Current Aspects of the Neurosciences

Volume 3

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Preface

Most of the chapters in this volume of *Current Aspects of the Neurosciences* deal with molecular neurobiology and/or receptor analysis. This is consistent with the original aims of the series, which is to highlight new and fast-moving areas in neuroresearch.

The variety of approaches used to understand receptor function is illustrated. To study the localization of receptors, it is possible to use immunohistochemistry and autoradiography as well as *in situ* hybridization procedures. Binding studies and second-messenger analysis can also be used to provide detailed information about the pharmacology and characterization of receptor subtypes, while molecular biology application provides a means of elucidating receptor structures as well as supplying unambiguous data regarding subtypes of receptors as separate entities. Chapters dealing with all of these aspects are provided in this volume, thus giving the reader a balanced view of present-day research in this area.

The use of pharmacological agents to treat various forms of disease is of major importance and continues to be a major research area. This can effectively be done, however, if procedures are available to measure transmitter release/turnover in the *in situ* state. Chapter 2 has a direct bearing here, because it deals with the most recent of procedures available for providing a means of studying the turnover rate of the transmitter serotonin in the *in situ* state. Only with such methodology will it be possible ultimately to determine the effective clinical use of a drug.

Oxford, May 1990

N.N.O.