

## CONTENTS OF VOLUME 7

## NUMBER 1, JANUARY 1971

HERBERT SHEPPARD AND CHARLES R. BURGHARDT. The Effect of <i>Alpha</i> , <i>Beta</i> , and Dopamine Receptor-Blocking Agents on the Stimulation of Rat Erythrocyte Adenyl Cyclase by Dihydroxyphenethylamines and Their $\beta$ -Hydroxylated Derivatives.....	1
O. A. SHEMISA AND L. A. FAHIEN. Modifications of Glutamate Dehydrogenase by Various Drugs Which Affect Behavior.....	8
KENNETH C. LEIBMAN AND RONALD W. ESTABROOK. Effects of Extraction with Isooctane upon the Properties of Liver Microsomes.....	26
G. KATO AND J. YUNG. The Use of Nuclear Magnetic Resonance to Describe the Binding of Atropine Analogues to Acetylcholinesterase.....	33
T. D. WHITE AND P. KEEN. Effects of Inhibitors of ( $\text{Na}^+ + \text{K}^+$ )-Dependent Adenosine Triphosphatase on the Uptake of Norepinephrine by Synaptosomes.....	40
ASIT K. LAHIRI AND IRWIN B. WILSON. On the Inhibition of ( $\text{Na}^+ + \text{K}^+$ )-Activated Adenosine Triphosphatase by Diisopropyl Fluorophosphate.....	46
J. M. TRIFARÓ AND J. DWORKIND. Phosphorylation of Membrane Components of Adrenal Chromaffin Granules by Adenosine Triphosphate.....	52
ALAN S. HORN, JOSEPH T. COYLE, AND SOLOMON H. SNYDER. Catecholamine Uptake by Synaptosomes from Rat Brain. Structure-Activity Relationships of Drugs with Differential Effects on Dopamine and Norepinephrine Neurons.....	66
RICHARD KVETŇANSKÝ, GEORGE P. GEWIRTZ, VIRGINIA K. WEISE, AND IRWIN J. KOPIN. Enhanced Synthesis of Adrenal Dopamine $\beta$ -Hydroxylase Induced by Repeated Immobilization in Rats.....	81
ROBERT L. PATRICK AND NORMAN KIRSHNER. Effect of Stimulation on the Levels of Tyrosine Hydroxylase, Dopamine $\beta$ -Hydroxylase, and Catecholamines in Intact and Denervated Rat Adrenal Glands.....	87
E. DE ROBERTIS, GLENYS S. LUNT, AND JOSÉ L. LA TORRE. Multiple Binding Sites for Acetylcholine in a Proteolipid from Electric Tissue.....	97
M. E. ELDEFRAWI, A. T. ELDEFRAWI, AND R. D. O'BRIEN. Binding of Five Cholinergic Ligands to Housefly Brain and <i>Torpedo</i> Electrophax. Relationship to Acetylcholine Receptors.....	104
SHORT COMMUNICATION	
HERBERT SHEPPARD AND GLORIA WIGGAN. Analogues of 4-(3,4-Dimethoxybenzyl)-2-imidazolidinone as Potent Inhibitors of Rat Erythrocyte Adenosine Cyclic 3',5'-Phosphate Phosphodiesterase.....	111

## NUMBER 2, MARCH 1971

DAVID KESSEL, REGINA BRUNS, AND THOMAS C. HALL. Determinants of Responsiveness to 5-Fluorouridine in Transplantable Murine Leukemias.....	117
PAUL S. LIETMAN. Mitochondrial Protein Synthesis: Inhibition by Emetine Hydrochloride.....	122

F. IVERSON. The Influence of Tetraethylammonium Ion on the Reaction between Acetylcholinesterase and Selected Inhibitors.....	129
JOSÉ M. MUSACCHIO, ROBERT J. WURZBURGER, AND GALE L. D'ANGELO. Different Molecular Forms of Bovine Adrenal Tyrosine Hydroxylase.....	136
A. SANER AND H. THOENEN. Model Experiments on the Molecular Mechanism of Action of 6-Hydroxydopamine.....	147
M. HUANG, H. SHIMIZU, AND J. DALY. Regulation of Adenosine Cyclic 3',5'-Phosphate Formation in Cerebral Cortical Slices. Interaction among Norepinephrine, Histamine, and Serotonin.....	155
GEORGE P. GEWIRTZ, RICHARD KVETŇANSKÝ, VIRGINIA K. WEISE, AND IRWIN J. KOPIN. Effect of Hypophysectomy on Adrenal Dopamine $\beta$ -Hydroxylase Activity in the Rat.....	163
V. GENE ERWIN, B. TABAKOFF, AND ROBERT L. BRONAUGH. Inhibition of a Reduced Nicotinamide Adenine Dinucleotide Phosphate-Linked Aldehyde Reductase from Bovine Brain by Barbiturates.....	169
SOON NG. An Infrared Study of the Interaction of Caffeine and Theophylline with 9-Ethyladenine in Chloroform Solution.....	177
ANN HEY-FERGUSON AND EDWARD BRESNICK. The Binding of 3-Methylcholanthrene to Macromolecular Components of Rat Liver Preparations.....	183
MABEL YEE AND EDWARD BRESNICK. Effect of Administration of 3-Methylcholanthrene on the Salt-Extractable Chromatin Proteins of Rat Liver.....	191
GARY BROOKER AND LYELL J. THOMAS, JR. Phosphatase and Ouabain-Sensitive Adenosine Triphosphatase Activities of the Perfused Frog Heart.....	199
ROBERT A. O'REILLY. Interaction of Several Coumarin Compounds with Human and Canine Plasma Albumin.....	209
V. GENE ERWIN AND RICHARD A. DEITRICH. The Labeling <i>in Vivo</i> of Monoamine Oxidase by $^{14}\text{C}$ -Pargyline: a Tool for Studying the Synthesis of the Enzyme....	219

#### NUMBER 3, MAY 1971

COLIN F. CHIGNELL AND DONNAS K. STARKWEATHER. Optical Studies of Drug-Protein Complexes. V. The Interaction of Phenylbutazone, Flufenamic Acid, and Dicoumarol with Acetylsalicylic Acid-Treated Human Serum Albumin.....	229
JOSEPH D. ROBINSON. Effects of Oligomycin on the ( $\text{Na}^+ + \text{K}^+$ )-Dependent Adenosine Triphosphatase.....	238
WALTER B. FORMAN, EUGENE D. DAVIDSON, AND LESLIE T. WEBSTER, JR. Enzymatic Conversion of Salicylate to Salicylurate.....	247
PAUL G. KILLENBERG, EUGENE D. DAVIDSON, AND LESLIE T. WEBSTER, JR. Evidence for a Medium-Chain Fatty acid: Coenzyme A Ligase (Adenosine Monophosphate) That Activates Salicylate.....	260
JOSEPH F. WILLIAMS AND RALPH KARLER. Effect of Cycloheximide on the Mixed-Function Oxidase System of Rat Liver.....	269
F. MITANI, A. P. ALVARES, S. SASSA, AND A. KAPPAS. Preparation and Properties of a Solubilized Form of Cytochrome P-450 from Chick Embryo Liver Microsomes.....	280
JAY C. UNKELESS AND PETER GOLDMAN. The Diastereomers of $\gamma$ -Fluoroglutamate: Complementary Structural Analogues.....	293
RICHARD A. DEITRICH AND V. GENE ERWIN. Mechanism of the Inhibition of Aldehyde Dehydrogenase <i>in Vivo</i> by Disulfiram and Diethyldithiocarbamate.....	301
THEODORE A. SLOTKIN, ROBERT M. FERRIS, AND NORMAN KIRSHNER. Compartmental Analysis of Amine Storage in Bovine Adrenal Medullary Granules.....	308

MICHAEL L. FREEDMAN AND MARCO RABINOVITZ. Structure of the Large $\beta$ -Chain Polyribosome of Rabbit Reticulocytes Rendered Isoleucine-Deficient by <i>O</i> -Methylthreonine.....	317
KHALIL AHMED AND HAJIME ISHIDA. Effect of Testosterone on Nuclear Phosphoproteins of Rat Ventral Prostate.....	323
JACK M. GEORGE, LEMONT B. KIER, AND JAMES R. HOYLAND. Theoretical Considerations of <i>Alpha</i> and <i>Beta</i> Adrenergic Activity.....	328
CORWIN HANSCH AND W. R. GLAVE. Structure-Activity Relationships in Membrane-Perturbing Agents. Hemolytic, Narcotic, and Antibacterial Compounds..	337
ERRATUM.....	355

#### NUMBER 4, JULY 1971

PAUL TALALAY—An Appreciation.....	i
R. B. BARLOW, B. M. LOWE, J. D. M. PEARSON, H. M. RENDALL, AND G. M. THOMPSON. Ion Size and Activity at Acetylcholine Receptors.....	357
ROBERT J. DUMMEL, MICHAEL N. BERRY, AND ERNEST KUN. Studies with Specific Enzyme Inhibitors. XIII. Kinetics of Nonenzymatic Decarboxylation of Fluoro-oxalacetic Acid.....	367
DONALD L. HILL, SUZANNE STRAIGHT, PAULA W. ALLAN, AND L. LEE BENNETT, JR. Inhibition of Guanine Metabolism of Mammalian Tumor Cells by the Carbocyclic Analogue of Adenosine.....	375
PRABHAKAR D. LOTLIKAR AND LEIDA LUHA. Acetylation of the Carcinogen <i>N</i> -Hydroxy-2-acetylaminofluorene by Acetyl Coenzyme A to Form a Reactive Ester..	381
R. L. PATRICK AND N. KIRSHNER. Acetylcholine-Induced Stimulation of Catecholamine Recovery in Denervated Rat Adrenals after Reserpine-Induced Depletion..	389
B. PULLMAN, PH. COURRIÈRE, AND J. L. COUBEILS. Quantum Mechanical Study of the Conformational and Electronic Properties of Acetylcholine and Its Agonists Muscarine and Nicotine.....	397
NORMAN CAMERMAN AND ARTHUR CAMERMAN. The Stereochemical Basis of Anticonvulsant Drug Action. III. The Structure of Procyclidine Hydrochloride.....	406
RICHARD L. MOMPALER, THOMAS P. BRENT, AURORA LABITAN, AND VIVIEN KRYGIER. Studies on the Phosphorylation of Cytosine Arabinoside in Mammalian Cells.....	413
M. E. ELDEFRAWI, A. T. ELDEFRAWI, L. P. GILMOUR, AND R. D. O'BRIEN. Multiple Affinities for Binding of Cholinergic Ligands to a Particulate Fraction of <i>Torpedo</i> Electropilax.....	420
VACLAV HORAK AND JAMES R. GILLETTE. A Study of the Oxidation-Reduction State of Synthetic 3,4-Dihydroxy-DL-phenylalanine Melanin.....	429
O. H. VIVEROS, L. ARQUEROS, AND N. KIRSHNER. Mechanism of Secretion from the Adrenal Medulla. VI. Effect of Reserpine on the Dopamine $\beta$ -Hydroxylase and Catecholamine Content and on the Buoyant Density of Adrenal Storage Vesicles.	434
O. H. VIVEROS, L. ARQUEROS, AND N. KIRSHNER. Mechanism of Secretion from the Adrenal Medulla. VII. Effect of Insulin Administration on the Buoyant Density, Dopamine $\beta$ -Hydroxylase, and Catecholamine Content of Adrenal Storage Vesicles.....	444
JOHN N. FAIN AND SUSAN C. LOKEN. Valinomycin as an Antilipolytic Agent. Effects on Cyclic 3',5'-Adenylic Acid, Adenyl Cyclase, Respiration, and Glucose Metabolism in Brown and White Fat Cells.....	455
JOHN N. FAIN. Effects of Menadione and Vitamin K <sub>1</sub> on Glucose Metabolism,	

Respiration, Lipolysis, Cyclic 3',5'-Adenylic Acid Accumulation, and Adenyl Cyclase in White Fat Cells.....	465
SHORT COMMUNICATIONS	
TOBY ROSSMAN, FREDERICK F. BECKER, AND JAL VILCEK. An Investigation into the Mechanism of Cytotoxicity of Levorphanol.....	480
A. M. COHEN AND R. W. RUDDON. Stability of Polyribosomes Isolated from Rat Liver after Phenobarbital Administration.....	484
ERRATUM.....	490

#### NUMBER 5, SEPTEMBER 1971

R. A. CARCHMAN, SIRET D. JAANUS, AND R. P. RUBIN. The Role of Adrenocorticotropin and Calcium in Adenosine Cyclic 3',5'-Phosphate Production and Steroid Release from the Isolated, Perfused Cat Adrenal Gland.....	491
W. LEVIN, R. KUNTZMAN, A. ALVARES, AND A. H. CONNEY. Chromatography of Radioactive Microsomal Hemoproteins on Diethylaminoethyl Cellulose.....	500
ARTHUR A. SPECTOR AND BETSY IMIG. Effect of Free Fatty Acid Concentration on the Transport and Utilization of Other Albumin-Bound Compounds: Hydroxyphenylazobenzoic Acid.....	511
ROBERT F. STRUCK, MARION C. KIRK, L. B. MELLETT, SALAH EL DAREER, AND DONALD L. HILL. Urinary Metabolites of the Antitumor Agent Cyclophosphamide.....	519
G. WEBER, D. P. BORRIS, E. DE ROBERTIS, F. J. BARRANTES, J. L. LA TORRE, AND MARÍA C. LLORENTE DE CARLIN. The Use of a Cholinergic Fluorescent Probe for the Study of the Receptor Proteolipid.....	530
JEAN-PIERRE CHANGEUX, JEAN-CLAUDE MEUNIER, AND MONIQUE HUCHET. Studies on the Cholinergic Receptor Protein of <i>Electrophorus electricus</i> . I. An Assay <i>in Vitro</i> for the Cholinergic Receptor Site and Solubilization of the Receptor Protein from Electric Tissue.....	538
HELMUT WOMBACHER AND HANS UWE WOLF. Regulation of Membrane-Bound Acetylcholinesterase Activity by Bis-Quarternary Nitrogen Compounds.....	554

#### NUMBER 6, NOVEMBER 1971

ROBERT T. SCHIMKE. The Second Gordon Research Conference on Molecular Pharmacology.....	567
TOM LLOYD AND NORMAN WEINER. Isolation and Characterization of a Tyrosine Hydroxylase Cofactor from Bovine Adrenal Medulla.....	569
THEODORE A. SLOTKIN AND NORMAN KIRSHNER. Uptake, Storage, and Distribution of Amines in Bovine Adrenal Medullary Vesicles.....	581
JANE E. HARRIS AND ROBERT H. ROTH. Potassium-Induced Acceleration of Catecholamine Biosynthesis in Brain Slices. I. A Study on the Mechanism of Action..	593
M. A. DEVYNCK, P. L. BOQUET, P. FROMAGEOT, AND E. J. SIMON. On the Mode of Action of Levallorphan on <i>Escherichia coli</i> : Effects on Cellular Magnesium....	605
MIRIAM ZAHAVI, A. S. TAHORI, AND FANICA KLIMER. Insensitivity of Acetylcholinesterases to Organophosphorus Compounds as Related to Size of Esteratic Site....	611
H. P. RANG AND J. M. RITTER. The Effect of Disulfide Bond Reduction on the Properties of Cholinergic Receptors in Chick Muscle.....	620
SUSAN B. HORWITZ, CHUNG-KE CHANG, AND ARTHUR P. GROLLMAN. Studies on Camptothecin. I. Effects on Nucleic Acid and Protein Synthesis.....	632
CHARLES W. HAIDLE. Fragmentation of Deoxyribonucleic Acid by Bleomycin.....	645
TOSHIKAZU OKI AND CHARLES HEIDELBERGER. Fluorinated Pyrimidines. XXXIX.	

Effects of 5-Trifluoromethyl-2'-deoxyuridine on the Replication of Vaccinia Viral Messenger Ribonucleic Acid and Proteins.....	653
A. Y. DIVEKAR AND M. T. HAKALA. Adenosine Kinase of Sarcoma-180 Cells. <i>N</i> <sup>6</sup> - Substituted Adenosines as Substrates and Inhibitors.....	663
ROLF ZILVERSMIT. Thioxanthenes. II. Studies on the Hydrogen-Bonding Capacity of Lucanthone.....	674
ROBERT I. GLAZER, JOHN B. SCHENKMAN, AND ALAN C. SARTORELLI. Immuno- chemical Studies on the Role of Reduced Nicotinamide Adenine Dinucleotide Phosphate-Cytochrome <i>c</i> (P-450) Reductase in Drug Oxidation.....	683
F. MITANI, R. J. WINCHESTER, A. P. ALVARES, A. P. POLAND, AND A. KAPPAS. In- teraction of Cytochrome P-450 with Antibodies Raised against a Solubilized P-450 Preparation from Hepatic Microsomes.....	689
ALAN POLAND AND ATTALLAH KAPPAS. The Metabolism of Aminopyrine in Chick Embryo Hepatic Cell Culture: Effects of Competitive Substrates and Carbon Monoxide.....	697
AUTHOR INDEX.....	706
SUBJECT INDEX.....	711