocrinology and metabolism as reflected in this volume. The topics covered range from the molecular regulation of genes to current topics in clinical endocrinology. For example, studies of progesterone receptor activation of model genes emphasize that steroid hormone receptors are part of a larger class of transcription factors. As a consequence, a better understanding of how steroid receptors act can now be approached in cell-free systems. A series of chapters describe the complex regulation of LH and FSH secretion through studies of the LHRH pulse generator in intact animals. Abnormalities of this regulator in humans are also defined and newly developed LHRH-secreting neuronal cell line produced by targeted oncogenes is described providing information on the pulsatile secretion of LHRH *in vitro*. Insights into hormone-induced hypertension are now possible through the understanding of how the specificities of cortisone and aldosterone for the glucocorticoid and mineralocorticoid receptors are determined. In addition, the structure of renin suggests new approaches for the treatment of hypertension. Finally, a series of chapters relating to carbohydrate metabolism illustrate the origin of insulin-secreting cells of the pancreas, define the sulfonylurea receptor, and demonstrate the diversity of glucose transporters. Genetic analysis of the phosphoenolpyruvate carboxylkinase gene illustrates how complex hormonal regulators control intermediary metabolism.

The following main topics are covered in this volume:

- Molecular mechanism of action of a steroid hormone receptor.
- Neuroendocrine control of a human reproduction in the male.
- Immortalization of neuroendocrine cells by targeted oncogenesis.
- Neuroendocrine regulation of the luteinizing hormone-releasing hormone pulse generator in the rat.
- Gonadotropin-releasing hormone pulses: regulators of gonadotropin synthesis and ovulatory cycles.
- Steroids, receptors, and response elements: the limits of signal specificity.
- Molecular biology of human renin and its gene.
- Cellular and molecular analysis of pancreatic islet cell lineage and differentiation.
- Sulfonylurea signal transduction.

- Complex hormone response unit regulating transcription of the phosphoenolpyruvate carboxykinase gene: from metabolic pathways to molecular biology.
- Mammalian glucose transporters: structure and molecular regulation.

This book would be useful for people working in the fields of biology, endocrinology, molecular biology, physics, reproduction, and for advanced students.

**Recent Progress in Hormone Research—Vol. 48.** Edited by C. W. Bardin. Published 1993 by Academic Press, San Diego. 553 pp. ISBN: 0-12-571148-4. Price at June 1994: \$95.00.

Endocrine research dealing with all aspects of biological organization, including differentiation of the embryo, growth and development at puberty, maintenance of adult well-being, and aging, is the subject of this volume of the series. The tools of laboratory and clinical science have led to an enhanced understanding of modern endocrinology, and the approaches used in the work described in each chapter of this book range from molecular regulation of genes to current topics in clinical endocrinology. In the chapters concerning growth, the role of oncogenes in fetal development is explored using gene knock-out experiments. The molecular descriptions of the genes for growth hormone and prolactin receptors are compared to receptors for a variety of other peptides, hormones, and growth factors. This work complements studies of gene defects that cause short stature. The three-dimensional structure of the growth hormone receptor is shown for the first time and it should be noted that this information has recently led to proposed inhibitors for growth hormone. The conventional and nonconventional uses of human growth hormone are reviewed emphasizing that the wide availability of this protein is possible only through molecular biology. Development of the male reproductive tract and germ cells is emphasized with studies of gene transcription during spermatogenesis and the work on anti-Müllerian hormone. Hormone signaling is reviewed, with emphasis on the catecholamine, insulin, TRH, and FSH receptors. New insights into the role of hormones in the modulation of CNS function and the ability of the CNS to regulate hormone secretion are demonstrated in reports on thyrotropin gene expression, as well as on neuropeptide processing and packaging.

The following main topics are covered in this volume:

- Anti-Müllerian hormone: the Jost factor.
- Expression of the FSH receptor in the testis.
- Differential gene expression from a single transcription unit during spermatogenesis.
- Retinoid receptors.
- The growth hormone/prolactin receptor family.
- Molecular genetics of Laron-Type GH insensitivity syndrome.
- Conventional and nonconventional uses of growth hormone.
- Site-directed mutagenesis in the mouse.
- The molecular basis for growth hormone-receptor interactions.
- Catecholamine receptors: structure, function and regulation.
- The insulin receptor and its substrate: molecular determinants of early events in insulin action.
- Thyrotropin-releasing hormone receptor: cloning and regulation of its expression.
- Bombesin-like peptides: of ligands and receptors.
- Thyroid hormone regulation of thyrotropin gene expression.
- Prohormone structure governs proteolytic processing and sorting in the Golgi complex.

This book would be useful for people working in the fields of biology, endocrinology, molecular biology, physics, and reproduction, as well as for advanced students.

**Recent Progress in Hormone Research—Vol. 49.** Edited by C. W. Bardin. Published 1994 by Academic Press, San Deigo. 400 pp. ISBN: 0-12-571149-2. Price at June 1994: \$85.00.

Multiple aspects of endocrine-related research are discussed in this volume, including neuroendocrinology, pancreatic islet cell function, growth factors, novel humoral signals, second messenger systems, androgen action, and androgen-dependent diseases. The approaches used in the work described in this book range from the regulation of genes to current topics in clinical endocrinology. In chapters concerning neuroendocrinology, GnRH neurons, neurotransmitter transporters, and circadian rhythms are considered. Beta-cell function is described using classic transgenic techniques in mice as well as classic physiologic studies of pancreatic islets. In chapters concerning growth and growth factors, the mechanism of action of fibroblast growth factor 1 and