

CONTENTS OF VOLUME 5

NUMBER 1, JANUARY 1969

KENNETH C. LEIBMAN. Effects of Metyrapone on Liver Microsomal Drug Oxidations	1
J. BARON AND T. R. TEPHLY. Effect of 3-Amino-1,2,4-triazole on the Stimulation of Hepatic Microsomal Heme Synthesis and Induction of Hepatic Microsomal Oxidases Produced by Phenobarbital	10
DAVID KESSEL. A Comparison of 4-Amino-4-deoxy- <i>N</i> ¹⁰ -methylpterotic Acid and Methotrexate Transport by Mouse Leukemia Cells	21
P. A. SACCOCCIA, JR. AND R. P. MIECH. Inosinic Acid Dehydrogenase in Mammalian Tissues	26
R. P. MIECH, RICHARD YORK, AND R. E. PARKS, JR. Adenosine Triphosphate-Guanosine 5'-Phosphate Phosphotransferase. II. Inhibition by 6-Thioguanosine 5'-Phosphate of the Enzyme Isolated from Hog Brain and Sarcoma 180 Ascites Cells	30
WILLIAM D. NOTEBOOM AND GERALD C. MUELLER. Inhibition of Cell Growth and the Synthesis of Ribonucleic Acid and Protein in HeLa Cells by Morphinans and Related Compounds	38
R. FERONE, J. J. BURCHALL, AND G. H. HITCHINGS. <i>Plasmodium berghei</i> Dihydrofolate Reductase. Isolation, Properties, and Inhibition by Antifolates	49
O. H. VIVEROS, L. ARQUEROS, R. J. CONNETT, AND N. KIRSHNER. Mechanism of Secretion from the Adrenal Medulla. III. Studies of Dopamine β -Hydroxylase as a Marker for Catecholamine Storage Vesicle Membranes in Rabbit Adrenal Glands	60
O. H. VIVEROS, L. ARQUEROS, R. J. CONNETT, AND N. KIRSHNER. Mechanism of Secretion from the Adrenal Medulla. IV. The Fate of the Storage Vesicles following Insulin and Reserpine Administration	69
R. T. HAVRAN, I. L. SCHWARTZ, AND RODERICH WALTER. Glutamine Isomers of Oxytocin and Deamino-oxytocin: Synthesis and Pharmacological Properties of [4- <i>N</i> ⁴ -Methyl-L-asparagine]-oxytocin and [1- β -Mercaptopropionic Acid, 4- <i>N</i> ⁴ -Methyl-L-asparagine]-oxytocin	83
N. H. NEFF, S. H. NGAI, C. T. WANG, AND E. COSTA. Calculation of the Rate of Catecholamine Synthesis from the Rate of Conversion of Tyrosine- ¹⁴ C to Catecholamines. Effect of Adrenal Demedullation on Synthesis Rates	90
SHORT COMMUNICATION	
T. S. S. MAO, A. L. GROSSBERG, AND D. PRESSMAN. Intramolecular Hydrogen Bonding, a Factor in Benzoate-Antibenzoate Combination	100

NUMBER 2, MARCH 1969

YEE S. KIM. The Half-Life of Alanine Aminotransferase and of Total Soluble Protein in Livers of Normal and Glucocorticoid-Treated Rats	105
PHILIPPE L. GIGON, THEODORE E. GRAM, AND JAMES R. GILLETTE. Studies on the Rate of Reduction of Hepatic Microsomal Cytochrome P-450 by Reduced Nicotinamide Adenine Dinucleotide Phosphate: Effect of Drug Substrates	109

HENRY A. SASAME AND JAMES R. GILLETTE. Studies on the Relationship between the Effects of Various Substances on Absorption Spectrum of Cytochrome P-450 and the Reduction of <i>p</i> -Nitrobenzoate by Mouse Liver Microsomes	123
A. M. GUARINO, T. E. GRAM, P. L. GIGON, F. E. GREENE, AND J. R. GILLETTE. Changes in Michaelis and Spectral Constants for Aniline in Hepatic Microsomes from Phenobarbital-Treated Rats	131
K. SLAVÍK, V. SLAVÍKOVÁ, K. MOTYČKA, E. HERMANOVÁ, J. SOUČEK, Z. TOMSOVÁ, M. ŠPUNDOVÁ, AND E. NOVÁKOVÁ. Azahomoaminopterin, a New Type of Folic Acid Antimetabolite	137
G. KATO. Nuclear Magnetic Resonance Study of the Interaction between Acetylcholine and Horse Serum Cholinesterase	148
H. F. MARLOW, J. C. METCALFE, AND A. S. V. BURGÉN. The Specificity of Drug Receptors. An Immunochemical Model for Cholinergic Receptors	156
H. F. MARLOW, J. C. METCALFE, AND A. S. V. BURGÉN. The Structural Features Determining the Affinity of Haptens for an Antibody Binding Acetylcholine	166
N. E. SLADEK AND G. J. MANNERING. Induction of Drug Metabolism I. Differences in the Mechanisms by Which Polycyclic Hydrocarbons and Phenobarbital Produce Their Inductive Effects on Microsomal <i>N</i> -Demethylating Systems	174
N. E. SLADEK AND G. J. MANNERING. Induction of Drug Metabolism. II. Qualitative Differences in the Microsomal <i>N</i> -Demethylating Systems Stimulated by Polycyclic Hydrocarbons and by Phenobarbital	186
J. PEISACH AND W. E. BLUMBERG. A Mechanism for the Action of Penicillamine in the Treatment of Wilson's Disease	200

SHORT COMMUNICATION

P. BANKS, KAREN B. HELLE, AND D. MAYOR. Evidence for the Presence of a Chromogranin-like Protein in Bovine Splenic Nerve Granules	210
---------------------------------------------------------------------------------------------------------------------------------------------	-----

NUMBER 3, MAY 1969

J. F. PERKINS, G. HILLMAN, D. FISCHER, AND J. R. BERTINO. Antibody to Dihydrofolate Reductase from a Methotrexate-Resistant Subline of the L1210 Lymphoma	213
EDWARD BRESNICK AND HELENE MOSSÉ. Activation of Genetic Transcription in Rat Liver Chromatin by 3-Methylcholanthrene	219
C. S. PANDE, J. RUDICK, L. ORNSTEIN, I. L. SCHWARTZ, AND RODERICH WALTER. Specific Tritium Labeling of a Potent Gastrin Analogue, Synthesis and Pharmacological Activities of C-Terminal Gastrin Tetrapeptide Analogues	227
E. KWAN AND A. TREVOR. The Association of Xenon with Subcellular Components of Rat Cerebral Cortex	236
COLIN F. CHIGNELL. Optical Studies of Drug-Protein Complexes. II. Interaction of Phenylbutazone and Its Analogues with Human Serum Albumin	244
DIANE H. RUSSELL AND SOLOMON H. SNYDER. Amine Synthesis in Regenerating Rat Liver: Extremely Rapid Turnover of Ornithine Decarboxylase	253
MORRIS S. ZEDECK, ALAN C. SARTORELLI, JAMES M. JOHNSON, AND RAYMOND W. RUDDON. The Effects of 6-Chloro-8-aza-9-cyclopentylpurine on Nucleic Acid and Protein Synthesis in <i>Escherichia coli</i> . I. <i>In Vivo</i> Studies	263
JAMES M. JOHNSON, RAYMOND W. RUDDON, MORRIS S. ZEDECK, AND ALAN C. SARTORELLI. The Effects of 6-Chloro-8-aza-9-cyclopentylpurine on Nucleic Acid and Protein Synthesis in <i>Escherichia coli</i> . II. <i>In Vitro</i> Studies	271

B. D. ROUFOGALIS AND J. THOMAS. The Effect of Organic and Inorganic Cations on the Decarbamylation of Dimethylcarbamylacetylcholinesterase: A Comparison with Deacetylation	286
A. M. POISNER AND J. M. TRIFARÓ. The Role of Adenosine Triphosphate and Adenosine Triphosphatase in the Release of Catecholamines from the Adrenal Medulla. III. Similarities between the Effects of ATP on Chromaffin Granules and on Mitochondria	294

SHORT COMMUNICATION

SIMON SILVER AND MARY LEE KRALOVIC. Fatty Acid-Conjugated Polyamines that Alter Cell Permeability and Active Transport Properties of <i>Escherichia coli</i>	300
------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

NUMBER 4, JULY 1969

J. BORSA AND G. F. WHITMORE. Studies Relating to the Mode of Action of Methotrexate. II. Studies on Sites of Action in L-Cells <i>in Vitro</i>	303
J. BORSA AND G. F. WHITMORE. Studies Relating to the Mode of Action of Methotrexate. III. Inhibition of Thymidylate Synthetase in Tissue Culture Cells and in Cell-Free Systems	318
JOHN T. PENNISTON, LAUREL BECKETT, DONALD L. BENTLEY, AND CORWIN HANSCH. Passive Permeation of Organic Compounds through Biological Tissue: a Non-Steady-State Theory	333
O. H. VIVEROS, L. ARQUEROS, AND N. KIRSHNER. Mechanism of Secretion from the Adrenal Medulla. V. Retention of Storage Vesicle Membranes following Release of Adrenaline	342
ARYEH HURWITZ AND CHARLES E. CARTER. Effect of Chlortetracycline on Regenerating Liver	350
JOHN P. DURHAM AND DAVID H. IVES. Deoxycytidine Kinase. I. Distribution in Normal and Neoplastic Tissues and Interrelationships of Deoxycytidine and 1- β -D-Arabinofuranosylcytosine Phosphorylation	358
HELENE STERNGLANZ, K. LEMONE YIELDING, AND KENNETH M. PRUITT. Nuclear Magnetic Resonance Studies of the Interaction of Chloroquine Diphosphate with Adenosine 5'-Phosphate and Other Nucleotides	376
J. M. TRIFARÓ. Phospholipid Metabolism and Adrenal Medullary Activity. I. The Effect of Acetylcholine on Tissue Uptake and Incorporation of Orthophosphate- ³² P into Nucleotides and Phospholipids of Bovine Adrenal Medulla	382
H. P. RANG AND J. M. RITTER. A New Kind of Drug Antagonism: Evidence that Agonists Cause a Molecular Change in Acetylcholine Receptors	394
D. W. SHOEMAN, M. D. CHAPLIN, AND G. J. MANNERING. Induction of Drug Metabolism. III. Further Evidence for the Formation of a New P-450 Hemoprotein after Treatment of Rats with 3-Methylcholanthrene	412

SHORT COMMUNICATIONS

JAMES J. FISCHER AND MARGARET C. JOST. Nuclear Magnetic Resonance Studies of Drug-Receptor Interactions. The Binding of Epinephrine to Isolated Mouse Liver Cells	420
J. M. TRIFARÓ. The Effect of Ca ⁺⁺ Omission on the Secretion of Catecholamines and the Incorporation of Orthophosphate- ³² P into Nucleotides and	

Phospholipids of Bovine Adrenal Medulla during Acetylcholine Stimulation	424
SENMAW FANG AND SHUTSUNG LIAO. Antagonistic Action of Anti-androgens on the Formation of a Specific Dihydrotestosterone-Receptor Protein Complex in Rat Ventral Prostate	428

NUMBER 5, SEPTEMBER 1969

DONALD SMITHERS, L. LEE BENNETT, JR., AND ROBERT F. STRUCK. Inhibition of Protein Synthesis in Mammalian Cells by Actinobolin	433
TEIJIRO YONEZAWA, IKUKO MURO, AND HIROSHI KATO. The Electronic Structures and Pharmacological Activities of Sulfanilamide Derivatives and Carbonic Anhydrase Inhibitors with the Same Sulfonamide Moiety	446
COLIN F. CHIGNELL. Optical Studies of Drug-Protein Complexes. III. Interaction of Flufenamic Acid and Other <i>N</i> -Arylanthranilates with Serum Albumin	455
ROBERT A. MUELLER, HANS THOENEN, AND JULIUS AXELROD. Inhibition of Trans-synaptically Increased Tyrosine Hydroxylase Activity by Cycloheximide and Actinomycin D	463
CLARA M. SZEGO AND JUNE S. DAVIS. Inhibition of Estrogen-Induced Elevation of Cyclic 3',5'-Adenosine Monophosphate in Rat Uterus. I. By <i>Beta</i> -Adrenergic Receptor-Blocking Drugs	470
DAVID KESSEL, THOMAS C. HALL, AND PHILIP REYES. Metabolism of Uracil and 5-Fluorouracil in P388 Murine Leukemia Cells	481
RYUICHI KATO, TAKAO OSHIMA, AND AKIRA TAKANAKA. Studies on the Mechanism of Nitro Reduction by Rat Liver	487
W. LEVIN AND R. KUNTZMAN. Biphasic Decrease of Radioactive Hemoprotein from Liver Microsomal Carbon Monoxide-Binding Particles. Effect of Phenobarbital and Chlordane	499
BYRON W. KEMPER, WILLIAM B. PRATT, AND LEWIS ARONOW. Nucleic Acid Synthesis in Intact Nuclei Isolated from Mouse Fibroblasts. Characterization of the System and Effects of Glucocorticoids	507
RICHARD D. ESTENSEN, ANNE K. KREY, AND FRED E. HAHN. Studies on a Deoxy-ribonucleic Acid-Quinine Complex	532

SHORT COMMUNICATION

JAMES BENNETT, ERNEST BUEDING, ALAN R. TIMMS, AND ROBERT G. ENGSTROM. Occurrence and Levels of 5-Hydroxytryptamine in <i>Schistosoma mansoni</i>	542
------------------------------------------------------------------------------------------------------------------------------------------------------------	-----

SPECIAL REPORT

OLEG JARDETZKY. Reflections on the First Gordon Research Conference on Molecular Pharmacology	546
---------------------------------------------------------------------------------------------------------	-----

NUMBER 6, NOVEMBER 1969

BARBARA L. BROWNSTEIN, GERALD SCHOCHETMAN, AND KLAUS KOSCHEL. The Effects of Streptomycin Derivatives on Sensitive and Dependent Strains of <i>Escherichia coli</i>	549
WILLIAM M. HRYNIUK, GLENN A. FISCHER, AND JOSEPH R. BERTINO. S-Phase Cells of Rapidly Growing and Resting Populations. Differences in Response to Methotrexate	557

LLEWELLYN B. BIGELOW, WALLACE DAIRMAN, HANS WEIL-MALHERBE, AND SIDNEY UDENFRIEND. Increased Synthesis of Catecholamines and Their Metabolites following the Administration of Phenoxybenzamine	565
KENNETH C. KIRBY, JR., DANIEL SWERN, AND RENATO BASERGA. The Effect of Structural Modifications of the Isoproterenol Molecule on the Stimulation of Deoxyribonucleic Acid Synthesis in Mouse Salivary Glands	572
M. A. IORIO, H. MICHALEK, AND S. CHIAVARELLI. Studies on 4-Phenylpiperidine Series. X. Some Geometric Isomers of Quaternary Piperidinium Salts with Anticholinesterase Activity	580
JOSEPH D. ROBINSON. Effects of Phlorizin on Membrane Cation-Dependent Adenosine Triphosphatase and <i>p</i> -Nitrophenyl Phosphatase Activities	584
ANJA H. TISSARI, PETER S. SCHÖNHÖFER, DONALD F. BOGDANSKI, AND BERNARD B. BRODIE. Mechanism of Biogenic Amine Transport II. Relationship between Sodium and the Mechanism of Ouabain Blockade of the Accumulation of Serotonin and Norepinephrine by Synaptosomes	593
TAI AKERA AND THEODORE M. BRODY. The Interaction between Chlorpromazine Free Radical and Microsomal Sodium- and Potassium-Activated Adenosine Triphosphatase from Rat Brain	605
V. GENE ERWIN. Enhancement of Brain Glutamate Dehydrogenase Activity and Glutamate Oxidation by Adenine Nucleotides	615
SAM SOROF, EMILY M. YOUNG, REGINA Z. MCBRIDE, CAROL B. COFFEY, AND LEONA LUONGO. Increased Selectivity of Interaction between Fluorenylamine Carcinogens and Liver Proteins during Hepatocarcinogenesis	625
R. FRANKE. The Possible Role of Hydrophobic Interactions of Polycyclic Aromatic Hydrocarbons with Protein in Chemical Carcinogenesis	640
 AUTHOR INDEX	 658
 SUBJECT INDEX	 663