

Peptide Hormone Secretion. A Practical Approach. Edited by J. C. HUTTON and K. SIDDLÉ. The Practical Approach Series. Series Editors: D. RICKWOOD and B. D. HAMES. Published December 1990 by Oxford University Press, New York. ISBN: 0-19-963068-2. No. of pages: 342. Price at May 1991: US\$ 85.00.

The study of polypeptide hormones has had a major impact on many branches of biological sciences besides endocrinology. Peptide hormones being small in size and resistant to irreversible denaturation have been popular models for the study of the structure-function relationships of proteins and were among the first proteins whose sequences were determined. Their encoding mRNAs and genes were also among the first to be cloned, again in part because of their small size and high expression, as well as because of interest in the regulation of the expression of peptide hormone genes. Much of the methodology developed for the study of peptide hormones can be applied to polypeptides involved in neurotransmission, growth regulation, differentiation, and vasoregulation. In fact, many so-called classical hormones adopt several of these guises, depending upon anatomical location in the organism in question or where the organism stands on the phylogenetic scale. On the other hand, many of the techniques now widely used in studying polypeptide hormones have their origins in other branches of protein chemistry or molecular biology. The field of peptide hormones, therefore, is not one with well-defined experimental boundaries which lends itself easily to comprehensive treatment in the manner of earlier volumes in this series.

The following main topics are covered in this volume:

- Peptide hormone purification.
- Electrophoretic and immunoblotting methods.
- Radioimmunoassay.
- Immunometric assays.
- The 'in vitro' bioassay of peptide hormones.
- 'In situ' hybridization for the localization and quantification of peptide mRNAs.
- Localization of peptide hormones by light and electron microscopy.
- Methods for the measurement of insulin secretion.
- Cell biology of secretion.
- Cell permeabilization.
- The molecular biology of polypeptide hormone expression and biosynthesis.
- Regulation of the biosynthesis and processing of polypeptide hormones.

This volume would be very useful for endocrinologists, physiologists, biologists, biophysicists, and advanced students.