HANDBOOK OF CHEMICAL NEUROANATOMY

VOLUME 9 NEUROPEPTIDES IN THE CNS

PART II

Editors:
A. Björklund, T. Hökfelt
M.J. Kuhar

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Volume 9:

NEUROPEPTIDES IN THE CNS, PART II

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Preface

Volume 9 of the *Handbook of Chemical Neuroanatomy* continues the coverage of neuropeptides and neuropeptide receptors which was initiated in Volume 4 of the series. In addition, a chapter on DARPP-32, a dopamine and cyclic AMP-regulated phosphoprotein which is present in dopamine receptor-bearing cells, is included. In this regard, the present volume represents a continuation and extension also of Volumes 2 and 3 which dealt with classical transmitters and transmitter receptors in the CNS. The first chapter in the present volume describes the distribution of the third major opioid peptide present in the nervous system, dynorphin, and thus supplements the earlier chapters in Volume 4 on proopiomelanocortin and the enkephalins. The dynorphin chapter, however, also contains a valuable direct comparison with enkephalin distribution in the CNS. Two further peptide chapters describe the distribution of, respectively, growth hormone releasing hormone and angiotensin, two of the more restricted CNS peptide systems. The last peptide chapter deals with the family of pancreatic polypeptides, of which neuropeptide Y is the quantitatively predominating one in the brain and spinal cord.

The volume contains five chapters on the distribution of neuropeptide receptors, based on the autoradiographic ligand-binding technique developed by Young and Kuhar (1979). More recently, some peptide receptors have finally been cloned, and they include tachykinin receptors (Masu et al. 1989; Yokota et al. 1989; Hershey and Krause 1990) and the neurotensin receptor (Tanaka et al. 1990). These important results demonstrate that these peptide receptors also are members of the family of G-protein-coupled receptors with seven membrane-spanning segments. Thus, it is highly likely that many of the neuroactive peptides shown to be present in discrete neuronal systems in the brain and periphery act on typical memberane-bound receptors as physiological studies indicate. The binding sites described during the last 10 years with the autoradiographic technique signify binding to such receptors.

We are grateful to our colleagues, who have contributed such excellent chapters to this volume. We would, as editors, like to point out that several of these chapters were submitted quite some time ago (thus meeting the original deadline) and may, therefore, not include the most recent information in the field. We sincerely apologize to these authors as well as to our readers and hope that they understand the problems in coordinating the efforts of outstanding and busy scientists.

Lund, Stockholm and Baltimore in October 1990

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