

10-times the amount of phosphotyrosine of normal cells heightened the interest. Courtneidge brings us up to date concerning the tyrosine kinases and the phosphotyrosine-containing proteins. Some of the kinases are clearly involved in the control of cell growth and many are associated with the plasma membrane. All the kinases are themselves phosphorylated at tyrosine residues. She points out that it is puzzling that in vivo never more than 10%, and often less than 1%, of a given protein thought to be a substrate for tyrosine kinase, is

phosphorylated at tyrosine and whenever function can be measured there appears to be no difference between the activity of phosphorylated and non-phosphorylated forms of target proteins. As she says the subject is in its infancy.

The volume is well produced and the editors and publishers are to be congratulated. I was surprised at the omission of the contents of Volume I and naturally disappointed at the price.

P.N. Campbell

## *The Biochemistry of the Polypeptide Hormones*

by M. Wallis, S.L. Howell and K.W. Taylor

*John Wiley and Sons; Chichester, 1985*

488 pages. £39.50, \$64.00

As its title implies, this book deals exclusively with the polypeptidic hormones. It is organized as follows: the two first chapters are basic overviews of the functioning of endocrine glands and definition of hormones and hormone receptors. The third chapter is devoted to the description of the hypophysis and introduces the next five chapters dealing with adenohypophysis and neurohypophysis hormones. The six following chapters describe insulin, glucagon, hormones of the gastrointestinal tract, parathyroid hormone and calcitonin; erythropoietin, angiotensin, plasma kinin and related substances. Four concluding chapters deal with common approaches in the general study of hormone action: structure-function relationship, the role of cyclic nucleotides and calcium, hormone receptors and the use of genetic manipulations.

This book is presented as a guide for students. It can be considered as a useful document of reference for those new to the field and for teaching purposes. In fact, each section assumes an average knowledge of the topic considered and the bibliography mostly refers to basic, historical works. Chapters are concise, easy to read,

documented with numerous clear schemes and recapitulative tables. Also, although each chapter can be read independently, there is a logical organization, description of the glands preceding that of the discovery, the biosynthesis and the actions of hormones. Most care has been taken to constitute the index.

The area of polypeptide hormones is moving rapidly, and the authors are aware of it. Inevitably there are already some lacunae: there is no reference to the activation of guanylate cyclase by ANF, to the cloning of the insulin receptor, to the link between the metabolism of membrane phosphoinositides and calcium release from cellular internal stores, or to the common origin of glucagon-related peptides from proglucagon. However, the basic information that this book provides (description of the glands, discovery and biosynthesis of hormones) makes it a useful tool and, because of its organization, its reshaping should be easy if future editions are to be considered.

Françoise Pecker and Jacques Hanoune

Biochemistry\*. Hormones / chemistry\*. Peptide Hormones\*. Substances. Hormones. Peptide Hormones. Polypeptide hormones in tissue extracts are usually determined by either bioassay or radioimmunoassay. In view of the inter-actions between hormones in vivo, it is increasingly evident that bioassays of tissue extracts, which often contain several different hormones, may give ambiguous results about the presence and the concentrations of a specific hormone. Radioimmunoassay too may be complicated by the problem of crossreactivity. The semiquantitative analysis of the polypeptide hormones secretin and cholecystokinin was carried out by the quantitation of the characteristic COOH-terminal amide fragment released by the enzymatic hydrolysis. ACTH NADPH Polypeptide biochemistry blood cell development enzymes growth hormone hormones hypothalamus metabolism physiology thyroid hormone tissue. Authors and affiliations. Joseph Chayen. 1. 1.Division of Cellular BiologyThe Mathilda and Terence Kennedy Institute of RheumatologyLondonUK. Bibliographic information. DOI <https://doi.org/10.1007/978-3-642-81459-4>. The Biochemistry of Polypeptide Hormones is intended to meet the needs particularly of advanced undergraduates, preclinical students and postgraduates, and provide an introduction to the research literature. All the main groups of polypeptide hormones are covered, and special chapters deal with structure-function relationships, hormone receptors, the role of second messeng The Biochemistry of Polypeptide Hormones is intended to meet the needs particularly of advanced undergraduates, preclinical students and postgraduates, and provide an introduction to the research literature. Types of Hormones. Hormone Functions. The endocrine system plays a role in growth, metabolism, and other processes by releasing hormones into the blood. Learning Objectives. Evaluate hormones and their purpose in the body. Key Takeaways. Key Points. One of the key, distinguishing features of lipid-derived hormones is that they can diffuse across plasma membranes whereas the amino acid-derived and peptide hormones cannot. Lipid-Derived Hormones (or Lipid-soluble Hormones). Most lipid hormones are derived from cholesterol, so they are structurally similar to it. Principles of Biochemistry/Hormones. Provided by: Wikibooks. Located at: [http://en.wikibooks.org/wiki/Principles\\_of\\_Biochemistry/Hormones](http://en.wikibooks.org/wiki/Principles_of_Biochemistry/Hormones).