

Preface

The growth of the opiate field has been enormous. Early work focused upon the strategic clinical importance of morphine and the attempt to develop non-addicting analogs with fewer side-effects, but the discovery of the receptors and the enkephalins and other endogenous opioid peptides and the recognition of their widespread actions within brain has expanded the field to include investigators in almost all areas of neuroscience and pharmacology. However, this field of research with its vast literature has become progressively more complex. The receptors are no longer limited to opiates, but include many subtypes selective for the opioid peptides. Indeed, they might be better termed opioid, rather than opiate, receptors. Many controversies have emerged and been settled; others remain. Early studies must now be interpreted on the basis of current information. Thousands of papers examining various aspects of opiates and the endogenous opioids present separate pieces of a large puzzle. The goal of this volume is to put the pieces together and attempt to obtain a coherent overview of opiate receptor pharmacology with insights into both the molecular and classical pharmacology of opiates and the opioid peptides. However, many pieces of this immense puzzle remain unknown and will need to be addressed in the future.

The study of opiates and opioid peptides provides a unique research opportunity in the neuropharmacology of drug receptors. The availability of a wide variety of agonist and antagonist ligands has permitted studies not possible in other systems. Second, the close association of opiate drugs with easily measurable pharmacological bioassays and behavioral responses permits the correlation of molecularly defined receptors with pharmacological actions and helps to bridge the gap between molecular and classical pharmacology. In this regard, the opiate system is relatively unique.

Understanding the multiple classes of opiate and opioid peptide receptors at the molecular level and functionally is the major focus of this second edition. Much has happened since the first edition of this volume. The greatest advance has been the cloning of the various classes of opioid receptors. This has opened new areas of investigation and provided greater insight into the biochemical understanding of the receptors and their actions. This second edition has tried to incorporate these new areas and merge them with the earlier studies. Sections of the book cover historical perspectives in the concept of multiple opiate receptors along with a general

overview of the opioid peptides and the molecular and functional characterization of the receptors. Through-out the entire volume, we have attempted to provide an integrated approach that builds on the groundwork set forth in the first edition, pulling together the biochemical, physiological, and pharmacological studies of opiate action. We feel that this volume will be a valuable resource for scientists actively working in the opiate field, as well as others interested in neuroscience and pharmacology in general.

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