

CONTENTS OF VOLUME 10

NUMBER 1, JANUARY 1974

MICHEL WEBER AND JEAN-PIERRE CHANGEUX. Binding of <i>Naja nigricollis</i> ³ H- α -toxin to Membrane Fragments from <i>Electrophorus</i> and <i>Torpedo</i> Electric Organs 1. Binding of the Tritiated α -Neurotoxin in the Absence of Effector.....	1
MICHEL WEBER AND JEAN-PIERRE CHANGEUX. Binding of <i>Naja nigricollis</i> ³ H- α -toxin to Membrane Fragments from <i>Electrophorus</i> and <i>Torpedo</i> Electric Organs 2. Effect of Cholinergic Agonists and Antagonists on the Binding of the Tritiated α -Neurotoxin.....	15
MICHAEL WEBER AND JEAN-PIERRE CHANGEUX. Binding of <i>Naja nigricollis</i> ³ H- α -toxin to Membrane Fragments from <i>Electrophorus</i> and <i>Torpedo</i> Electric Organs 3. Effects of Local Anaesthetics on the Binding of the Tritiated α -Neurotoxin....	35
SAMI I. HARIK, MORLEY D. HOLLENBERG, AND SOLOMON H. SNYDER. Ornithine Decarboxylase Turnover Slowed by α -Hydrazino Ornithine.....	41
GARY L. JONES AND JOHN W. KEMP. Characteristics of the Hydrogen Bonding Interactions of Substituted Hydantoins with 9-Ethyladenine.....	48
GASTON SCHAECHTELIN, RODERICH WALTER, HANS SALOMON, JIŘI JELÍNEK, PETR KAREN, AND JOSEPH H. CORT. Enhancement of the Activity of Angiotensin II by Certain Cations.....	57
JEFFREY L. WINKELHAKE, EDWARD W. VOSS, JR., AND DENNIS E. LOPATIN. Comparative Inhibitory Action of D and L Tryptophan on the <i>in vitro</i> LSD Effect..	68
PALMER TAYLOR, JONATHAN W. JONES, AND NORMAN M. JACOBS. Acetylcholinesterase from <i>Torpedo</i> ; Characterization of an Enzyme Species Isolated by Lytic Procedures.....	78
PALMER TAYLOR AND NORMAN M. JACOBS. Interaction Between Bis-Quaternary Ammonium Ligands and Acetylcholinesterase—Complex Formation Studied by Fluorescence Quenching.....	93
PAUL G. KILLENBERG AND CHARLES L. HOPPEL. Inhibition of Rat Liver Mitochondrial Oxidative Phosphorylation by Sulfobromophthalein.....	108
CHARLES W. SHARP, DOROTHY H. HUNT, SAMUEL T. CLEMENTS, AND WILLIAM E. WILSON. The Influence of DDT, Polychlorinated Biphenyls and Anionic Amphiphilic Compounds on Stabilization of Sodium, Potassium Activated Adenosine Triphosphatases by Acidic Phospholipids.....	119
ROBERT Z. EANES AND ERNEST KUN. Studies with Specific Enzyme Inhibitors XV: Inhibition of Liver Aconitase Isozymes by (-)-Erythrofluorocitrate.....	130
JERRY L. McCULLOUGH AND THOMAS H. MAREN. Dihydropteroate Synthetase from <i>Plasmodium berghei</i> : Isolation, Properties, and Inhibition by Dapsone and Sulfadiazine.....	140
PAUL D. THUT AND THOMAS J. LINDELL. α -Amanitin Inhibition of Mouse Brain Form II RNA Polymerase and Passive Avoidance Retention.....	146
JOHN STONER, VINCENT C. MANGANIELLO, AND MARTHA VAUGHAN. Cyclic 3',5'-Guanosine Monophosphate and Guanylate Cyclase Activity in Guinea Pig Lung: Effects of Acetylcholine and Cholinesterase Inhibitors.....	155

EDWARD T. BROWNING, JOAN P. SCHWARTZ AND BRUCE MCL. BRECKENRIDGE. Nor- epinephrine Sensitive Properties of C-6 Astrocytoma Cells.....	162
SHORT COMMUNICATION	
EDWARD T. BROWNING, VINCENT E. GROPP, JR., AND CHRISTINE KON. Pa- paverine: A Potent Inhibitor of Respiration in C-6 Astrocytoma Cells.....	175

NUMBER 2, MARCH 1974

GAVRIL W. PASTERNAK AND SOLOMON H. SNYDER. Opiate Receptor Binding: Effects of Enzymatic Treatments.....	183
STEVEN C. CARLIN, ROGER N. ROSENBERG, LARRY VANDEVENTER, AND MORRIS FRIED- KIN. Quinazoline Antifolates as Inhibitors of Growth, Dihydrofolate Reductase, and Thymidylate Synthetase of Mouse Neuroblastoma Cells in Culture.....	194
M. D. MAINES AND M. W. ANDERS. Studies on Heme Transfer from Microsomal Hemoproteins to Heme-Binding Plasma Proteins.....	204
MICHAEL WARING AND ANDREW MAKOFF. Breakdown of Pulse-Labeled Ribonucleic Acid and Polysomes in <i>Bacillus megaterium</i> : Actions of Streptolydigin, Echino- mycin, and Triostins.....	214
M. DOETEUCHI, C. WANG, AND E. COSTA. Compartmentation of Dopamine in Rat Striatum.....	225
TING-CHAO CHOU. Relationships between Inhibition Constants and Fractional Inhibitions in Enzyme-Catalyzed Reactions with Different Number of Reactants, Different Reaction Mechanisms, and Different Types and Mechanisms of In- hibition.....	235
STEVEN J. SMITH, SAMSON T. JACOB, DAI KEE LIU, BARRY DUCEMAN, AND ELLIOT S. VESELL. Further Studies on Post-transcriptional Stabilization of Ribosomal Precursor RNA by Phenobarbital.....	237
I. DAVID GOLDMAN. The Mechanism of Action of Methotrexate I. Interaction with a Low-Affinity Intracellular Site Required for Maximum Inhibition of DNA Syn- thesis in L-Cell Mouse Fibroblasts.....	257
I. DAVID GOLDMAN AND MARY JO FYFE. The Mechanism of Action of Methotrexate II. Augmentation by Vincristine of Inhibition of DNA Synthesis by Methotrexate in Ehrlich Ascites Tumor Cells.....	275
ALICE Y. C. LIU AND THOMAS W. MITTAG. Membrane-bound Acetylcholinesterase: Comparison of Enzymes in Sarcoplasmic Reticulum and Sarcolemma from Stri- ated Muscle.....	283
A. W. COULTER, J. B. LOMBARDINI, AND PAUL TALALAY. Structural and Conforma- tional Analogues of L-Methionine as Inhibitors of the Enzymatic Synthesis of S- Adenyl-L-Methionine I. Saturated and Unsaturated Aliphatic Amino Acids.....	293
A. W. COULTER, J. B. LOMBARDINI, AND PAUL TALALAY. Structural and Conforma- tional Analogues of L-Methionine as Inhibitors of the Enzymatic Synthesis of S-Adenosyl-L-Methionine II. Aromatic Amino Acids.....	305
Addendum by PETER B. HULBERT. Multiple Regression Analyses of the Relation- ship between Structure and the Inhibitory Effects of a Series of Substituted O- Phenyl-DL-Homoserines on ATP: L-Methionine S-Adenosyltransferase.....	315
A. W. COULTER, J. B. LOMBARDINI, JANICE R. SUFRIN, AND PAUL TALALAY. Struc- tural and Conformational Analogues of L-Methionine as Inhibitors of the Enzy- matic Synthesis of S-Adenosyl-L-Methionine III. Carbocyclic and Heterocyclic Amino Acids.....	319
RODNEY W. KING, LAL C. GARG, JUDITH HUCKSON, AND THOMAS H. MAREN. The Isolation and Partial Characterization of Sulfonamide-Resistant Carbonic An- hydrases from the Liver of the Male Rat.....	335

RODNEY W. KING AND THOMAS H. MAREN. Kinetics of Complex Formation between Human Carbonic Anhydrase B and Heterocyclic Sulfonamides	344
ALAN POLAND AND EDWARD GLOVER. Comparison of 2,3,7,8-Tetrachlorodibenzo-p-dioxin, a Potent Inducer of Aryl Hydrocarbon Hydroxylase with 3-Methylcholanthrene	349
B. PULLMAN AND J. PORT. Molecular Orbital Study on the Conformation of Histamine, the Isolated Molecule and the Solvent Effect	360

NUMBER 3, MAY 1974

PETER REN, RONALD E. LALIBERTE AND ROBERT G. BELL. Effects of Warfarin, Phenylindanedione, Tetrachloropyridinol, and Chloro-vitamin K ₁ on Prothrombin Synthesis and Vitamin K Metabolism in Normal and Warfarin Resistant Rats . . .	373
ROBERT C. HAYNES, JR., JAMES C. GARRISON, AND RUSSELL K. YAMAZAKI. Comparison of Effects of Glucagon and Valinomycin on Rat Liver Mitochondria and Cells	381
JAMES S. WOODS. Studies on the Role of Heme in the Regulation of δ -Amino-levulinic Acid Synthetase during Fetal Hepatic Development	389
WOLFGANG P. BRADE, JEN-FU CHIU, AND LUBOMIR S. HNILICA. Phosphorylation of Rat Liver Nuclear Acidic Phosphoproteins after Administration of α -1,2,3,4,5,6-Hexachlorocyclohexane <i>in Vivo</i>	391
GILDA LOEW, HARVEY MOTULSKY, JAMES TRUDELL, ELLIS COHEN, AND LEONARD HJELMELAND. Quantum Chemical Studies of the Metabolism of the Inhalation Anesthetics Methoxyflurane, Enflurane, and Isoflurane	406
JAMES C. PAULSON AND WILLIAM O. McCLURE. The Lack of Correlation between Hallucinogenesis and Inhibition of Axoplasmic Transport	419
M. H. J. KOCH. The Conformation of Neuroleptic Drugs	425
WILLIAM B. LEVY, JOHN W. HAYCOCK, AND CARL W. COTMAN. Effects of Polyvalent Cations on Stimulus-Coupled Secretion of [¹⁴ C]- γ -Aminobutyric Acid from Isolated Brain Synaptosomes	438
DOROTHY E. VATNER AND ROBERT J. LEFKOWITZ. [³ H]-Propranolol Binding Sites in Myocardial Membranes: Nonidentity with <i>Beta</i> Adrenergic Receptors	450
MARIE-FRANCOISE VESIN AND SIMONE HARBON. The Effects of Epinephrine, Prostaglandins and Their Antagonists on Adenosine Cyclic 3',5'-Monophosphate Concentrations and Motility of the Rat Uterus	457
JULIEN F. BIEBUYCK AND PATRICIA LUND. Effects of Halothane and Other Anesthetic Agents on the Concentrations of Rat Liver Metabolites <i>in Vivo</i>	474
JOSEPH R. ROBINSON AND DANIEL W. NEBERT. Genetic Expression of Aryl Hydrocarbon Hydroxylase Induction Presence or Absence of Association with Zoxazolamine, Diphenylhydantoin, and Hexobarbital Metabolism	484
ATSUNOBU YODA AND SHIZUKO YODA. Structure-Activity Relationships of Cardiotonic Steroids for the Inhibition of Sodium- and Potassium-Dependent Adenosine Triphosphatase. III. Dissociation Rate Constants of Various Enzyme-Cardiac Glycoside Complexes Formed in the Presence of Sodium, Magnesium, and Adenosine Triphosphatase	494
THOMAS TOBIN, TAI AKERA, C. S. HAN, AND THEODORE M. BRODY. Lithium and Rubidium Interactions with Sodium and Potassium-Dependent Adenosine Triphosphatase: A Molecular Basis for the Pharmacological Actions of these Ions . . .	501
TAI AKERA, THOMAS TOBIN, ALFRED GATTI, ING-SHIH SHIEH, AND THEODORE M. BRODY. Effect of Potassium on the Conformational State of the Complex of Ouabain with Sodium- and Potassium-Dependent Adenosine Triphosphatase	509

ELSA C. SANTOS AND ARTHUR A. SPECTOR. Effects of Fatty Acids on the Interaction of 1-Anilino-8-naphthalenesulfonate with Human Plasma Albumin.....	519
ASHOK Y. DIVEKAR, HARRY K. SLOCUM, AND MAIRE T. HAKALA. N^6 -(Δ^2 -Isopen-tenyl)adenosine 5'-Monophosphate: Formation and Effect on Purine Metabolism in Cellular and Enzymatic Systems.....	527
L. P. G. WAKELIN AND M. J. WARING. The Unwinding of Circular Deoxyribonucleic Acid by Phenanthridinium Drugs: Structure-Activity Relations for the Inter-calation Reaction.....	544

ERRATUM

ATSUNOBU YODA, SHIZUKO YODA, AND AWNI M. SARRIF. Structure-Activity Relationships of Cardiotonic Steroids for the Inhibition of Sodium- and Potassium Dependent Adenosine Triphosphatase II. Association Rate Con-stant of Various Enzyme-Cardiac Glycoside Complexes.....	562
--	-----

NUMBER 4, JULY 1974

ANNOUNCEMENTS.....	iii
MICHAEL E. MAGUIRE, PETER H. GOLDMANN, AND ALFRED G. GILMAN. The Reaction of [3 H]Norepinephrine with Particulate Fractions of Cells Responsive to Cate-cholamines.....	563
BARRY B. WOLFE, JOSEPH A. ZIRROLI, AND PERRY B. MOLINOFF. Binding of <i>dl</i> -[3 H]-Epinephrine to Proteins of Rat Ventricular Muscle: Nonidentity with <i>Beta</i> Adrenergic Receptors.....	582
HANS-PETER BÄR. On the Kinetics and Temperature Dependence of Adrenaline-Adenylate Cyclase Interactions.....	597
CARL GRUNFELD, ARTHUR P. GROLLMAN, AND ORA M. ROSEN. Structure-Activity Relationships of Adrenergic Compounds on the Adenylate Cyclase of Frog Eryth-rocytes.....	605
BENJAMIN WEISS, RICHARD FERTEL, AND PETKO UZUNOV. Selective Alteration of the Activity of the Multiple Forms of Adenosine 3',5'-Monophosphate Phos-phodiesterase of Rat Cerebrum.....	615
THOMAS W. SMITH, HENRY WAGNER, JR., AND MICHAEL YOUNG. Cardiac Glycoside Interaction with Solubilized Myocardial Sodium- and Potassium-Dependent Adenosine Triphosphatase.....	626
PATRICK J. MURPHY, JOHN R. BERNSTEIN, AND ROBERT E. McMAHON. The Forma-tion of Catechols by Consecutive Hydroxylations: A Study of the Microsomal Hydroxylation of Butamoxane.....	634
NOBUTO YAMAMOTO, M. D. ANDERSON, AND J. A. DiPAOLO. Phage and Bacterial Inactivation and Prophage Induction by Chemical Carcinogens.....	640
CHONG M. KONG AND R. E. PARKS, JR. Human Erythrocytic Hypoxanthine-Gua-nine Phosphoribosyltransferase: Effect of pH on the Enzymatic Reaction.....	648
MICHAEL E. BECKER, KENT F. ARGUBRIGHT, RICHARD M. FOX, AND J. EDWIN SEEG-MILLER. Oxipurinol-Associated Inhibition of Pyrimidine Synthesis in Human Lymphoblasts.....	657
J. SEIFERT AND J. VACHA. Pyrimidine Nucleotide Synthesis and Degradation in Rat Liver after Repeated Phenobarbital Administration.....	669
HOLGER BAUMGARTNER, JAMES W. GIBB, HEIDE HORTNAGL, STUART R. SNIDER, AND HANS WINKLER. Labeling of Chromaffin Granules in Adrenal Medulla with [35 S] Sulfate.....	678
ANNE K. KREY AND FRED E. HAHN. Optical Studies on the Interaction of DL-Quin-acrine with Double- and Single-Stranded Calf Thymus Deoxyribonucleic Acid...	686

HARRY C. FROEDE AND IRWIN B. WILSON. Equilibrium Constants and Relationships in the Inhibition of Serinesterases by Organophosphates.....	696
---	-----

SHORT COMMUNICATION

PALMER TAYLOR, JAMSON LWEBUGA-MUKASA, SHELLEY LAPPI, AND JAMES RADEMACHER. Propidium—A Fluorescence Probe for a Peripheral Anionic Site on Acetylcholinesterase.....	703
--	-----

ERRATUM

MICHAEL WARING AND ANDREW MAKOFF. Breakdown of Pulse-Labeled Ribonucleic Acid and Polysomes in <i>Bacillus megaterium</i> : Actions of Streptolydigin, Echinomycin, and Triostins.....	709
--	-----

NUMBER 5, SEPTEMBER 1974

ANNOUNCEMENT.....	iii
-------------------	-----

MARGARET A. BROSTROM, CHRISTINE KON, DOUGLAS R. OLSON, AND BRUCE McL. BRECKENRIDGE. Adenosine 3',5'-Monophosphate in Glial Tumor Cells Treated with Glucocorticoids.....	711
--	-----

HERBERT SHEPPARD AND CHARLES R. BURGHARDT. The Dopamine-Sensitive Adenylate Cyclase of the Rat Caudate Nucleus. I. A Comparison with the β -Type Cyclase of the Rat Erythrocyte in the Responses to Dopamine Derivatives.....	721
---	-----

B. ZIVKOVIC, A. GUIDOTTI, AND E. COSTA. Effect of Neuroleptics on Striatal Tyrosine Hydroxylase: Changes in the Affinity for the Pteridine Cofactor.....	727
--	-----

C. C. MAO, A. GUIDOTTI, AND E. COSTA. Interactions between γ -Aminobutyric Acid and Cyclic Guanosine 3',5'-Monophosphate in Rat Cerebellum.....	736
--	-----

RONALD W. HOLZ AND JOSEPH T. COYLE. The Effects of Various Salts, Temperature, and the Alkaloids Veratridine and Batrachotoxin on the Uptake of [³ H]-Dopamine into Synaptosomes from Rat Striatum.....	746
---	-----

RICHARD J. MILLER, ALAN S. HORN, AND LESLIE L. IVERSEN. The Action of Neuroleptic Drugs on Dopamine-Stimulated Adenosine Cyclic 3',5'-Monophosphate Production in Rat Neostriatum and Limbic Forebrain.....	759
---	-----

DENNIS E. LOPATIN, JEFFREY L. WINKELHAKE, AND EDWARD W. VOSS, JR. Immunological Characterization of a Lysergyl Derivative Incorporated into Protein....	767
---	-----

HIRA L. GURTOO AND T. COLIN CAMPBELL. Metabolism of Aflatoxin B ₁ and Its Metabolism-Dependent and Independent Binding to Rat Hepatic Microsomes..	776
---	-----

ANNE B. YOUNG AND SOLOMON H. SNYDER. Strychnine Binding in Rat Spinal Cord Membranes Associated with the Synaptic Glycine Receptor: Cooperativity of Glycine Interactions.....	790
--	-----

ATSUNOBU YODA AND SHIZUKO YODA. Structure-Activity Relationships of Cardiotonic Steroids for the Inhibition of Sodium- and Potassium-Dependent Adenosine Triphosphatase. IV. Influence of Certain Ligands on the Dissociation Rate Constants of Enzyme-Cardiac Glycoside Complexes.....	810
---	-----

DAVID N. SILVERMAN. A New Approach to Measuring the Rate of Rapid Bicarbonate Exchange across Membranes.....	820
--	-----

MICHAEL J. MARKS AND FEDOR MEDZHIRADSKY. Characterization of the Transport System for Benzomorphan in Leukocytes.....	837
---	-----

SHORT COMMUNICATIONS

FRANCESCO DE MATTEIS. Covalent Binding of Sulfur to Microsomes and Loss of Cytochrome P-450 during the Oxidative Desulfuration of Several Chemicals.....	849
--	-----

R. A. MUELLER, U. OTTEN, AND H. THOENEN. The Role of Adenosine Cyclic 3',5'-Monophosphate in Reserpine-Initiated Adrenal Medullary Tyrosine Hydroxylase Induction.....	855
--	-----

NUMBER 6, NOVEMBER 1974

HENRY I. YAMAMURA AND SOLOMON H. SNYDER. Muscarinic Cholinergic Receptor Binding in the Longitudinal Muscle of the Guinea Pig Ileum with [³ H]Quinuclidinyl Benzilate.	861
CANDACE B. PERT AND SOLOMON H. SNYDER. Opiate Receptor Binding of Agonists and Antagonists Affected Differentially by Sodium	868
A. W. CUTHBERT AND W. K. SHUM. Binding of Amiloride to Sodium Channels in Frog Skin	880
A. W. CUTHBERT. Interactions of Sodium Channels in Transporting Epithelia: A Two-State Model	892
JONATHAN B. COHEN, MICHEL WEBER, AND JEAN-PIERRE CHANGEUX. Effects of Local Anesthetics and Calcium on the Interaction of Cholinergic Ligands with the Nicotinic Receptor Protein from <i>Torpedo Marmorata</i>	904
K. DISMUKES AND J. W. DALY. Norepinephrine-Sensitive Systems Generating Adenosine 3', 5'-Monophosphate: Increased Responses in Cerebral Cortical Slices from Reserpine-Treated Rats	933
CARL D. KING AND STEVEN E. MAYER. Inhibition of Egress of Adenosine 3', 5'-Monophosphate from Pigeon Erythrocytes	941
CARLO SILIPO AND CORWIN HANSCH. The Quantitative Structure-Activity Relationship of 9(X-Phenyl)Guanines Reversibly Inhibiting Guanine Deaminase. Quantitative Comparison of Enzyme from Two Sources	954
M. VORE, A. Y. H. LU, R. KUNTZMAN, AND A. H. CONNEY. Organic Solvent Extraction of Liver Microsomal Lipid. II. Effect on the Metabolism of Substrates and Binding Spectra of Cytochrome P-450	963
MICHAEL R. FRANKLIN. The Formation of a 455 nm Complex during Cytochrome P-450-Dependent <i>N</i> -Hydroxyamphetamine Metabolism	975
LLOYD J. ROTH, IHSAN M. DIAB, MITSUTOSHI WATANABE, AND ROBERT J. DINERSTEIN. A Correlative Radioautographic, Fluorescent, and Histochemical Technique for Cytopharmacology	986
SHORT COMMUNICATIONS	
MILDRED K. BUENING AND MICHAEL R. FRANKLIN. Limitations in the Use of the 340 NM Absorbance Maximum of Reduced Nicotinamide Adenine Dinucleotide Phosphate for the Determination of Oxidation Rates and Stoichiometry during Rat Hepatic Microsomal Metabolism	999
ELIZABETH JEFFERY AND GILBERT J. MANNERING. Discrepancy in the Measurement of Reduced Triphosphopyridine Nucleotide Oxidized during Ethylmorphine <i>N</i> -Demethylation due to the Presence of a Nucleotide Pyrophosphatase	1004
RICHARD A. STONE, NORMAN KIRSHNER, JACQUELINE REYNOLDS, AND THOMAS C. VANAMAN. Purification and Properties of Dopamine- β -Hydroxylase from Human Pheochromocytoma	1009