

## CONTENTS OF VOLUME 8

## NUMBER 1, JANUARY 1972

AVRAM GOLDSTEIN—An Acknowledgment .....	i
BO HELLMAN, LARS-ÅKE IDAHL, ÅKE LERNMARK, JANOVE SEHLIN, ERNST SIMON, AND INGE-BERT TÄLJEDAL. The Pancreatic $\beta$ -Cell Recognition of Insulin Secretagogues. I. Transport of Mannoheptulose and the Dynamics of Insulin Release..	1
S. P. BANERJEE, S. M. E. WONG, V. K. KHANNA, AND A. K. SEN. Inhibition of Sodium- and Potassium-Dependent Adenosine Triphosphatase by <i>N</i> -Ethylmaleimide. I. Effects on Sodium-Sensitive Phosphorylation and Potassium-Sensitive Dephosphorylation.....	8
S. P. BANERJEE, S. M. E. WONG, AND A. K. SEN. Inhibition of Sodium- and Potassium-Dependent Adenosine Triphosphatase by <i>N</i> -Ethylmaleimide. II. Effects on Sodium-Activated Transphosphorylation.....	18
ATSUNOBU YODA AND LOWELL E. HOKIN. Studies on the Characterization of the Sodium-Potassium Transport Adenosine Triphosphatase. VII. Effects of Ligands on Fluorescence Due to Interaction of the Enzyme with a Fluorescent Derivative of Hellebrigenin.....	30
B. D. ROUFOGALIS AND E. E. QUIST. Relative Binding Sites of Pharmacologically Active Ligands on Bovine Erythrocyte Acetylcholinesterase.....	41
SVANTE B. ROSS, RICHARD WEINSHILBOUM, PERRY B. MOLINOFF, ELLIOT S. VESELL, AND JULIUS AXELROD. Electrophoretic Properties of Dopamine $\beta$ -Hydroxylase in Several Tissues from Three Species.....	50
R. E. HANDSCHUMACHER AND C. GAUMOND. Modification of L-Asparaginase by Subunit Cross-linking with Dimethylsuberimidate.....	59
JOHN FOK AND MICHAEL WARING. Breakdown of Pulse-Labeled RNA in <i>Bacillus megaterium</i> , Revealed by Exposure to the Antibiotics Mithramycin, Chromomycin, and Nogalamycin.....	65
ESTHER BRESLOW AND RODERICH WALTER. Binding Properties of Bovine Neurophysins I and II: An Equilibrium Dialysis Study.....	75
V. S. PAI AND E. W. MAYNERT. Interactions of Catecholamines with Adenosine Triphosphate in Solutions and Adrenal Medullary Granules.....	82
E. W. MAYNERT, B. H. MOON, AND V. S. PAI. Insoluble Solid Complexes of Norepinephrine and Adenosine Triphosphate.....	88
HIROSHI TERADA AND SABURO MURAOKA. Physicochemical Properties and Uncoupling Activity of 3'-Substituted Analogues of <i>N</i> -Phenylanthranilic Acid.....	95
SHORT COMMUNICATION	
C. A. BUSH, A. PESCE, M. GAIZUTIS, AND V. NAIR. Binding and Circular Dichroism Studies on Interactions of Lysergic Acid Diethylamide with Deoxyribonucleic Acid.....	104

## NUMBER 2, MARCH 1972

MOU-TUAN HUANG AND ARTHUR P. GROLLMAN. Effects of Aurintricarboxylic Acid on Ribosomes and the Biosynthesis of Globin in Rabbit Reticulocytes.....	111
K. C. AGARWAL AND R. E. PARKS, JR. Adenosine Triphosphate-Guanosine 5'-Phosphate Phosphotransferase. IV. Isozymes in Human Erythrocytes and Sarcoma 180 Ascites Cells.....	128

DAVID N. SKILLETER, ROBERT J. DUMMEL, AND ERNEST KUN. Studies with Specific Enzyme Inhibitors. XIV. The Effects of Enzymatically Synthesized (–)- <i>erythro</i> -Fluoromalic Acid on Malate Dehydrogenase and on Anion Carriers of Liver Mitochondria.....	139
STANLEY C. PENZOTTI, JR. AND ELWOOD TITUS. Evidence for Two Forms of Fluoride-Treated Sodium- and Potassium-Dependent Adenosine Triphosphatase.....	149
J. M. TRIFARÓ AND M. WARNER. Membranes of Adrenal Chromaffin Granules: Solubilization and Partial Characterization of the Mg <sup>++</sup> -Dependent Adenosine Triphosphatase.....	159
G. GOUGH, M. HELEN MAGUIRE, AND FYLIA PENGLIS. Analogues of Adenosine 5'-Diphosphate–New Platelet Aggregators. Influence of Purine Ring and Phosphate Chain Substitutions on the Platelet-Aggregating Potency of Adenosine 5'-Diphosphate.....	170
JOHN B. SCHENKMAN. The Effect of Temperature and Substrates on Component Reactions of the Hepatic Microsomal Mixed-Function Oxidase.....	178
B. STRIPP, N. ZAMPAGLIONE, M. HAMRICK, AND J. R. GILLETTE. An Approach to Measurement of the Stoichiometric Relationship between Hepatic Microsomal Drug Metabolism and the Oxidation of Reduced Nicotinamide Adenine Dinucleotide Phosphate.....	189
DAVID J. LORUSSO AND JOHN W. SUTTIE. Warfarin Binding to Microsomes Isolated from Normal and Warfarin-Resistant Rat Liver.....	197
RICHARD M. PHILPOT AND ERNEST HODGSON. The Effect of Piperonyl Butoxide Concentration on the Formation of Cytochrome P-450 Difference Spectra in Hepatic Microsomes from Mice.....	204
ENRIQUE OCHOA, SARA FISZER DE PLAZAS, AND EDUARDO DE ROBERTIS. Conductance Changes Produced by <i>l</i> -Norepinephrine on Liquid Membranes Containing a Proteolipid from the Bovine Spleen Capsule.....	215
A. W. CUTHBERT AND P. Y. D. WONG. The Role of Calcium Ions in the Interaction of Amiloride with Membrane Receptors.....	222
J. BOCKAERT, M. IMBERT, S. JARD, AND F. MOREL. [ <sup>3</sup> H] Oxytocin Binding Sites in the Isolated Frog Skin Epithelium: Relation to the Physiological Response.....	230
RICHARD HEIKKILA AND GERALD COHEN. Further Studies on the Generation of Hydrogen Peroxide by 6-Hydroxydopamine Potentiation by Ascorbic Acid.....	241
YUKIO SUGIURA AND HISASHI TANAKA. Evidence for a Ternary Complex Containing Albumin, Copper, and Penicillamine.....	249

NUMBER 3, MAY 1972

P. PARTINGTON, J. FEENEY, AND A. S. V. BURGEM. The Conformation of Acetylcholine and Related Compounds in Aqueous Solution as Studied by Nuclear Magnetic Resonance Spectroscopy.....	269
J. L. COUBEILS AND B. PULLMAN. Quantum-Mechanical Study of the Conformational Properties of Drugs with Local Anesthetic Action.....	278
D. COLQUHOUN AND J. M. RITCHIE. The Kinetics of the Interaction between Tetrodotoxin and Mammalian Nonmyelinated Nerve Fibers.....	285
WALLACE DAIRMAN AND SIDNEY UDENFRIEND. Studies on the Mechanism of L-3,4-Dihydroxyphenylalanine-Induced Decrease in Tyrosine Hydroxylase Activity...	293
KENNETH M. TAYLOR AND SOLOMON H. SNYDER. Histamine Methyltransferase: Inhibition and Potentiation by Antihistamines.....	300
ROLAND D. CIARANELLO, HANS J. DANKERS, AND JACK D. BARCHAS. The Enzymatic Formation of Methanol from <i>S</i> -Adenosylmethionine by Various Tissues of the Rat	311

EDWARD A. BARKER AND EDWARD A. SMUCKLER. Altered Microsome Function during Acute Thioacetamide Poisoning. . . . .	318
D. L. CINTI AND J. B. SCHENKMAN. Hepatic Organelle Interaction. I. Spectral Investigation during Drug Biotransformation. . . . .	327
D. L. CINTI, A. RITCHIE, AND J. B. SCHENKMAN. Hepatic Organelle Interaction. II. Effect of Tricarboxylic Acid Cycle Intermediates on <i>N</i> -Demethylation and Hydroxylation Reactions in Rat Liver. . . . .	339
RAY W. FULLER, HAROLD D. SNODDY, AND WILLIAM W. BROMER. Increase of Hepatic L-Phenylalanine:Pyruvate Aminotransferase by Glucagon in Rats: Possible Role of Adenosine Cyclic 3',5'-Monophosphate as a Mediator. . . . .	345
ALY NAHAS AND MORRIS FRIEDKIN. Lack of Intracellular Conversion of Dihydrohomofolate to Tetrahydrohomofolate in Leukemia Cells with High Levels of Dihydrofolate Reductase. . . . .	353
RICHARD L. MOMPALER. Kinetic and Template Studies with 1- $\beta$ -D-Arabinofuranosylcytosine 5'-Triphosphate and Mammalian Deoxyribonucleic Acid Polymerase. . . . .	362
SHORT COMMUNICATIONS	
BERNARD PULLMAN AND PHILIPPE COURRIÈRE. On the Conformation of Acetylcholine and Acetylthiocholine. . . . .	371
D. W. NEBERT, W. F. BENEDICT, J. E. GIELEN, F. OESCH, AND J. W. DALY. Aryl Hydrocarbon Hydroxylase, Epoxide Hydrase, and 7,12-Dimethylbenz[ <i>a</i> ]anthracene-Produced Skin Tumorigenesis in the Mouse. . . . .	374
ELIHU N. GOREN AND ORA M. ROSEN. Inhibition of a Cyclic Nucleotide Phosphodiesterase from Beef Heart by Catecholamines and Related Compounds. . . . .	380
NUMBER 4, JULY 1972	
Z. HUSZTI. Kinetic Studies on Rat Brain Monoamine Oxidase. . . . .	385
C. R. CREVELING, N. MORRIS, H. SHIMIZU, H. H. ONG, AND J. DALY. Catechol <i>O</i> -Methyltransferase. IV. Factors Affecting <i>m</i> - and <i>p</i> -Methylation of Substituted Catechols. . . . .	398
ALFRED G. GILMAN AND BRUCE K. SCHRIER. Adenosine Cyclic 3',5'-Monophosphate in Fetal Rat Brain Cell Cultures. I. Effect of Catecholamines. . . . .	410
H. ROOS AND K. PFLEGER. Kinetics of Adenosine Uptake by Erythrocytes and the Influence of Dipyrdamole. . . . .	417
DAVID V. GODIN AND THERESE WAN Ng. Trinitrobenzenesulfonic Acid: A Possible Chemical Probe to Investigate Lipid-Protein Interactions in Biological Membranes. . . . .	426
MICHEL HOSPITAL, BERNARD Busetta, ROBERT BUCOURT, HADASSA WEINTRAUB, AND ETIENNE-EMILE BAULIEU. X-ray Crystallography of Estrogens and Their Binding to Receptor Sites. . . . .	438
MASAYUKI TAKECHI, KYOZO HAYASHI, AND TOYOSAKU SASAKI. The Amino Acid Sequence of Cytotoxin II from the Venom of the Indian Cobra ( <i>Naja naja</i> ). . . . .	446
L. R. YOUNGER, R. SALOMON, R. W. WILSON, A. C. PEACOCK, AND H. V. GELBOIN. Effects of Polycyclic Hydrocarbons on Ribonucleic Acid Synthesis in Rat Liver Nuclei and Hamster Embryo Cells. . . . .	452
RAYMOND J. KENT AND CHARLES HEIDELBERGER. Fluorinated Pyrimidines. XL. The Reduction of 5-Fluorouridine-5'-Diphosphate by Ribonucleotide Reductase. . . . .	465
SHORT COMMUNICATION	
T. B. OKARMA, P. TRAMELL, AND S. M. KALMAN. Inhibition of Sodium- and Potassium-Dependent Adenosine Triphosphatase by Digoxin Covalently Bound to Sepharose. . . . .	476

NUMBER 5, SEPTEMBER 1972

JORDAN L. HOLTZMAN AND MATTHEW L. CARR. Inhibition by Deuterated Water of the Mixed-Function Oxidases of Hepatic Microsomes of the Male Rat.....	481
ANTHONY Y. H. LU AND SUSAN B. WEST. Reconstituted Liver Microsomal Enzyme System That Hydroxylates Drugs, Other Foreign Compounds, and Endogenous Substrates. III. Properties of the Reconstituted 3,4-Benzpyrene Hydroxylase System.....	490
PAUL A. FRIEDMAN, TOM LLOYD, AND SEYMOUR KAUFMAN. Production of Antibodies to Rat Liver Phenylalanine Hydroxylase: Cross-reactivity with Other Pterin-Dependent Hydroxylases.....	501
ROLAND D. CIARANELLO, JEFFREY N. DORNBUSCH, AND JACK D. BARCHAS. Regulation of Adrenal Phenylethanolamine <i>N</i> -Methyltransferase Activity in Three Inbred Mouse Strains.....	511
A. GUIDOTTI, BENJAMIN WEISS, AND E. COSTA. Adenosine 3',5'-Monophosphate Concentrations and Isoproterenol-Induced Synthesis of Deoxyribonucleic Acid in Mouse Parotid Gland.....	521
CHARLES W. HAIDLE, K. KAY WEISS, AND M. TIEN KUO. Release of Free Bases from Deoxyribonucleic Acid after Reaction with Bleomycin.....	531
MOU-TUAN HUANG AND ARTHUR P. GROLLMAN. Mode of Action of Tylocrebrine: Effects on Protein and Nucleic Acid Synthesis.....	538
HERBERT E. KANN, JR. AND KURT W. KOHN. Effects of Deoxyribonucleic Acid-Reactive Drugs on Ribonucleic Acid Synthesis in Leukemia 1210 Cells.....	551
SIDNEY SHIFRIN AND BARBARA G. SOLIS. Reaction of <i>N</i> -Acetylimidazole with <i>L</i> -Asparaginase.....	561
THOMAS NOGRADY, PAVEL D. HRDINA, AND GEORGE M. LING. Investigation into the Association between Serotonin and Adenosine Triphosphate <i>in Vitro</i> by Nuclear Magnetic Resonance and Ultraviolet Spectroscopy.....	565
GABOR KATO. Acetylcholinesterase. I. A Study by Nuclear Magnetic Resonance of the Binding of Inhibitors to the Enzyme.....	575
GABOR KATO. Acetylcholinesterase. II. A Study by Nuclear Magnetic Resonance of the Acceleration of Acetylcholinesterase by Atropine and Inhibition by Eserine	582
<b>SHORT COMMUNICATIONS</b>	
M. J. JUNG AND B. BELLEAU. Purification and Fractionation of Acetylcholinesterase into Sub-species by Affinity Chromatography on a <i>d</i> -Tubocurarine-Sepharose Column.....	589
ROBERT KATZ AND ARTHUR E. JACOBSON. Chemical Structure-Activity Correlation in the <i>O</i> -Methylation of Substituted Catechols by Catechol <i>O</i> -Methyltransferase.....	594

NUMBER 6, NOVEMBER 1972

B. A. WINTER AND A. GOLDSTEIN. A Photochemical Affinity Labeling Reagent for the Opiate Receptor(s).....	601
B. PULLMAN AND P. COURRIÈRE. Further Molecular Orbital Studies on the Conformation of Acetylcholine and Its Derivatives.....	612
H. A. LESTER. Blockade of Acetylcholine Receptors by Cobra Toxin: Electrophysiological Studies.....	623
H. A. LESTER. Vulnerability of Desensitized or Curare-Treated Acetylcholine Receptors to Irreversible Blockade by Cobra Toxin.....	632

P. D. LOTLIKAR, S. FUKUDA, AND N. YAMAMOTO. Effects of the Carcinogen 2-Acetylaminofluorine and Its Derivatives on Bacteria and Bacteriophages . . . . .	645
D. W. NEBERT, J. E. GIELEN, AND F. M. GOUJON. Genetic Expression of Aryl Hydrocarbon Hydroxylase Induction III. Changes in the Binding of <i>n</i> -Octylamine to Cytochrome P-450 . . . . .	651
F. M. GOUJON, D. W. NEBERT, AND J. E. GIELEN. Genetic Expression of Aryl Hydrocarbon Hydroxylase Induction. IV. Interaction of Various Compounds with Different Forms of Cytochrome P-450 and the Effect of Benzo[ <i>a</i> ]pyrene Metabolism <i>in Vitro</i> . . . . .	667
J. S. WOLD AND W. J. STEELE. Alterations in Liver Nuclear RNA of Rats Treated with Phenobarbital . . . . .	681
S. J. SMITH, R. N. HILL, T. A. GLEESON, AND E. S. VESELL. Evidence for Post-transcriptional Stabilization of Ribosomal Precursor RNA by Phenobarbital . . . . .	691
R. I. GLAZER AND A. C. SARTORELLI. The Effect of Phenobarbital on the Synthesis of Nascent Protein on Free and Membrane-Bound Polyribosomes of Normal and Regenerating Liver . . . . .	701
M. R. FRANKLIN. The Incomplete Conversion of Hepatic Cytochrome P-450 to P-420 by Mercurials . . . . .	711
M. R. FRANKLIN. The Conversion of Hepatic Cytochrome P-450 in Normal, Phenobarbital, and 3-Methylcholanthrene Pretreated Animals . . . . .	722
D. KESSEL, J. DEACON, B. COFFEY, AND A. BAKAMJIAN. Some Properties of a Pyrimidine Phosphoribosyltransferase from Murine Leukemia Cells . . . . .	731
K. SLAVÍK, R. ČIHAŘ, J. SOUČEK, E. HERMANOVÁ, K. PŘISTOUPILOVÁ, AND V. SLAVÍKOVÁ. Isohomoaminopterin and Isohomofolic Acid. Synthesis and Basic Biochemical and Biological Properties . . . . .	740
J. G. BRAND AND T. Y. TORIBARA. Induced Conformational Changes in Novobiocin . . . . .	751
B. HELLMAN, Å. LERNMARK, J. SEHLIN, AND I.-B. TALJEDÅL. The Pancreatic $\beta$ -Cell Recognition of Insulin Secretagogues V. Binding and Stimulatory Action of Phlorizin . . . . .	759
T. DEGUCHI AND J. BARCHAS. Effect of Chlorophenylalanine on Hydroxylation of Tryptophan in Pineal and Brain of Rats . . . . .	770
<b>SHORT COMMUNICATION</b>	
C. VILCHEZ, M. M. PIRAS, AND R. PIRAS. Adrenal Corticosteroids and the Response to Epinephrine or Electrical Stimulation of the Enzymes of Glycogen Metabolism in Rat Skeletal Muscle . . . . .	780
J. M. PRIVES, M. J. REITER, D. A. COWBURN, AND A. KARLIN. Interactions of a Cobra Neurotoxin and Affinity Labels of the Acetylcholine Receptor in the Electroplex . . . . .	786