

## CONTENTS OF VOLUME 12

NUMBER 1, JANUARY, 1976

|                                                                                                                                                                                                                                                                                                   |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| T. KENDALL HARDEN, BARRY B. WOLFE, AND PERRY B. MOLINOFF. Binding of Iodinated <i>Beta</i> Adrenergic Antagonists to Proteins Derived from Rat Heart                                                                                                                                              | 1   |
| CHHABIRANI MUKHERJEE, MARC G. CARON, DEBRA MULLIKIN, AND ROBERT J. LEFKOWITZ. Structure-Activity Relationships of Adenylate Cyclase-Coupled <i>Beta</i> Adrenergic Receptors: Determination by Direct Binding Studies                                                                             | 16  |
| EDWARD T. BROWNING, CHARLES O. BROSTROM, AND VINCENT E. GROPP, JR. Altered Adenosine Cyclic 3',5'-Monophosphate Synthesis and Degradation by C-6 Astrocytoma Cells Following Prolonged Exposure to Norepinephrine                                                                                 | 32  |
| VICTOR H. MORGENROTH III., MARGARET C. BOADLE-BIBER, AND ROBERT H. ROTH. Dopaminergic Neurons: Activation of Tyrosine Hydroxylase by a Calcium Chelator                                                                                                                                           | 41  |
| SANDERS L. ABRAHAMS, JOHN K. NORTHUP, AND TAG E. MANSOUR. Adenosine Cyclic 3',5'-Monophosphate in the Liver Fluke, <i>Fasciola hepatica</i> . I. Activation of Adenylate Cyclase by 5-Hydroxytryptamine                                                                                           | 49  |
| SUSAN GENTLEMAN, SANDERS L. ABRAHAMS, AND TAG E. MANSOUR. Adenosine Cyclic 3',5'-Monophosphate in the Liver Fluke, <i>Fasciola hepatica</i> . II. Activation of Protein Kinase by 5-Hydroxytryptamine                                                                                             | 59  |
| H.-Y. T. YANG AND N. H. NEFF. <i>N</i> -Acetyltransferase of Brain: Some Properties of the Enzyme and the Identification of $\beta$ -Carboline Inhibitor Compounds                                                                                                                                | 69  |
| DONG H. PARK, TAKESHI KASHIMOTO, RICHARD P. EBSTEIN, AND MENEK GOLDSTEIN. Purification and Immunochemical Characterization of Dopamine $\beta$ -Hydroxylase from Human Pheochromocytoma                                                                                                           | 73  |
| E. X. ALBUQUERQUE, N. BROOKES, R. ONUR, AND J. E. WARNICK. Kinetics of Interaction of Batrachotoxin and Tetrodotoxin on Rat Diaphragm Muscle                                                                                                                                                      | 82  |
| G. KATO AND J.-P. CHANGEUX. Studies on the Effect of Histronicotoxin on the Monocellular Electrophax from <i>Electrophorus electricus</i> and on the Binding of [ <sup>3</sup> H]Acetylcholine to Membrane Fragments from <i>Torpedo marmorata</i>                                                | 92  |
| TAI AKERA, DAVID KU, THOMAS TOBIN, AND THEODORE M. BRODY. The Complexes of Ouabain with Sodium- and Potassium-Activated Adenosine Triphosphatase Formed with Various Ligands: Relationship to the Complex Formed in the Beating Heart                                                             | 101 |
| WARD E. HARRIS AND WILLIAM L. STAHL. Effects of Cations and Propanolol on a Fluorescent Phospholipid Incorporated into Brain Synaptosome Membranes                                                                                                                                                | 115 |
| J. M. BOGGS, T. YOONG, AND J. C. HSIA. Site and Mechanism of Anesthetic Action. I. Effect of Anesthetics and Pressure Fluidity of Spin-Labeled Lipid Vesicles                                                                                                                                     | 127 |
| J. M. BOGGS, S. H. ROTH, T. YOONG, E. WONG, AND J. C. HSIA. Site and Mechanism of Anesthetic Action. II. Pressure Effect on the Nerve Conduction-Blocking Activity of a Spin Label Anesthetic                                                                                                     | 136 |
| M. J. NEAL, K. W. BUTLER, C. F. POLNASZEK, AND IAN C. P. SMITH. The Influence of Anesthetics and Cholesterol on the Degree of Molecular Organization and Mobility of Ox Brain White Matter. Lipids in Multilayer Membranes: a Spin Probe Study Using Spectral Simulation by the Stochastic Method | 144 |
| RONALD G. THURMAN, WILLIAM R. MCKENNA, AND TIMOTHY B. McCAFFREY. Pathways Responsible for the Adaptive Increase in Ethanol Utilization Following Chronic Treatment with Ethanol: Inhibitor Studies with the Hemoglobin-Free Perfused Rat Liver                                                    | 156 |

|                                                                                                                                                             |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| LON-LON LIAO, S. MORRIS KUPCHAN, AND SUSAN B. HORWITZ. Mode of Action of the Antitumor Compound Bruceantin, an Inhibitor of Protein Synthesis . . .         | 167 |
| JEFFREY K. LOWE AND GERALD B. GRINDEY. Inhibition of Growth Rate and Deoxynucleoside Triphosphate Concentrations in Cultured Leukemia L1210 Cells . . . . . | 177 |

#### SHORT COMMUNICATIONS

|                                                                                                                                                                                                                |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| ANNE K. KREY, JOHN G. OLENICK, AND FRED E. HAHN. Interactions of the Antibiotic Distamycin A with Homopolymeric Single-Stranded Polydeoxyribonucleotides and with $\Phi$ X 174 Deoxyribonucleic Acid . . . . . | 185 |
| MINOU BINA-STEIN AND THOMAS R. TRITTON. Aurintricarboxylic Acid Is a Nonspecific Enzyme Inhibitor . . . . .                                                                                                    | 191 |

#### NUMBER 2, MARCH, 1976

|                                                                                                                                                                                                                                                                                                                    |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| HELEN BOYD AND T. J. MARTIN. Changes in Catecholamine- and Glucagon-Responsive Adenylate Cyclase Activity in Preneoplastic Rat Liver . . . . .                                                                                                                                                                     | 195 |
| BARBARA PETRACK AND ANDREW J. CZERNIK. Inhibition of Isoproterenol Activation of Adenylate Cyclase by Metoprolol, Oxprenolol, and the <i>para</i> Isomer of Oxprenolol . . . . .                                                                                                                                   | 203 |
| BO HELLMAN, LARS-ÅKE IDAHL, ÅKE LERNMARK, INGE-BERT TÄLJEDAL AND EMMYS W. THOMAS. The Pancreatic $\beta$ -Cell Recognition of Insulin Secretagogues. XII. Insulin Release in Response to Halogenated Hexosamines . . . . .                                                                                         | 208 |
| JOHN TURK, PHILLIP NEEDLEMAN, AND GARLAND R. MARSHALL. Analogues of Angiotensin II with Restricted Conformational Freedom, Including a New Antagonist . . . . .                                                                                                                                                    | 217 |
| JAMES S. FELTON, DANIEL W. NEBERT, AND SNORRI S. THORGEIRSSON. Genetic Differences in 2-Acetylaminofluorene Mutagenicity <i>in vitro</i> Associated with Mouse Hepatic Aryl Hydrocarbon Hydroxylase Activity Induced by Polycyclic Aromatic Compounds . . . . .                                                    | 225 |
| S. K. ARYA, WILLIAM A. CARTER, JAMES L. ALDERFER AND PAUL O. P. TS'O. Inhibition of Synthesis of Murine Leukemia Virus in Cultured Cells by Polyribonucleotides and Their 2'-O-Alkyl Derivatives . . . . .                                                                                                         | 234 |
| L. LEE BENNETT, JR., PAULA W. ALLAN, DONALD L. HILL, H. JEANETTE THOMAS, AND JEAN W. CARPENTER. Metabolic Studies with an $\alpha$ -Nucleoside, 9- $\alpha$ -Arabinofuranosyl-8-azaadenine . . . . .                                                                                                               | 242 |
| L. L. IVERSEN, M. A. ROGAWSKI, AND R. J. MILLER. Comparison of the Effects of Neuroleptic Drugs on Pre- and Postsynaptic Dopaminergic Mechanisms in the Rat Striatum . . . . .                                                                                                                                     | 251 |
| R. F. NOVAK AND T. J. SWIFT. Nuclear Magnetic Resonance Studies of Barbiturate-Phospholipid Interactions . . . . .                                                                                                                                                                                                 | 263 |
| J. F. RODRIGUES DE MIRANDA AND C. W. HILBERS. A Nuclear Magnetic Resonance Study of the Kinetics of the Binding of the Renal Contrast Medium Acetrizoate to Albumin . . . . .                                                                                                                                      | 279 |
| RICHARD P. DIAUGUSTINE. Formation <i>in Vitro</i> and <i>in Vivo</i> of the Isonicotinic Acid Hydrazone Analogue of Nicotinamide Adenine Dinucleotide by Lung Nicotinamide Adenine Dinucleotide Glycohydrolase . . . . .                                                                                           | 291 |
| PAUL O. P. TS'O, JAMES L. ALDERFER, JUDITH LEVY, LEWIS W. MARSHALL, JUDITH O'MALLEY, JULIUS S. HOROSZEWICZ, AND WILLIAM A. CARTER. An Integrated and Comparative Study of the Antiviral Effects and Other Biological Properties of the Polyinosinic Acid-Polycytidylic Acid and Its Mismatched Analogues . . . . . | 299 |
| JOSEPH H. CORT, IVO FRIČ, LARS CARLSSON, DIETER GILLESSEN, SLAVOMÍR BYSTRICKÝ, JANA ŠKOPKOVÁ, VLADIMÍR GUT, ROLF O. STUDER, JAN L. MULDER AND KAREL BLÁHA. Biological and Chiroptical Sequelae of Graded Alkyl Substitutions in the Vasopressin Ring . . . . .                                                     | 313 |
| MASAHIKO SUGIURA, KAZUhide IWASAKI, AND RYUICHI KATO. Reduction of Tertiary Amine <i>N</i> -Oxides by Liver Microsomal Cytochrome P-450 . . . . .                                                                                                                                                                  | 322 |

# SHORT COMMUNICATIONS

- MICHAEL E. MAGUIRE, PAMELA M. VAN ARSDALE, AND ALFRED G. GILMAN. An Agonist-Specific Effect of Guanine Nucleotides on Binding to the *Beta* Adrenergic Receptor ..... 335
- B. COLLIER, L. A. BARKER AND T. W. MITTAG. The Release of Acetylated Choline Analogues by a Sympathetic Ganglion ..... 340

## NUMBER 3, MAY, 1976

- KENNETH M. JOHNSON, WILLIAM L. DEWEY, AND LOUIS S. HARRIS. Some Structural Requirements for Inhibition of High-Affinity Synaptosomal Serotonin Uptake by Cannabinoids ..... 345
- U. OTTEN AND H. THOENEN. Selective Induction of Tyrosine Hydroxylase and Dopamine  $\beta$ -Hydroxylase in Sympathetic Ganglia in Organ Culture: Role of Glucocorticoids as Modulators ..... 353
- STEPHEN A. MORRIS AND MAYNARD H. MAKMAN. Cell Density and Receptor-Adenylate Cyclase Relationships in the C-6 Astrocytoma Cell ..... 362
- JAMES P. BENNETT, JR. AND SOLOMAN H. SNYDER. Serotonin and Lysergic Acid Diethylamide Binding in Rat Brain Membranes: Relationship to Postsynaptic Serotonin Receptors ..... 373
- J. A. NATHANSON AND F. E. BLOOM. Heavy Metals and Adenosine Cyclic 3',5'-Monophosphate Metabolism: Possible Relevance to Heavy Metal Toxicity .. 390
- ATSUNOBU YODA. Binding of Digoxigenin to Sodium- and Potassium-Dependent Adenosine Triphosphatase ..... 399
- JOHN V. MICKEY, ROBERT TATE, DEBRA MULLIKIN, AND ROBERT J. LEFKOWITZ. Regulation of Adenylate Cyclase-Coupled *Beta* Adrenergic Receptor Binding Sites by *Beta* Adrenergic Catecholamines in Vitro ..... 409
- A. KUROSAWA, A. GUIDOTTI, AND E. COSTA. Induction of Tyrosine 3-Monooxygenase Elicited by Carbamylcholine in Intact and Denervated Adrenal Medulla: Role of Protein Kinase Activation and Translocation ..... 420
- H.-Y. T. YANG AND N. H. NEFF. Hydroxyindole *O*-Methyltransferase: An Immunohistochemical Study of the Neuronal Regulation of the Pineal Enzyme ..... 433
- WILLIAM A. CARTER, JUDITH O'MALLEY, MALCOLM BEESON, PETER CUNNINGTON, ALAN KELVIN, ANTHONY VERE-HODGE, JAMES L. ALDERFER, AND PAUL O. P. TS'O. An Integrated and Comparative Study of the Antiviral Effects and Other Biological Properties of the Polynosinic Polycytidylic Acid Duplex and Its Mismatched Analogues. III. Chronic Effects and Immunological Features ..... 440
- J. F. RODRIGUES DE MIRANDA, T. D. EIKELBOOM, AND G. A. J. VAN OS. The Extent of Hydrophobic Binding Area Studied by Fatty Acid Binding to Albumin ..... 454
- L. CHARLES MURRIN AND ROBERT H. ROTH. Dopaminergic Neurons: Effects of Electrical Stimulation on Dopamine Biosynthesis ..... 463
- AMY S. RISPIN, HIDEO KON, AND DANIEL W. NEBERT. Electron Spin Resonance Study of <sup>17</sup>O-Enriched Oxybenzo[a]pyrene Radical ..... 476
- R. M. PHILPOT AND EMEL ARINÇ. Separation and Purification of Two Forms of Hepatic Cytochrome P-450 from Untreated Rabbits ..... 483
- P. D. HOLOHAN, N. I. PESSAH, D. WARKENTIN, AND C. R. ROSS. The Purification of an Organic Cation-Specific Binding Protein from Dog Kidney ..... 494
- GAVRIL W. PASTERNAK, RABI SIMANTOV, AND SOLOMON H. SNYDER. Characterization of an Endogenous Morphine-like Factor (Enkephalin) in Mammalian Brain ..... 504

# SHORT COMMUNICATION

- DE-MAW CHUANG AND ERMINIO COSTA. Trans-synaptic Regulation of Ribonucleic Acid Biosynthesis in Rat Adrenal Medulla ..... 514

## NUMBER 4, JULY, 1976

- D. COLQUHOUN AND H. P. RANG. Effects of Inhibitors on the Binding of Iodinated  $\alpha$ -Bungarotoxin to Acetylcholine Receptors in Rat Muscle ..... 519

|                                                                                                                                                                                                                                                 |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| J. M. TRIFARÓ, A. C. DUERR AND J. E. B. PINTO. Membranes of the Adrenal Medulla; a Comparison between the Membranes of the Golgi Apparatus and Chromaffin Granules .....                                                                        | 536 |
| JANE E. HARRIS. <i>Beta</i> Adrenergic Receptor-Mediated Adenosine Cyclic 3',5'-Monophosphate Accumulation in the Rat Corpus Striatum .....                                                                                                     | 546 |
| LEE E. LIMBIRD AND ROBERT J. LEFKOWITZ. Adenylate Cyclase-Coupled <i>Beta</i> Adrenergic Receptors: Effect of Membrane Lipid-Perturbing Agents on Receptor Binding and Enzyme Stimulation by Catecholamines .....                               | 559 |
| DAVID B. BYLUND AND SOLOMON H. SNYDER. <i>Beta</i> Adrenergic Receptor Binding in Membrane Preparations from Mammalian Brain .....                                                                                                              | 568 |
| ROBERT M. LEVIN AND BENJAMIN WEISS. Mechanism by Which Psychotropic Drugs Inhibit Adenosine Cyclic 3',5'-Monophosphate Phosphodiesterase of Brain .....                                                                                         | 581 |
| ANDREW T. MCPHAIL, MOHAMED B. ABOU-DONIA AND GERALD M. ROSEN. X-ray Crystal Structure and Conformation of a Spin-Labeled Acetylcholine, DL-4-[N,N-Dimethyl-N-(ethan-2'-olacetate)amino]-2,2,6,6-tetramethylpiperidine-1-oxyl iodide .....       | 590 |
| E. J. LIEN, J. F. RODRIGUES DE MIRANDA AND E. J. ARIËNS. Quantitative Structure-Activity Correlation of Optical Isomers: a Molecular Basis for Pfeiffer's Rule .....                                                                            | 598 |
| H. SAPPER AND W. LOHMANN. Self-association and Binding Sites of Some Psychotomimetic Tryptamine Derivatives and Related Compounds: Nuclear Magnetic Resonance Investigations .....                                                              | 605 |
| RUDOLPH W. LUCEK AND CLAUDE B. COUTINHO. The Role of Substituents in the Hydrophobic Binding of the 1,4-Benzodiazepines by Human Plasma Proteins .....                                                                                          | 612 |
| RICHARD A. LOVELL AND DANIEL X. FREEDMAN. Stereospecific Receptor Sites for <i>d</i> -Lysergic Acid Diethylamide in Rat Brain: Effects of Neurotransmitters, Amine Antagonists, and Other Psychotropic Drugs .....                              | 620 |
| DAVID R. BURT, IAN CREESE AND SOLOMON H. SNYDER. Binding Interactions of Lysergic Acid Diethylamide and Related Agents with Dopamine Receptors in the Brain .....                                                                               | 631 |
| BRUCE K. KRUEGER, JAVIER FORN, JUDITH R. WALTERS, ROBERT H. ROTH AND PAUL GREENGARD. Stimulation by Dopamine of Adenosine Cyclic 3',5'-Monophosphate Formation in Rat Caudate Nucleus: Effect of Lesions of the Nigro-neostriatal Pathway ..... | 639 |
| SUSAN E. SAINÉ AND HENRY W. STROBEL. Drug Metabolism in Liver Tumors. Resolution of Components and Reconstitution of Activity .....                                                                                                             | 649 |
| JAMES A. MAGLOTHIN, WEN-SHERNG CHEN AND IRWIN B. WILSON. Free Energy Relationships in the Inhibition of Acetylcholinesterase by Diethyl Phosphates .....                                                                                        | 658 |
| VICTORIO T. WEE, BIRANDRA K. SINHA, PALMER W. TAYLOR AND COLIN F. CHIGNELL. Interaction of Spin-Labeled Bisquaternary Ammonium Ligands with Acetylcholinesterase .....                                                                          | 667 |
| RICHARD FERTEL AND BENJAMIN WEISS. Properties and Drug Responsiveness of Cyclic Nucleotide Phosphodiesterases of Rat Lung .....                                                                                                                 | 678 |
| SHORT COMMUNICATION                                                                                                                                                                                                                             |     |
| JACK DIAMOND AND KAREN S. BLISARD. Effects of Stimulant and Relaxant Drugs on Tension and Cyclic Nucleotide Levels in Canine Femoral Artery .....                                                                                               | 688 |

#### NUMBER 5, SEPTEMBER 1976

|                                                                                                                                                                                                                                            |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| HIROHEI YAMAMURA AND MARTIN RODBELL. Hydroxybenzylpindolol and Hydroxybenzylpropranolol: Partial <i>Beta</i> Adrenergic Agonists of Adenylate Cyclase in the Rat Adipocyte .....                                                           | 693 |
| KENNETH L. MELMON, YACOB WEINSTEIN, HENRY R. BOURNE, TAK POON, GENE SHEARER AND NEAL CASTAGNOLI, JR. The Pharmacological Effects of Conjugates of Pharmacologically Active Amines to Complex or Simple Carriers: a New Class of Drug ..... | 701 |

|                                                                                                                                                                                                                                                                                                              |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| J. COURTLAND WHITE AND I. DAVID GOLDMAN. Mechanism of Action of Methotrexate. IV. Free Intracellular Methotrexate Required to Suppress Dihydrofolate Reduction to Tetrahydrofolate by Ehrlich Ascites Tumor Cells <i>in Vitro</i> .                                                                          | 711 |
| DAVID C. KLEIN, KENNETH L. KIRK, JOAN L. WELLER, TAKAMI OKA, ANDREW PARFITT AND IDA S. OWENS. 2-Fluoro-L-histidine, an Inhibitor of Enzyme Induction .                                                                                                                                                       | 720 |
| HAROLD L. MOSES, THOMAS C. SPELSBERG, JOSEF KORINEK AND FRANK CHYTIL. Porphyrin-Inducing Drugs: Comparative Effects on Nuclear Ribonucleic Acid Polymerases in Rat Liver .                                                                                                                                   | 731 |
| HAREL WEINSTEIN, DAVID CHOU, CARL L. JOHNSON, SUNGZONG KANG AND JACK PETER GREEN. Tautomerism and the Receptor Action of Histamine: a Mechanistic Model .                                                                                                                                                    | 738 |
| PAUL E. THOMAS, ANTHONY Y. H. LU, DENE RYAN, SUSAN B. WEST, JOSEPH KAWALEK AND WAYNE LEVIN. Immunochemical Evidence for Six Forms of Rat Liver Cytochrome P450 Obtained Using Antibodies against Purified Rat Liver Cytochromes P450 and P448. .                                                             | 746 |
| PETER J. WIRTH, CAROL J. BETTIS AND WENDEL L. NELSON. Microsomal Metabolism of Furosemide Evidence for the Nature of the Reactive Intermediate Involved in Covalent Binding .                                                                                                                                | 759 |
| NORMAN D. HINMAN AND JOHN R. CANN. Reversible Binding of Chlorpromazine to Brain Tubulin .                                                                                                                                                                                                                   | 769 |
| E. K. MATTHEWS AND J. J. NORDMANN. The Synaptic Vesicle: Calcium Ion Binding to the Vesicle Membrane and Its Modification by Drug Action . . .                                                                                                                                                               | 778 |
| D. KIRK WAYS, CAROL F. ZIMMERMAN AND DAVID A. ONTJES. Inhibition of Adrenocorticotropin Effects on Adrenal Cell Membranes by Synthetic Adrenocorticotropin Analogues: Correlation of Binding and Adenylate Cyclase Activation .                                                                              | 789 |
| DAVID R. BURT, IAN CREESE AND SOLOMON H. SNYDER. Properties of [ <sup>3</sup> H]-Haloperidol and [ <sup>3</sup> H]Dopamine Binding Associated with Dopamine Receptors in Calf Brain Membranes .                                                                                                              | 800 |
| EVA BARTELS-BERNAL, TERRONE L. ROSENBERY AND HAI WON CHANG. A Membrane Activation Cycle Induced by Sulfhydryl Reagents after Affinity Labeling of the Acetylcholine Receptor of Electrophax .                                                                                                                | 813 |
| STEVEN J. SMITH, DAI KEE LIU, THOMAS B. LEONARD, BARRY W. DUCEMAN AND ELLIOT S. VESSELL. Phenobarbital-Induced Increases in Methylation of Ribosomal Precursor Ribonucleic Acid .                                                                                                                            | 820 |
| VICTORIO T. WEE, RICHARD J. FELDMANN, ROBERT J. TANIS AND COLIN F. CHIGNELL. A Comparative Study of Mammalian Erythrocyte Carbonic Anhydrases Employing Spin-Labeled Analogues of Inhibitory Sulfonamides . . .                                                                                              | 832 |
| S. K. ARYA, T. L. HELSER, W. A. CARTER AND P. O. P. Ts'o. Polyxanthylic and Polyguanylic Acid Inhibition of Murine Leukemia Virus Activities . . . . .                                                                                                                                                       | 844 |
| HERBERT SHEPPARD, CHARLES R. BURGHARDT AND SIDNEY TEITEL. The Dopamine-Sensitive Adenylate Cyclase of the Rat Caudate Nucleus. II. A Comparison with the Isoproterenol-Sensitive ( <i>Beta</i> ) Adenylate Cyclase of the Rat Erythrocyte for Inhibition or Stimulation by Tetrahydroisoquinolines . . . . . | 854 |
| FRED R. BUTCHER, LYNN RUDICH, CAROL EMLER AND MARK NEMEROVSKI. Adrenergic Regulation of Cyclic Nucleotide Levels, Amylase Release, and Potassium Efflux in Rat Parotid Gland .                                                                                                                               | 862 |
| MAX COSTA, ELIZABETH R. COSTA, CAROL-ANN MANEN, I. GLENN SIPES AND DIANE HADDOCK RUSSELL. Adenosine Cyclic 3',5'-Monophosphate-Dependent Protein Kinase and Ornithine Decarboxylase Involvement in the Induction of Cytochrome P-450 and Hepatic Hypertrophy . . . . .                                       | 871 |

NUMBER 6, NOVEMBER, 1976

|                                                                                                                                                                                                                                                                                                                          |     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| PAULA H. STERN, THALIA MAVREAS, CLARENCE L. TRUMMEL, HEINRICH K. SCHNOES AND HECTOR F. DeLUCA. Bone-Resorbing Activity of Analogues of 25-Hydroxycholecalciferol and 1,25-Dihydroxycholecalciferol: Effects of Side chain Modification and Stereoisomerization on Responses of Fetal Rat Bones <i>in Vitro</i> . . . . . | 879 |
| A. ROTMAN, J. W. DALY AND C. R. CREVELING. Oxygen-Dependent Reaction of 6-                                                                                                                                                                                                                                               |     |

|                                                                                                                                                                                                                                                                                                       |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Hydroxydopamine, 5,6-Dihydroxytryptamine, and Related Compounds with Proteins <i>in Vitro</i> : a Model for Cytotoxicity .....                                                                                                                                                                        | 887  |
| U. SCHWABE, M. MIYAKE, Y. OHGA AND J. W. DALY. 4-(3-Cyclopentyloxy-4-methoxyphenyl)-2-pyrrolidone (ZK 62711): a Potent Inhibitor of Adenosine Cyclic 3',5'-Monophosphate Phosphodiesterases in Homogenates and Tissue Slices from Rat Brain .....                                                     | 900  |
| E. DYBING, S. D. NELSON, J. R. MITCHELL, H. A. SASAME AND J. R. GILLETTE. Oxidation of $\alpha$ -Methyldopa and Other Catechols by Cytochrome P-450-Generated Superoxide Anion: Possible Mechanism of Methyldopa Hepatitis .....                                                                      | 911  |
| TETSUYA KAMATAKI, DANIEL H. BELCHER AND ROBERT A. NEAL. Studies of the Metabolism of Diethyl <i>p</i> -Nitrophenyl Phosphorothionate (Parathion) and Benzphetamine Using an Apparently Homogeneous Preparation of Rat Liver Cytochrome P-450: Effect of a Cytochrome P-450 Antibody Preparation ..... | 921  |
| TETSUYA KAMATAKI AND ROBERT A. NEAL. Metabolism of Diethyl- <i>p</i> -Nitrophenyl Phosphorothionate (Parathion) by a Reconstituted Mixed-Function Oxidase Enzyme System: Studies of the Covalent Binding of the Sulfur Atom .....                                                                     | 933  |
| A. W. CUTHBERT. Importance of Guanidinium Groups for Blocking Sodium Channels in Epithelia .....                                                                                                                                                                                                      | 945  |
| P. LAYER, H. R. KIEFER AND F. HUCHO. Selective Labeling of Anionic Binding Sites of the Acetylcholinesterase from <i>Torpedo californica</i> with a Photoaffinity Label .....                                                                                                                         | 958  |
| MARY A. BITTNER AND RAYMOND W. RUDDON. Induction and Decay of Aryl Hydrocarbon Hydroxylase Activity in Mouse 3T3 Cells .....                                                                                                                                                                          | 966  |
| RABI SIMANTOV, ADELE M. SNOWMAN AND SOLOMON H. SNYDER. Temperature and Ionic Influences on Opiate Receptor Binding .....                                                                                                                                                                              | 977  |
| RABI SIMANTOV AND SOLOMON H. SNYDER. Morphine-Like Peptides, Leucine Enkephalin and Methionine Enkephalin: Interactions with the Opiate Receptor .....                                                                                                                                                | 987  |
| DAVID O. CARPENTER, LLOYD A. GREENE, WILLIAM SHAIN AND ZVI VOGEL. Effects of Eserine and Neostigmine on the Interaction of $\alpha$ -Bungarotoxin with <i>Aplysia</i> Acetylcholine Receptors .....                                                                                                   | 999  |
| LILIANE ZUBLER-FAIVRE AND YVES DUNANT. Sodium- and Potassium-Dependent Adenosine Triphosphatase of Electric Organ: Interaction with Ouabain <i>in Situ</i> , in a Membrane Fraction, and in the Solubilized Form .....                                                                                | 1007 |
| SURENDRA K. GUPTA, JOHN F. MORAN AND DAVID J. TRIGGLE. Mechanism of Action of Benzilylcholine Mustard at the Muscarinic Receptor .....                                                                                                                                                                | 1019 |
| BRUCE F. CAIN, WILLIAM ROBERT WILSON AND BRUCE C. BAGULEY. Structure-Activity Relationships for Thiolytic Cleavage Rates of Antitumor Drugs in the 4'-(9-Acridinylamino)methanesulfonanilide Series .....                                                                                             | 1027 |
| DANIEL T. MINKEL, CHRISTINE CHAN-STIER AND DAVID H. PETERING. Reactions of 3-Ethoxy-2-oxobutylaldehyde Bis(N <sup>4</sup> -dimethylthiosemicarbazonato)-Zinc(II) with Tumor Cells and Mitochondria .....                                                                                              | 1036 |
| E. DE CLERCQ, V. G. EDY, P. F. TORRENCE, J. A. WATERS AND B. WITKOP. Antiviral Activity of Poly(7-deazainosinic acid)-Derived Complexes <i>in Vitro</i> and <i>in Vivo</i> .....                                                                                                                      | 1045 |
| G. SUDLOW, D. J. BIRKETT AND D. N. WADE. Further Characterization of Specific Drug Binding Sites on Human Serum Albumin .....                                                                                                                                                                         | 1052 |
| PAUL A. INSEL, MICHAEL E. MAGUIRE, ALFRED G. GILMAN, HENRY R. BOURNE, PHILIP COFFINO AND KENNETH L. MELMON. <i>Beta</i> Adrenergic Receptors and Adenylate Cyclase: Products of Separate Genes .....                                                                                                  | 1062 |
| L. CHARLES MURRIN, VICTOR H. MORGENTHAU, III, AND ROBERT H. ROTH. Dopaminergic Neurons: Effects of Electrical Stimulation on Tyrosine Hydroxylase ..                                                                                                                                                  | 1070 |
| L. CHARLES MURRIN AND MICHAEL J. KUHA. Activation of High-Affinity Choline Uptake <i>in Vitro</i> by Depolarizing Agents .....                                                                                                                                                                        | 1082 |
| GREGORY WEILAND, BRIAN GEORGIA, VICTORIO T. WEE, COLIN F. CHIGNELL AND PALMER TAYLOR. Ligand Interactions with Cholinergic Receptor-Enriched Membranes from <i>Torpedo</i> : Influence of Agonist Exposure on Receptor Properties .....                                                               | 1091 |
| AUTHOR INDEX FOR VOLUME 12 .....                                                                                                                                                                                                                                                                      | 1106 |
| SUBJECT INDEX FOR VOLUME 12 .....                                                                                                                                                                                                                                                                     | 1115 |