

## CONTENTS OF VOLUME 4

NUMBER 1, JANUARY 1968

M. J. PETERSON, C. C. HILLMAN, AND J. ASHMORE. Nicotinic Acid: Studies on the Mechanism of Its Antilipolytic Action . . . . .	1
T. R. TEPHLY AND G. J. MANNERING. Inhibition of Drug Metabolism. V. Inhibition of Drug Metabolism by Steroids . . . . .	10
R. E. STITZEL, T. R. TEPHLY, AND G. J. MANNERING. Inhibition of Drug Metabolism. VI. Inhibition of Hexobarbital Metabolism in the Isolated Perfused Liver of the Rat . . . . .	15
G. ETZOLD, B. PREUSSEL, AND P. LANGEN. Structural Requirements for the Inhibition of Uridine-Deoxyuridine Phosphorylase by Thymine Nucleosides Containing an Unnatural Carbohydrate Moiety . . . . .	20
I. H. MAXWELL. Studies of the Binding of Tetracycline to Ribosomes <i>in Vitro</i> . . . . .	25
MASAYUKI IKEDA, SHIRO TANAKA, AND TOMOKO KATAYAMA. Inhibitory Effect of 2-Diethylaminoethyl 2,2-Diphenylvalerate Hydrochloride (SKF 525-A) on Aromatic Hydroxylation and Phenolic Glucuronidation . . . . .	38
JAMES R. HEITZ AND BRUCE M. ANDERSON. Inhibition of Yeast Alcohol Dehydrogenase by <i>N</i> '-Benzylpyridinium Chlorides . . . . .	44
D. E. DUGGAN, K. H. PUA, AND G. ELFENBEIN. Purine Metabolism in the Chick Embryo; Effects of Uricogenesis and Xanthine Oxidase Inhibition . . . . .	53
DONALD H. NAMM AND STEVEN E. MAYER. Effects of Epinephrine on Cardiac Cyclic 3',5'-AMP, Phosphorylase Kinase, and Phosphorylase . . . . .	61
LEMONT B. KIER. A Molecular Orbital Calculation of the Preferred Conformation of Nicotine . . . . .	70
JOHN T. TRUMAN AND HANS KLENOW. Effect of 3'-Amino-3'-deoxyadenosine on Nucleic Acid Synthesis in Ehrlich Ascites Tumor Cells . . . . .	77
J. C. METCALFE, P. SEEMAN, AND A. S. V. BURGEN. The Proton Relaxation of Benzyl Alcohol in Erythrocyte Membranes . . . . .	87
G. B. GRINDEY, L. D. SASLAW, AND V. S. WARAVDEKAR. Effects of Uracil Derivatives on Phosphorylation of Arabinosylcytosine . . . . .	96
SHORT COMMUNICATION	
RICHARD J. KITZ AND LEON T. KREMZNER. Conformational Changes of Acetylcholinesterase . . . . .	104

NUMBER 2, MARCH 1968

RYUICHI KATO AND ATSUSHI TAKAHASHI. Thyroid Hormone and Activities of Drug-Metabolizing Enzymes and Electron Transport Systems of Rat Liver Microsomes . . . . .	109
R. D. O'BRIEN. Kinetics of the Carbamylation of Cholinesterase . . . . .	121
ALBERT S. KAPLAN, MCKAY BROWN, AND TAMAR BEN-PORAT. Effect of 1- $\beta$ -D-Arabinofuranosylcytosine on DNA Synthesis. I. In Normal Rabbit Kidney Cell Cultures . . . . .	131
TAMAR BEN-PORAT, MCKAY BROWN, AND ALBERT S. KAPLAN. Effect of 1- $\beta$ -D-	

Arabinofuranosylcytosine on DNA Synthesis. II. In Rabbit Kidney Cells Infected with Herpes Viruses . . . . .	139
ELIZABETH C. MILLER, PRABHAKAR D. LOTLIKAR, JAMES A. MILLER, BARBARA W. BUTLER, CHARLES C. IRVING, AND JIM T. HILL. Reactions <i>in Vitro</i> of Some Tissue Nucleophiles with the Glucuronide of the Carcinogen <i>N</i> -Hydroxy-2-acetylaminofluorene . . . . .	147
J. J. BLUM AND J. P. WEXLER. Effect of Clofibrate in <i>Tetrahymena</i> . . . . .	155
MAIRE T. HAKALA. The Essential SH-Groups in Folate Reductase . . . . .	162
YEE S. KIM. The Sequential Increase in the Rates of Synthesis of Enzymes in Rat Liver after Glucocorticoid Administration . . . . .	168
EDWARD BRESNICK, ERNEST D. MAYFIELD, JR., AND HELENA MOSSÉ. Increased Activity of Enzymes for <i>de Novo</i> Pyrimidine Biosynthesis after Orotic Acid Administration . . . . .	173
B. D. ROUFOGALIS AND J. THOMAS. The Acceleration of Acetylcholinesterase Activity at Low Ionic Strength by Organic and Inorganic Cations . . . . .	181
SOLOMON H. SNYDER AND LEON EPPS. Regulation of Histidine Decarboxylase in Rat Stomach by Gastrin: the Effect of Inhibitors of Protein Synthesis . . . . .	187

SHORT COMMUNICATION

A. M. POISNER AND J. M. TRIFARÓ. Release of Catecholamines from Isolated Adrenal Chromaffin Granules by Endogenous ATP . . . . .	196
--	-----

NUMBER 3, MAY 1968

KENNETH C. LEIBMAN AND ELSA ORTIZ. Oxidation of Indene in Liver Microsomes . . . . .	201
L. LEE BENNETT, JR., PAULA W. ALLAN, AND DONALD L. HILL. Metabolic Studies with Carbocyclic Analogs of Purine Nucleosides . . . . .	208
EDWARD BRESNICK, MARTHA E. SYNERHOLM, AND GARY T. TIZARD. Changes in Liver Cytoplasmic RNA after Administration of 3-Methylcholanthrene . . . . .	218
GEORGE A. PORTER. <i>In Vitro</i> Inhibition of Aldosterone-Stimulated Sodium Transport by Steroidal Spirolactones . . . . .	224
J. BURCHALL. Protection of Microbial Dihydrofolate Reductase against Inactivation by Pronase . . . . .	238
J. J. BLUM. Effect of Adrenergically Reactive Drugs on Peroxisomal Enzymes in <i>Tetrahymena</i> . . . . .	247
R. W. RUDDON AND J. M. JOHNSON. The Effects of Nitrogen Mustard on DNA Template Activity in Purified DNA and RNA Polymerase Systems . . . . .	258
H. W. GOEDDE, K. R. HELD, AND K. ALTLAND. Hydrolysis of Succinylcholine and Succinylmonocholine in Human Serum . . . . .	274
BENT FORMBY. The Binding of Noradrenaline to Monophosphoinositide: <i>In Vitro</i> Studies . . . . .	288
M. R. SHEEN, BYUNG KYU KIM, AND R. E. PARKS, JR. Purine Nucleoside Phosphorylase from Human Erythrocytes. III. Inhibition by the Inosine Analog Formycin B of the Isolated Enzyme and of Nucleoside Metabolism in Intact Erythrocytes and Sarcoma 180 Cells . . . . .	293

NUMBER 4, JULY 1968

LARS TERENIUS. Differential Inhibition <i>in Vitro</i> of 17 $\beta$ -Estradiol Binding in the Mouse Uterus and Vagina by Optical Antipodes of Estrogens . . . . .	301
--	-----

AUDREY ALBERGA AND ETIENNE-EMILE BAULIEU. Binding of Estradiol in Cas- trated Rat Endometrium <i>in Vivo</i> and <i>in Vitro</i> . . . . .	311
R. W. ALBERS, G. J. KOVAL, AND G. J. SIEGEL. Studies on the Interaction of Ouabain and Other Cardioactive Steroids with Sodium-Potassium-Activated Adenosine Triphosphatase . . . . .	324
FRANZ-J. LEINWEBER. Mechanism of Histidine Decarboxylase Inhibition by NSD- 1055 and Related Hydroxylamines . . . . .	337
JOHN N. FAIN. Effect of K <sup>+</sup> , Valinomycin, Tetraphenylborate and Ouabain on Lipolysis by White Fat Cells . . . . .	349
SUNE FREDERIKSEN, ANNELISE Ø. JØRGENSEN, ALBERT H. RASMUSSEN, AND TØNNE TØNNESEN. The Effect of Adenosine N <sup>1</sup> -Oxide on the Incorporation of Radioactive Precursors into the Nucleic Acids . . . . .	358
SHIRO KAKIUCHI AND T. W. RALL. The Influence of Chemical Agents on the Accumulation of Adenosine 3',5'-Phosphate in Slices of Rabbit Cerebellum .	367
SHIRO KAKIUCHI AND T. W. RALL. Studies on Adenosine 3',5'-Phosphate in Rab- bit Cerebral Cortex . . . . .	379
CLAUDE F. POYART AND GABRIEL G. NAHAS. Inhibition of Activated Lipolysis by Acidosis . . . . .	389

SHORT COMMUNICATIONS

DAVID KESSEL. Some Observations on the Phosphorylation of Cytosine Ara- binoside . . . . .	402
WILLIAM P. PURCELL AND JAMES G. BEASLEY. The Nature of Inhibitor Bind- ing Sites in Butyrylcholinesterase . . . . .	404
HOWARD J. SAZ AND ONO L. LESCURE. Effects of Anticestodal Agents on Mito- chondria from the Nematode, <i>Ascaris lumbricoides</i> . . . . .	407

NUMBER 5, SEPTEMBER 1968

VERONICA M. MAHER, ELIZABETH C. MILLER, JAMES A. MILLER, AND WACLAW SZYBALSKI. Mutations and Decreases in Density of Transforming DNA Pro- duced by Derivatives of the Carcinogens 2-Acetylaminofluorene and N-Methyl- 4-aminoazobenzene . . . . .	411
KUNIO UEMATSU AND CHARLES HUGGINS. Induction of Leukemia and Ovarian Tumors in Mice by Pulse-Doses of Polycyclic Aromatic Hydrocarbons . . .	427
RHEA J. C. LEVINE, DAVID N. TELLER, AND HERMAN C. B. DENBER. Binding of Chlorpromazine and Thioproperazine <i>in Vitro</i> . III. Fluorometric Measurement of Changes in <i>Limulus polyphemus</i> (Horseshoe Crab) Myosin B Structure and Enzyme Activity after Treatment with Phenothiazine Drugs . . . . .	435
DELTCO K. ZHELYASKOV, MORTON LEVITT, AND SIDNEY UDENFRIEND. Tryptophan Derivatives as Inhibitors of Tyrosine Hydroxylase <i>in Vivo</i> and <i>in Vitro</i> . .	445
L. A. MOUNTER AND R. I. ELLIN. The Inhibition of Acetylcholinesterase by 2- Pyridinealdoxime Methyl Halide . . . . .	452
WALLACE DAIRMAN, ROBERT GORDON, SYDNEY SPECTOR, ALBERT SJOERDSMA, AND SIDNEY UDENFRIEND. Increased Synthesis of Catecholamines in the Intact Rat following Administration of $\alpha$ -Adrenergic Blocking Agents . . . . .	457
RAYMOND D. MAGUS AND JAMES R. FOUTS. Inhibition of Tryptophan Pyrrolase Induction by Carbon Tetrachloride in Rats . . . . .	465
ADEEB BASSILI MAKAR, T. R. TEPHLY, AND G. J. MANNERING. Methanol Metabo- lism in the Monkey . . . . .	471

ADEEB BASSILI MAKAR AND G. J. MANNERING. Role of the Intracellular Distribution of Hepatic Catalase in the Peroxidative Oxidation of Methanol . . .	484
J. I. GOODMAN AND T. R. TEPHLY. The Role of Hepatic Microbody and Soluble Oxidases in the Peroxidation of Methanol in the Rat and Monkey . . .	492
W. J. GEORGE AND T. R. TEPHLY. Studies on Hepatic Microsomal <i>N</i> - and <i>O</i> -Dealkylation of Morphine Analogues . . .	502
RODY P. COX. Hormonal Stimulation of Zinc Uptake in Mammalian Cell Cultures	510
DONALD H. NAMM, STEVEN E. MAYER, AND MARGARET MALTBIE. The Role of Potassium and Calcium Ions in the Effect of Epinephrine on Cardiac Cyclic Adenosine 3',5'-Monophosphate, Phosphorylase Kinase, and Phosphorylase .	522
A. M. POISNER AND W. W. DOUGLAS. A Possible Mechanism of Release of Posterior Pituitary Hormones Involving Adenosine Triphosphate and an Adenosine Triphosphatase in the Neurosecretory Granules . . .	531

NUMBER 6, NOVEMBER 1968

JAMES R. GILLETTE, JEROME J. KAMM, AND HENRY A. SASAME. Mechanism of <i>p</i> -Nitrobenzoate Reduction in Liver: The Possible Role of Cytochrome P-450 in Liver Microsomes . . .	541
HELEN L. WHITE AND JAMES R. WHITE. Lethal Action and Metabolic Effects of Streptonigrin on <i>Escherichia coli</i> . . .	549
DAVID H. ALPERS, MICHAEL SOLIN, AND KURT J. ISSELBACHER. The Role of Lipid Peroxidation in the Pathogenesis of Carbon Tetrachloride-Induced Liver Injury	566
PAUL HOCHSTEIN AND HENRY UTLEY. Hydrogen Peroxide Detoxication by Glutathione Peroxidase and Catalase in Rat Liver Homogenates . . .	574
D. S. COFFEY, RUBY R. ICHINOSE, JUN SHIMAZAKI, AND H. G. WILLIAMS-ASHMAN. Effects of Testosterone on Adenosine Triphosphate and Nicotinamide Adenine Dinucleotide Levels, and on Nicotinamide Mononucleotide Adenylyltransferase Activity, in the Ventral Prostate of Castrated Rats . . .	580
CHARLES E. INTURRISI AND ELWOOD TITUS. Kinetics of Oligomycin Inhibition of Sodium- and Potassium-Activated Adenosine Triphosphatase from Beef Brain	591
TAI AKERA AND THEODORE M. BRODY. Inhibition of Brain Sodium- and Potassium-Stimulated Adenosine Triphosphatase Activity by Chlorpromazine Free Radical	600
JOHN B. SCHENKMAN AND RYO SATO. The Relationship between the pH-Induced Spectral Change in Ferriprotoheme and the Substrate-Induced Spectral Change of the Hepatic Microsomal Mixed-Function Oxidase . . .	613
SUNGMAN CHA. Kinetics of Enzyme Reactions with Competing Alternative Substrates . . .	621
LEONA P. WHICHARD, CARL R. MORRIS, JUDY M. SMITH, AND DAVID J. HOLBROOK, JR. The Binding of Primaquine, Pentaquine, Pamaquine, and Plasmocid to Deoxyribonucleic Acid . . .	630
SHORT COMMUNICATION	
G. KATO. Studies on Serum Cholinesterase Kinetics by Nuclear Magnetic Resonance Spectroscopy . . .	640
AUTHOR INDEX . . .	645
SUBJECT INDEX . . .	649