

- 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

insulin-like growth factor I are reviewed. A series of intracellular signaling systems is examined through discussions of Src protein-tyrosine kinase, protein phosphatases, protein prenylation, and the mechanisms by which steroid hormones, such as ecdysone, mediate their nuclear responses. The novel nitric oxide signaling system is reviewed; the mechanisms by which nitric oxide is generated and its signal mediated are also considered.

This volume covers the following main topics:

- GnRH neurons and other cellular and molecular mechanisms for simple mammalian reproductive behaviors.
- Neurotransmitter transporters.
- Circadian rhythms.
- Regulation of pancreatic beta-cell mass *in vivo*.
- Novel mechanisms of fibroblast growth factor 1 function.
- Insulin-like growth factor I: molecular biology and relevance to tissue-specific expression and action.
- Biochemistry of the Src protein-tyrosine kinase: regulation by SH2 and SH3 domains.
- A transgenic model for studying islet development.
- Steroid receptors and other transcription factors in ecdysone response.
- Protein phosphatases.
- Prenylation and G protein signaling.
- The nitric oxide-cyclic GMP signal transduction system for intracellular and intercellular communications.
- The androgen receptor: an overview.
- The molecular genetics of steroid 5-alpha-reductase.
- 5-Alpha-reductase inhibitors for the treatment of benign prostatic hyperplasia.
- Benign and malignant prostatic neoplasms: human studies.

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.