

## CONTENTS OF VOLUME 6

NUMBER 1, JANUARY 1970

COLIN F. CHIGNELL. Optical Studies of Drug-Protein Complexes. IV. The Interaction of Warfarin and Dicoumarol with Human Serum Albumin . . . . .	1
ALBERT SATTIN AND T. W. RALL. The Effect of Adenosine and Adenine Nucleotides on the Cyclic Adenosine 3',5'-Phosphate Content of Guinea Pig Cerebral Cortex Slices . . . . .	13
GEORGE I. DRUMMOND AND C. ANNE POWELL. Analogues of Adenosine 3',5'-Cyclic Phosphate as Activators of Phosphorylase <i>b</i> Kinase and as Substrates for Cyclic 3',5'-Nucleotide Phosphodiesterase . . . . .	24
WILLIAM M. HART, JR. A Kinetic Model of a Cyclic System for the Fluorometric Microdetermination of Adenosine Triphosphatase Activity . . . . .	31
B. BELLEAU, V. DiTULLIO, AND Y.-H. TSAI. Kinetic Effects of Leptocurares and Pachycurares on the Methanesulfonylation of Acetylcholinesterase. A Correlation with Pharmacodynamic Properties . . . . .	41
JAY C. UNKELESS AND PETER GOLDMAN. Fluorinated $\gamma$ -Aminobutyric Acid. Enzymatic Synthesis and Biological Activity of a Potentially Useful Analogue . . . .	46
SORELL L. SCHWARTZ, CARL B. JOHNSON, AND PAUL D. DOOLAN. Study of the Mechanism of Renal Vacuologensis Induced in the Rat by Ethylenediaminetetraacetate. Comparison of the Cellular Activities of Calcium and Chromium Chelates . . . . .	54
ARTHUR CAMMARATA, SUH JEN YAU, JOHN H. COLLETT, AND ALFRED N. MARTIN. Correlation of the Potencies of Tetracyclines <i>in Vitro</i> with a D-Ring Substituent Index . . . . .	61
ROBERT N. MILLER AND F. EDMUND HUNTER, JR. The Effect of Halothane on Electron Transport, Oxidative Phosphorylation, and Swelling in Rat Liver Mitochondria . . . . .	67
JULIUS AXELROD AND ELLIOT S. VESELL. Heterogeneity of <i>N</i> - and <i>O</i> -Methyltransferases . . . . .	78
BOYD K. HARTMAN AND SIDNEY UDEFRIEND. Immunofluorescent Localization of Dopamine $\beta$ -Hydroxylase in Tissues . . . . .	85
SHORT COMMUNICATION	
ECKARD FÖLSCH AND J. R. BERTINO. Inactivation by Mouse Serum of a Tightly Bound Inhibitor of Dihydrofolate Reductase . . . . .	93
NOTICE	
Revision of the Enzyme Report . . . . .	97

NUMBER 2, MARCH 1970

CHARLES E. INTURRISI AND ELWOOD TITUS. Ouabain-Dependent Incorporation of $^{32}\text{P}$ from <i>p</i> -Nitrophenyl Phosphate into a Microsomal Phosphatase . . . . .	99
--	----

RICHARD J. KITZ, LEON M. BRASWELL, AND SARA GINSBURG. On the Question: Is Acetylcholinesterase an Allosteric Protein?.....	108
JOSÉ GONZÁLEZ RODRÍGUEZ, JOSÉ L. LA TORRE, AND EDUARDO DE ROBERTIS. The Interaction between Atropine Sulfate and a Proteolipid from Cerebral Cortex Studied by Polarization of Fluorescence.....	122
E. F. GALE. Effects of Diacetylmorphine and Related Morphinans on Some Biochemical Activities of <i>Staphylococcus aureus</i> .....	128
E. F. GALE. Effect of Morphine Derivatives on Lipid Metabolism in <i>Staphylococcus aureus</i> .....	134
FRANZ-J. LEINWEBER AND GEORGE A. BRAUN. Mechanism of Inhibition of Histamine Synthesis in the Rat: Two Specific Gastric Histidine Decarboxylases.....	146
L. A. FAHIEN AND O. SHEMISA. Effects of Chlorpromazine on Glutamate Dehydrogenase.....	156
DAVID C. KLEIN AND JACK ROWE. Pineal Gland in Organ Culture. I. Inhibition by Harmine of Serotonin- <sup>14</sup> C Oxidation, Accompanied by Stimulation of Melatonin- <sup>14</sup> C Production.....	164
ROLF ZILVERSMIT. Thioxanthenes: Structural Differences between Lucanthon and Its <i>N</i> -Methyl Derivative.....	172
C. J. PARLI AND G. J. MANNERING. Induction of Drug Metabolism. IV. Relative Abilities of Polycyclic Hydrocarbons to Increase Levels of Microsomal 3-Methyl-4-methylaminoazobenzene <i>N</i> -Demethylase Activity and Cytochrome P <sub>1</sub> -450....	178

SHORT COMMUNICATION

HIROTOSHI SHIMIZU, CYRUS R. CREVELING, AND JOHN W. DALY. Cyclic Adenosine 3',5'-Monophosphate Formation in Brain Slices: Stimulation by Batrachotoxin, Ouabain, Veratridine, and Potassium Ions.....	184
--	-----

NUMBER 3, MAY 1970

ARNOLD J. WOHL. Electronic Molecular Pharmacology: the Benzothiadiazine Antihypertensive Agents. I. Pharmacological Aspects of Tautomerism and Conformation.....	189
ARNOLD J. WOHL. Electronic Molecular Pharmacology: The Benzothiadiazine Antihypertensive Agents. II. Multiple Regression Analyses Relating Biological Potency and Electronic Structure.....	195
ALVITO P. ALVARES AND G. J. MANNERING. Two-Substrate Kinetics of Drug-Metabolizing Enzyme Systems of Hepatic Microsomes.....	206
ANTHONY Y. H. LU, HENRY W. STROBEL, AND MINOR J. COON. Properties of a Solubilized Form of the Cytochrome P-450-Containing Mixed-Function Oxidase of Liver Microsomes.....	213
DAVID KUPFER AND STEN ORRENIUS. Characteristics of Guinea Pig Liver and Adrenal Monooxygenase Systems.....	221
ILENE H. RAISFELD, PAOLO BACCIN, FERENC HUTTERER, AND FENTON SCHAFFNER. The Effect of 3-Amino-1,2,4-triazole on the Phenobarbital-Induced Formation of Hepatic Microsomal Membranes.....	231
CARL R. MORRIS, LIDIA V. ANDREW, LEONA P. WHICHARD, AND DAVID J. HOLBROOK, JR. The Binding of Antimalarial Aminoquinolines to Nucleic Acids and Polynucleotides.....	240
DAVID KESSEL AND ISIDORE WODINSKY. Thymidine Kinase as a Determinant of the Response to 5-Fluoro-2'-deoxyuridine in Transplantable Murine Leukemias....	251

M. R. SHEEN, H. F. MARTIN, AND R. E. PARKS, JR. The Interaction of the Nucleoside Analogues, Formycins A and B, with Xanthine Oxidase and Hepatic Aldehyde Oxidase.....	255
CAROL M. GREENSPAN AND IRWIN B. WILSON. The Effect of Fluoride on the Reaction of Acetylcholinesterase with Carbamates.....	266
YOSHISADA FUJIWARA, TOSHIKAZU OKI, AND CHARLES HEIDELBERGER. Fluorinated Pyrimidines. XXXVII. Effects of 5-Trifluoromethyl-2'-deoxyuridine on the Synthesis of Deoxyribonucleic Acid of Mammalian Cells in Culture.....	273
YOSHIDA FUJIWARA AND CHARLES HEIDELBERGER. Fluorinated Pyrimidines. XXXVIII. The Incorporation of 5-Trifluoromethyl-2'-deoxyuridine into the Deoxyribonucleic Acid of Vaccinia Virus.....	281

NUMBER 4, JULY 1970

D. W. NEBERT AND L. L. BAUSSERMAN. Fate of Inducer during Induction of Aryl Hydrocarbon Hydroxylase Activity in Mammalian Cell Culture. I. Intracellular Entry, Binding, Distribution, and Metabolism.....	293
D. W. NEBERT AND L. L. BAUSSERMAN. Fate of Inducer during Induction of Aryl Hydrocarbon Hydroxylase Activity in Mammalian Cell Culture. II. Levels of Intracellular Polycyclic Hydrocarbon during Enzyme Induction and Decay....	304
J. S. PAUL AND P. O'B. MONTGOMERY, JR. Interaction of 4-Nitroquinoline 1-Oxide with Deoxyribonucleic Acid and Synthetic Polydeoxyribonucleotides.....	315
ALBERTA M. ALBRECHT AND DORRIS J. HUTCHISON. Folate Reductase of the Amethopterin-Resistant <i>Streptococcus faecium</i> var. <i>durans</i> /A <sub>k</sub> . I. Inhibition by Amethopterin and Methasquin, a New Quinazoline Antifolate.....	323
PRISCILLA P. SAUNDERS AND GRADY F. SAUNDERS. Effect of 2,2'-(9,10-Anthrylene-dimethylene)bis(2-thiopseudourea) on Nucleic Acid Synthesis in Bacteria.....	335
H. BRUCE BOSMANN AND DAVID KESSEL. Altered Glycosidase Levels in Drug-Resistant Mouse Leukemias.....	345
WALLACE DAIRMAN AND SIDNEY UDEFRIEND. Increased Conversion of Tyrosine to Catecholamines in the Intact Rat Following Elevation of Tissue Tyrosine Hydroxylase Levels by Administered Phenoxybenzamine.....	350
H. P. RANG AND J. M. RITTER. On the Mechanism of Desensitization at Cholinergic Receptors.....	357
H. P. RANG AND J. M. RITTER. The Relationship between Desensitization and the Metaphilic Effect at Cholinergic Receptors.....	383
C. R. E. JEFCOATE, R. L. CALABRESE, AND J. L. GAYLOR. Ligand Interactions with Hemoprotein P-450. III. The Use of <i>n</i> -Octylamine and Ethyl Isocyanide Difference Spectroscopy in the Quantitative Determination of High- and Low-Spin P-450.....	391
M. V. JAGO, J. A. EDGAR, L. W. SMITH, AND C. C. J. CULVENOR. Metabolic Conversion of Heliotridine-Based Pyrrolizidine Alkaloids to Dehydroheliotridine....	402
A. M. POISNER AND M. HAVA. The Role of Adenosine Triphosphate and Adenosine Triphosphatase in the Release of Catecholamines from the Adrenal Medulla. IV. Adenosine Triphosphate-Activated Uptake of Calcium by Microsomes and Mitochondria.....	407
MICHAEL J. WALSH, EDWARD B. TRUITT, JR., AND VIRGINIA E. DAVIS. Acetaldehyde Mediation in the Mechanism of Ethanol-Induced Changes in Norepinephrine Metabolism.....	416

HERBERT SHEPPARD AND CHARLES R. BURGHARDT. The Stimulation of Adenyl Cyclase of Rat Erythrocyte Ghosts.....	425
THOMAS H. MAREN AND CHRISTINE E. WILEY. Kinetics of Carbonic Anhydrase in Whole Red Cells as Measured by Transfer of Carbon Dioxide and Ammonia...	430

SHORT COMMUNICATIONS

JULIUS C. ALLEN, HENRY R. BESCH, JR., GERALD GLICK, AND ARNOLD SCHWARTZ. The Binding of Tritiated Ouabain to Sodium- and Potassium-Activated Adenosine Triphosphatase and Cardiac Relaxing System of Perfused Dog Heart.....	441
JOSEPH L. HAINING. Kinetics of Induction of Rat Liver Enzymes by Glucocorticoids.....	444

NUMBER 5, SEPTEMBER 1970

W. E. WILSON, W. I. SIVITZ, AND L. T. HANNA. Inhibition of Calf Brain Membranal Sodium- and Potassium-Dependent Adenosine Triphosphatase by Cardioactive Sterols. A Binding Site Model.....	449
CAROL M. GREENSPAN AND IRWIN B. WILSON. The Effect of Fluoride on the Reactions of Methanesulfonates with Acetylcholinesterase.....	460
DONALD L. HILL AND SUZANNE STRAIGHT. Effects of 6- <i>N</i> -Allyladenosine on Bacterial and Mammalian Cells.....	468
T. YAMANAKA, S. HASE, S. SAKAKIBARA, I. L. SCHWARTZ, B. M. DUBOIS, AND RODERICH WALTER. Crystalline Deamino-dicarba-oxytocin. Preparation and Some Pharmacological Properties.....	474
J. B. LOMBARDINI, A. W. COULTER, AND PAUL TALALAY. Analogues of Methionine as Substrates and Inhibitors of the Methionine Adenosyltransferase Reaction. Deductions Concerning the Conformation of Methionine.....	481
JOHN F. HACKNEY, STEPHEN R. GROSS, LEWIS ARONOW, AND WILLIAM B. PRATT. Specific Glucocorticoid-Binding Macromolecules from Mouse Fibroblasts Grown <i>in Vitro</i> . A Possible Steroid Receptor for Growth Inhibition.....	500
SUZANNE S. CHAN AND JOHN N. FAIN. Uncoupling Action of Sulfonylureas on Brown Fat Cells.....	513
O. M. ROSEN, JACK ERLICHMAN, AND S. M. ROSEN. The Structure-Activity Relationships of Adrenergic Compounds That Act on the Adenyl Cyclase of the Frog Erythrocyte.....	524
ERNEST BUEDING AND JEAN FISHER. Biochemical Effects of Niridazole on <i>Schistosoma mansoni</i> .....	532
A. M. COHEN AND R. W. RUDDON. The Metabolism of Ribonucleic Acid in Rat Liver after Phenobarbital Administration.....	540
LEONA P. WHICHARD AND DAVID J. HOLBROOK, JR. The Effect of Chloroquine on the Enzymatic Hydrolysis of Nucleic Acids.....	548
TAI AKERA AND THEODORE M. BRODY. Inhibitory Sites on Sodium- and Potassium-Activated Adenosine Triphosphatase for Chlorpromazine Free Radical and Ouabain.....	557

SHORT COMMUNICATIONS

W. D. WATKINS, J. I. GOODMAN, AND T. R. TEPHLY. Inhibition of Methanol and Ethanol Oxidation by Pyrazole in the Rat and Monkey <i>in Vivo</i> .....	567
ORSON D. BIRD, JOHN W. VAITKUS, AND JANE CLARKE. 2-Amino-4-hydroxyquinazolines as Inhibitors of Thymidylate Synthetase.....	573

NUMBER 6, NOVEMBER 1970

ERIC J. SIMON, LIVIU SCHAPIRA, AND NANCY WURSTER. Effect of Levorphanol on Putrescine Transport in <i>Escherichia coli</i> .....	577
G. KATO, J. YUNG, AND M. IHNAT. Nuclear Magnetic Resonance Studies on Acetylcholinesterase. The Use of Atropine and Eserine to Probe Binding Sites.....	588
J. A. BEAVO, N. L. ROGERS, O. B. CROFFORD, J. G. HARDMAN, E. W. SUTHERLAND, AND E. V. NEWMAN. Effects of Xanthine Derivatives on Lipolysis and on Adenosine 3',5'-Monophosphate Phosphodiesterase Activity.....	597
C. H. ROBINSON, E. BUEDING, AND J. FISHER. Relationship between Structure, Conformation, and Antischistosomal Activity of Nitroheterocyclic Compounds..	604
RALPH FREUDENTHAL, JEFFREY K. LOWE, AND PETER HEBBORN. Reduced Nicotinamide Adenine Dinucleotide Phosphate-Dependent Binding of Competitive Inhibitors to Dihydrofolate Reductase.....	617
THOMAS I. KALMAN AND THOMAS J. BARDOS. Enzymatic Studies Relating to the Mode of Action of 5-Mercapto-2'-deoxyuridine.....	621
M. D. CHAPLIN AND G. J. MANNERING. Role of Phospholipids in the Hepatic Microsomal Drug-Metabolizing System.....	631
MERILYN J. EDWARDS AND M. HELEN MAGUIRE. Purification and Properties of Rat Heart 5'-Nucleotidase.....	641
CHARLES L. GREENBLATT, NORMAN E. SHARPLESS, AND K. YAMAOKA. Competition for Polymeric Binding Sites between Acridine and Triphenylmethane Dyes....	649
PRAKASH V. SULAKHE AND NARANJAN S. DHALLA. Excitation-Contraction Coupling in Heart. III. Evidence against the Involvement of Adenosine Cyclic 3',5'-Monophosphate in Calcium Transport by Sarcotubular Vesicles of Canine Myocardium.....	659
THOMAS H. CORBETT, CHARLES HEIDELBERGER, AND WILLIAM F. DOVE. Determination of the Mutagenic Activity to Bacteriophage T4 of Carcinogenic and Non-carcinogenic Compounds.....	667
S. P. BANERJEE, V. K. KHANNA, AND A. K. SEN. Inhibition of Sodium- and Potassium-Dependent Adenosine Triphosphatase by Ethacrynic Acid: Two Modes of Action.....	680
<b>SHORT COMMUNICATIONS</b>	
C. R. CREVELING, N. DALGARD, H. SHIMIZU, AND J. W. DALY. Catechol <i>O</i> -Methyltransferase. III. <i>m</i> - and <i>p</i> - <i>O</i> -Methylation of Catecholamines and Their Metabolites.....	691
KATHLEEN BIDLEMAN AND G. J. MANNERING. Induction of Drug Metabolism. V. Independent Formation of Cytochromes P-450 and P <sub>1</sub> -450 in Rats Treated With Phenobarbital and 3-Methylcholanthrene Simultaneously....	697
AUTHOR INDEX.....	702
SUBJECT INDEX.....	707