Contents

LIST OF PARTICIPANTS

Introduction .......................................................... 11

I MECHANISMS OF DRUG ACTION

Drug receptors and Dynamic Processes in Cells by ARNOLD BURGEN .... 15
Discussion ............................................................. 15
Regulation of Neurotransmission through Presynaptic Receptors: Pharmacological and Clinical Relevance by S. Z. LANGER ............ 27
Discussion ............................................................. 45
GTP-Regulatory Proteins are Intracellular Messengers: A Model for Hormone Action by MARTIN RODBELL .......................... 48
Discussion ............................................................. 59
The Role of Peptide Messengers in the Neuroendocrine System: Hormones, Neurotransmitters, or Neuromodulators? by R. HÅKANSON & F. SUNDLER ......................................................... 62
Discussion ............................................................. 78
General discussion .................................................... 78
Inositol Trisphosphate: A New Second Messenger by MICHAEL J. BERRIDGE ................................................................. 90
Discussion ............................................................. 103
Intracellular Control of Muscle Contraction by Calcium by MARCUS C. SCHAUB .......................................................... 105
Discussion ............................................................. 114
The Interaction between Calcium and the Cyclic Nucleotide Systems with the Heart as a model by TOR SKOMEDAL, HALFDAN AASS & JAN-BJØRN OSNES ......................................................... 116
Discussion ............................................................. 127
Mechanisms in Drug Development by BERTIL DIAMANT .................. 130
Discussion ............................................................. 140
General discussion .................................................... 142
II DYNAMIC PROCESSES AS TARGETS FOR DRUG ACTION IN ALLERGIC RESPONSES

Molecular and Biochemical Events Involved in IgE-Dependent Mediator Release from Mast Cells and Basophilic Granulocytes by Teruko Ishizaka & John R. White ................................................................. 153
Discussion ................................................................. 166

Can a Compartment Theory Explain the Inconsistent Relationship between Cyclic AMP and Mast Cell Mediator Secretion? by Martin K. Church, Phillip J. Hughes & Stephen T. Holgate ................................................................. 172
Discussion ................................................................. 186

Phosphodiesterase and Cellular Regulation in Atopic Diseases by Sai-Chung Chan & Jon M. Hanifin ................................................................. 189
Discussion ................................................................. 199

Arachidonic Acid Metabolites Cause Basophil Histamine Release by Robert P. Schleimer, Stephen P. Peters, Donald W. MacGlashan, Jr., Anne Kagey-Sabotka & Lawrence M. Lichtenstein ................................................................. 202
Discussion ................................................................. 212

Decreased Sensitivity of Atopic T Cells to Prostaglandins by Ross E. Rocklin, Lori Thistle & Carmen Audera ................................................................. 216
Discussion ................................................................. 226

Discussion ................................................................. 242

Regulatory Role of Cell-Bound IgE on Histamine Release by P. Stahl Skov, C. Jensen, H. Nolte, H. Mosbech & S. Norn ................................................................. 245
Discussion ................................................................. 255
General discussion ................................................................. 259

III TARGETS FOR THE ACTION OF MOOD REGULATING DRUGS

Circadian Rhythms in Brain Adrenergic Receptors and the Influence of Mood-Modifying Drugs by Iain C. Campbell, Michael J. Durcan, Anna Wirz-Justice & Graham Dunn ................................................................. 269
Discussion ................................................................. 286

Influence of Lithium and Other Metal Ions on Adenylate Cyclase Activity by A. Geisler, A. Mork & R. Klysner 302

Discussion 314

Influence of Lithium Ions on the Guanylate Cyclase System by Elliott Richelson, Shigenobu Kanba & Michael Pfenning 319

Discussion 330

An Alternative Hypothesis of Li⁺ Mode of Action Based on Intervention of the Inositol Lipid Signal Pathway by Michael Berridge 334

Changes in α Adrenergic Receptors after Antidepressant Treatments in Normal and 'Depressive' Rats by Jerzy Vetulani, Lucyna Antkiewicz-Michaluk & Anna Rokosz-Pelc 338

Discussion 346

Ligand Binding to Beta-Adrenergic Receptors after Treatment with Mood-Modifying Drugs by R. Klysner & A. Geisler 350

Discussion 357

Comment on Research Strategies by Mogens Schou 360

Discussion 362

Molecular Aspects of Altered Transmembrane Regulation of the Noradrenaline Signal by Antidepressants by Fridolin Sulser, P. Jeffrey Cohn, John S. Zawad & Elaine Sanders-Bush 364

Discussion 380

Complex Effects of Electroconvulsive Shock and Serotonin Axon Lesions on Beta-Adrenergic and Serotonin-2 Receptors in Brain by Kenneth J. Kellar & Craig A. Stockmeier 383

Discussion 396

Transynaptic Mechanisms in the Biochemical and Behavioral Response of Noradrenergic System during Prolonged Treatment with Antidepressants: Age-Related Studies by N. Brunello, A. Volterra, V. Cuomo & G. Racagni 398

Discussion 405

General discussion 406

Subject index 413