

- Studies on the biochemical action and mechanism of DHEA.
- DHEA: some thoughts as to its biologic and clinical action.

This book would be of interest to biochemists, clinicians, endocrinologists, pharmacologists, and people working on biochemical aspects of steroid hormones.

**Neuroendocrine Perspectives**, Vol. 8. Edited by E. E. MULLER and R. M. MACLEOD. Published 1990 by Springer-Verlag, New York. No. of pages: 196. ISBN: 0-387-97365-6. Price as of July 1990: \$79.00 (hardcover).

The flow of information in neuroendocrinology and related disciplines is vigorous, favored by the availability of sensitive and specific biochemical and histochemical techniques that advance our knowledge of CNS neurotransmitter and neuropeptide systems. This volume illuminates findings in this area which add complexity to the traditional view of the hypothalamo-pituitary control, and to established concepts of the modulation of brain function by target hormones. The first chapter demonstrates the importance of the posterior lobe as a regulator of prolactin secretion via two opposing influences, i.e. dopamine released by the tuberohypophyseal dopaminergic system into the short portal vessels and a prolactin-releasing factor which is produced locally, though the identity of its innervating neurons is still unclear.

The following main topics are covered in this volume:

- Prolactin releasing and inhibiting factors in the posterior pituitary.
- Effects of prolactin on target cells.
- Cellular and molecular aspects of the neuroendocrine-immune dialog in T-cell differentiation.
- The hippocampus: a site for modulatory interactions between steroid hormones, neurotransmitters and neuropeptides.
- Gastrointestinal peptide binding and function in the brain: emphasis on peptide YY.

This volume would be very useful for people working in the fields of neuroendocrinology, neurobiology, endocrinology, biochemistry, biophysics, and molecular biology.

**Structure-Function Relationship of Gonadotropins**. Sero Symposia Publications, Vol. 65. Edited by D. BELLET and J.-M. BIDART. Published 1990 by Raven Press, New York. No. of pages: 340. ISBN: 0-88167-570-9. Price as of April 1990: \$90.00.

In this volume, leading investigators highlight the enormous progress recently made in research on this subject. There is extensive coverage of major breakthroughs such as the cloning of the ovarian receptor for lutropin and choriogonadotropin, the elucidation of the structure of this receptor, and the first crystallographic studies of human chorionic gonadotropin. This book also describes significant advances in the epitope mapping of gonadotropins, the immunochemical and biochemical study of their structure, the examination of regulatory processes involved in subunit association, and the elucidation of the complex mechanisms responsible for regulation and expression of gonadotropin genes.

The following topics are covered in this volume: Chemical reduction-reoxidation of the glycoprotein hormone disulfide bonds; immunochemical approaches to the structure of gonadotropins; the antigenic structure of the human glycoprotein hormones alpha subunit; structural changes of sugar chains of human chorionic gonadotropin with malignant transformation of trophoblast; the isomers, subunits and fragments of hCG; Comparative approach of structure-function relationships of gonadotropins; regulatory steps in the assembly of the alpha-beta dimer of hCG in trophoblastic cells; gonadotropins as thyrotropins; bioassays of gonadotropins; background and clinical applications; the regulatory system of FSH: transduction of endocrine signals at the pituitary gland; TSH gene expression, transcription factors that activate cAMP-responsive expression of the gonadotropin alpha subunit gene; regulation of the genes encoding the human glycoprotein hormone alpha- and hCG-beta- subunits; differential regulation of chorionic gonadotropin subunit mRNA levels and secretion by gonadal steroids and growth factors in normal and malignant trophoblasts; cellular mechanisms of the gonadotropin-releasing hormone control of gene expression, synthesis and release of luteinizing hormone; structure of the ovarian receptor for lutropin and choriogonadotropin; Studies on the mechanism of follitropin-receptor interaction and signal transduction in testis; structural correlates for gonadotropin receptor-effector interactions; regulation of hCG receptors and hCG responsiveness by hormones and growth factors in cultured pig Leydig cells; free subunits of human chorionic gonadotropin as markers of trophoblastic differentiation and malignancy; the clinical utility of the measurement of urinary hCG and its fragments; human follicular fluid concentrations of inhibin-IGF-aromatase inhibitor activity during spontaneous and stimulated cycles.

This book would be useful for people working in the fields of neuroendocrinology, endocrinology, neurobiology, biophysics, and biochemistry.

**Molecular Mechanisms of Hormone Action**. Edited by U. GEHRING, E. HELMREICH and G. SCHULTZ. Published 1989 by Springer-Verlag, Berlin, Heidelberg, New York. No. of pages: 204. ISBN: 3-540-51607-7. Price: DM 112,00 (hardcover).

This book contains the 40th Colloquium of the 'Gesellschaft für Biologische Chemie' held in Mosbach/Baden on 6-8 April 1989, with contributions treating the molecular mechanisms of hormone action. This field of hormone action and signal transduction has made tremendous progress in the last years. The discussion covered results concerning the entire process

of hormone action, such as the binding of a given hormone to its specific receptor, the following signal transduction via G-proteins and second messenger systems, resulting eventually in a phosphorylation step or a cell specific effector response or, in the case of steroids, the interaction of the receptor hormone complex with the corresponding gene segment inducing changes in the transcription activity of an effector gene. Particularly interesting in this regard are the results concerning the regulation of hormone action, the way oncogenes and oncogene proteins act and the multiple role of G-proteins in coupling receptors to ionic channels or other effector systems.

The chapters cover the following topics: mode of action of steroid hormones; interaction of steroid hormone receptors with DNA; clustered arrangement and interaction of steroid hormone receptors with other transcription factors; chromatin template remodeling and steroid receptor transactivation of MMTV; hormone-dependent transcriptional activation by thyroid hormone receptors; functional homology with steroid hormone receptors; subunit structure of the glucocorticoid receptor; modulation of glucocorticoid hormone action by oncogenes and peptide hormone; studies on the regulation of glycogen and lipid metabolism by insulin and growth factors; the involvement of receptor tyrosine kinase activation and casein kinase II; genes coding for G-proteins in mammalian and yeast cells; the *ras* oncogene protein; molecular mechanisms of G-protein activation; interaction of transducin with retinal cGMP phosphodiesterase; phosphonositide metabolism and visual signal transduction; hormonal regulation of phospholipases; regulation of ion channels; the structure of the skeletal and nonskeletal muscle calcium channel; involvement of pertussis toxin-sensitive G-proteins in the modulation of voltage-dependent  $\text{Ca}^{2+}$  channels by extracellular signals; multiple roles of G-proteins in coupling of receptors to ionic channels and other effectors; the guanylate cyclase family; Mechanisms for hormonal regulation of the different isoforms of guanylate cyclase; catecholamine receptors: structure, function, and regulation.

This book would be of interest to researchers and advanced students in the fields of molecular biology, biochemistry, hormonal action, biology, biophysics, and endocrinology.