

CONTENTS OF VOLUME 3

NUMBER 1, JANUARY 1967

| | |
|--|----|
| HERBERT S. SCHWARTZ AND M. GAROFALO. Degradation of RNA in Liver of Rats Treated with Actinomycin D | 1 |
| MANFRED KIESE. Reactions of <i>N,N</i> -Dimethylaniline- <i>N</i> -oxide with Hemoglobin | 9 |
| J. F. MORAN, M. MAY, H. KIMELBERG, AND D. J. TRIGGLE. Studies on the Noradrenaline α -Receptor. I. Techniques of Receptor Isolation. The Distribution and Specificity of Action of <i>N</i> -(2-Bromoethyl)- <i>N</i> -ethyl-1-naphthylmethylamine, a Competitive Antagonist of Noradrenaline | 15 |
| M. MAY, J. F. MORAN, H. KIMELBERG, AND D. J. TRIGGLE. Studies on the Noradrenaline α -Receptor. II. Analysis of the "Spare-Receptor" Hypothesis and Estimation of the Concentration of α -Receptors in Rabbit Aorta | 28 |
| G. A. LEPAGE AND I. G. JUNGA. The Utilization of α -2'-Deoxythioguanosine by Murine Tumor Cells | 37 |
| KAI-LIN LEE AND O. NEAL MILLER. Studies on Triiodothyronine-Induced Synthesis of Liver Mitochondrial α -Glycerophosphate Dehydrogenase in the Thyroidectomized Rat | 44 |
| W. JAMES SMITH AND NORMAN KIRSHNER. A Specific Soluble Protein from the Catecholamine Storage Vesicles of Bovine Adrenal Medulla. I. Purification and Chemical Characterization | 52 |
| L. D. WATERBURY AND J. J. JAFFE. Comparative Effects of Methylglyoxal-Bis (Guanylhydrazone), Phenformin, and Insulin upon the Metabolism of Glucose and Acetate by Rat Epididymal Fat Pads <i>in Vitro</i> | 63 |
| ALAN C. SARTORELLI AND BARBARA A. BOOTH. Inhibition of the Synthesis of Thymine Nucleotides by Azaserine | 71 |
| HARVEY J. SAGE, W. J. SMITH, AND N. KIRSHNER. Mechanism of Secretion from the Adrenal Medulla. I. A Microquantitative Immunologic Assay for Bovine Adrenal Catecholamine Storage Vesicle Protein and Its Application to Studies of the Secretory Process | 81 |
| DONALD A. SILVERMAN AND PAUL TALALAY. Studies on the Enzymic Hydroxylation of 3,4-Benzpyrene | 90 |

NUMBER 2, MARCH 1967

| | |
|--|-----|
| J. THOMAS AND B. D. ROUFOGALIS. Structural Specificity of Substrates of Acetylcholinesterase | 103 |
| W. BROCK NEELY. Molecular Orbital Calculations on Folic Acid and Folic Acid Analogs | 108 |
| JOHN B. SCHENKMAN, HERBERT REMMER, AND RONALD W. ESTABROOK. Spectral Studies of Drug Interaction with Hepatic Microsomal Cytochrome | 113 |
| N. BRUCHOVSKY AND J. E. TILL. Effects of β -Phenethyl Alcohol on Mouse L Cells in Suspension Culture. I. Reversible Inhibition of Cell Proliferation and Effects on the Uptake of Labeled Precursors of Nucleic Acid and Protein | 124 |
| N. BRUCHOVSKY, S. MAK, AND J. E. TILL. Effects of β -Phenethyl Alcohol on Mouse L Cells in Suspension Culture. II. Effects on the Cell Division Cycle | 133 |

| | |
|---|-----|
| PAUL BYVOET AND AIJA GOTTI. Isolation and Properties of Carbonic Anhydrase from Dog Kidney and Erythrocytes | 142 |
| H. FELSENFELD AND R. E. HANDSCHUMACHER. The Interaction between Lysozyme and Penicillin | 153 |
| DEBORAH BENNETT STONE AND TAG E. MANSOUR. Phosphofructokinase from the Liver Fluke <i>Fasciola hepatica</i> . I. Activation by Adenosine 3',5'-Phosphate and by Serotonin | 161 |
| DEBORAH BENNETT STONE AND TAG E. MANSOUR. Phosphofructokinase from the Liver Fluke <i>Fasciola hepatica</i> . II. Kinetic Properties of the Enzyme | 177 |
| S. ADAMIČ AND I. BIHLER. Inhibition of Intestinal Sugar Transport by Phenolphthalein | 188 |
| J. M. JOHNSON AND R. W. RUDDON. Interaction of Nitrogen Mustard with Polyribonucleotides, Ribosomes, and Enzymes Involved in Protein Synthesis in a Cell-Free System | 195 |
| EUGENE SANDERS AND THOMAS H. MAREN. Inhibition of Carbonic Anhydrase in <i>Neisseria</i> : Effects of Enzyme Activity and Growth | 204 |
| SHORT COMMUNICATION | |
| IRWIN M. ARIAS AND ANTONIO DE LEON. Estimation of the Turnover Rate of Barbiturate Side-Chain Oxidation Enzyme in Rat Liver | 216 |

NUMBER 3, MAY 1967

| | |
|--|-----|
| WILLIAM B. PRATT, STEVEN EDELMAN, AND LEWIS ARONOW. The Effect of Cortisol, Administered <i>in Vivo</i> , on the <i>in Vitro</i> Incorporation of DNA and RNA Precursors by Rat Thymus Cells | 219 |
| RICHARD J. KITZ, SARA GINSBURG, AND IRWIN B. WILSON. The Reaction of Acetylcholinesterase with Diethylphosphoryl Esters of Quaternary and Tertiary Aminophenols | 225 |
| I. M. FRASER, M. A. PETERS, AND M. G. HARDINGE. Purification and Some Characteristics of an α,β -Unsaturated Ketone Reductase from Dog Erythrocytes and Human Liver | 233 |
| LUIS A. BRANDA, VICTOR J. HRUBY, AND VINCENT DU VIGNEAUD. 2-Isoleucine-oxytocin and Deamino-2-isoleucine-oxytocin: Their Synthesis and Some of Their Pharmacologic Activities | 248 |
| N. KIRSHNER, H. J. SAGE, AND W. J. SMITH. Mechanism of Secretion from the Adrenal Medulla. II. Release of Catecholamines and Storage Vesicle Protein in Response to Chemical Stimulation | 254 |
| WENDELL W. WEBER AND SANFORD N. COHEN. N-Acetylation of Drugs: Isolation and Properties of an N-Acetyltransferase from Rabbit Liver | 266 |
| ERIC JÉQUIER, WALTER LOVENBERG, AND ALBERT SJOERDSMA. Tryptophan Hydroxylase Inhibition: the Mechanism by Which <i>p</i> -Chlorophenylalanine Depletes Rat Brain Serotonin | 274 |
| RAIMO P. RAUNIO AND MAIRE T. HAKALA. Comparison of Folate Reductases of Sarcoma 180 Cells, Sensitive and Resistant to Amethopterin | 279 |
| BENT FORMBY. The Binding of Noradrenaline to Phosphatidylserine. <i>In Vitro</i> Studies of an Artificial Model System of Biological Origin | 284 |
| BARBARA A. BOOTH AND ALAN C. SARTORELLI. Metabolic Effects of Copper in Intact Cells: Comparative Activity of Cupric Chloride and the Cupric Chelate of Kethoxal Bis (thiosemicarbazone) | 290 |

SHORT COMMUNICATION

| | |
|---|-----|
| PAUL BYVOET. Metabolic Integrity of Deoxyribonucleohistones during Enzyme Induction | 303 |
| ERRATUM | 306 |

NUMBER 4, JULY 1967

| | |
|---|-----|
| WALLY GIORDANO, JON R. HAMANN, JEROME J. HARKINS, AND JOYCE J. KAUFMAN. Quantum Mechanical Calculation of Stability in 2-Formyl <i>N</i> -Methyl Pyridinium (Cation) Oxime (2-PAM ⁺) Conformers | 307 |
| C. ADRIAN M. HOGBEN. The Chloride Effect of Carbonic Anhydrase Inhibitors | 318 |
| SILVANO C. RIVA, L. G. SILVESTRI, AND L. R. HILL. Methods for Assaying Complexes between Acridine Orange and Deoxyribonucleic Acid | 327 |
| M. ENTMAN AND R. BRESSLER. The Mechanism of Action of Hypoglycin on Long-Chain Fatty Acid Oxidation | 333 |
| D. J. NELSON AND C. E. CARTER. Inhibition of Thymidine-5'-monophosphokinase from L5178Y Mouse Leukemia by Diethylstilbestrol and 17-Ethynyl- β -estradiol | 341 |
| ROBERT B. SANDERS AND THOMAS R. RIGGS. Effects of Epinephrine on the Distribution of Two Model Amino Acids in the Rat | 352 |
| JULIAN J. JAFFE AND JOHN J. McCORMACK, JR. Dihydrofolate Reductase from <i>Trypanosoma equiperdum</i> . I. Isolation, Partial Purification, and Properties | 359 |
| KAREL SLAVIK AND SIGMUND F. ZAKRZEWSKI. Inhibition of Thymidylate Synthetase by Some Analogs of Tetrahydrofolic Acid | 370 |
| ROGER P. SMITH. The Oxygen and Sulfide Binding Characteristics of Hemoglobins Generated from Methemoglobin by Two Erythrocytic Systems | 378 |
| MORRIS S. ZEDECK, ALAN C. SARTORELLI, PAULINE K. CHANG, KAREL RAŠKA, JR., ROLAND K. ROBINS, AND ARNOLD D. WELCH. Inhibition of the Steroid-Induced Synthesis of Δ^5 -3-Ketosteroid Isomerase in <i>Pseudomonas testosteroni</i> by a New Purine Deoxyribonucleoside Analog: 6-Chloro-8-aza-9-cyclopentylpurine | 386 |

SHORT COMMUNICATIONS

| | |
|--|-----|
| MENEK GOLDSTEIN AND TONG HYUB JOH. The Effect of Reduced and Oxidized Pteridine on Dopamine- β -Hydroxylase Activity | 396 |
| SEYMOUR JOFFE. A Nuclear Magnetic Resonance Study of Hapten-Antibody Interaction | 399 |

NUMBER 5, SEPTEMBER 1967

| | |
|--|-----|
| ERIC CUNDLIFFE. Antibiotics and Polyribosomes. Chlorotetracycline and Polyribosomes of <i>Bacillus megaterium</i> | 401 |
| R. L. BLAKE, S. L. BLAKE, H. H. LOH, AND ERNEST KUN. The Effect of Nicotinamide and Homologs on the Activity of Inducible Enzymes and NAD Content of the Rat Liver | 412 |
| LARS TERENIUS. SH-Groups Essential for Estrogen Uptake and Retention in the Mouse Uterus | 423 |
| E. R. FROESCH, M. WALDVOGEL, U. A. MEYER, A. JAKOB, AND A. LABHART. Effects of 5-Methylpyrazole-3-Carboxylic Acid on Adipose Tissue. I. Inhibition of Lipolysis, Effects on Glucose, Fructose, and Glycogen Metabolism <i>in Vitro</i> and Comparison with Insulin | 429 |
| E. R. FROESCH, M. WALDVOGEL, U. A. MEYER, A. JAKOB, AND R. LABHART. Effects | |

| | |
|---|-----|
| of 5-Methylpyrazole-3-Carboxylic Acid on Adipose Tissue. II. Antilipolytic and Hypoglycemic Effects <i>in Vivo</i> | 442 |
| RICHARD GREENE AND BORIS MAGASANIK. The Mode of Action of Levallorphan as an Inhibitor of Cell Growth | 453 |
| JAMES W. GIBB, SYDNEY SPECTOR, AND SIDNEY UDEFRIEND. Production of Antibodies to Dopamine- β -hydroxylase of Bovine Adrenal Medulla | 473 |
| K. E. FOX AND J. D. GABOUREL. Effect of Cortisol on the RNA Polymerase System of Rat Thymus | 479 |
| LEMONT B. KIER. Molecular Orbital Calculation of Preferred Conformations of Acetylcholine, Muscarine, and Muscarone | 487 |

SHORT COMMUNICATION

| | |
|---|-----|
| P. GÖRÖG AND I. B. KOVÁCS. Effects of Vitamins K ₁ and K ₃ on Adenosine Nucleotide Content of Rat Tissues | 495 |
|---|-----|

NUMBER 6, NOVEMBER 1967

| | |
|--|-----|
| ERNEST KUN, PIERRE VOLFIN, AND HORACE H. LOH. Studies with Specific Enzyme Inhibitors. XI. Identification of Tissue-Specific Metabolic Organization of Mitochondria by Monofluorocitrate | 497 |
| THOMAS H. MAREN AND ARTHUR C. ELLISON. A Study of Renal Carbonic Anhydrase | 503 |
| LOUIS A. SORDAHL AND ARNOLD SCHWARTZ. Effects of Dipyrindamole on Heart Muscle Mitochondria | 509 |
| JOHN B. SCHENKMAN, INGEBORG FREY, HERBERT REMMER, AND RONALD W. ESTABROOK. Sex Differences in Drug Metabolism by Rat Liver Microsomes | 516 |
| THOMAS A. KRENITSKY. Purine Nucleoside Phosphorylase: Kinetics, Mechanism, and Specificity | 526 |
| H. GEORGE MANDEL, HEDWIG M. OLIVER, AND MARGIT RIIS. Interference of Barbiturates with Pyrimidine Incorporation. I. Amobarbital Inhibition of Orotate Uptake into <i>Bacillus cereus</i> | 537 |
| SYDNEY SPECTOR, ROBERT GORDON, ALBERT SJOERDSMA, AND SIDNEY UDEFRIEND. End-Product Inhibition of Tyrosine Hydroxylase as a Possible Mechanism for Regulation of Norepinephrine Synthesis | 549 |
| SHIGERU YAMABE. A Spectrophotometric Study on Binding of Acridine Orange with DNA | 556 |
| A. M. POISNER AND J. M. TRIFARÓ. The Role of ATP and ATPase in the Release of Catecholamines from the Adrenal Medulla. I. ATP-Evoked Release of Catecholamines, ATP, and Protein from Isolated Chromaffin Granules | 561 |
| J. M. TRIFARÓ AND A. M. POISNER. The Role of ATP and ATPase in the Release of Catecholamines from the Adrenal Medulla. II. ATP-Evoked Fall in Optical Density of Isolated Chromaffin Granules | 572 |
| LEROY HERSH. The Interaction of Local Anesthetics with Lecithin Monolayers | 581 |
| ROBERT H. CONNAMACHER, H. GEORGE MANDEL, AND FRED E. HAHN. Adaptation of Populations of <i>Bacillus cereus</i> of Tetracycline | 586 |

SHORT COMMUNICATION

| | |
|--|-----|
| ELSIE WAINFAN AND ERNEST BOREK. Differential Inhibitors of tRNA Methylases | 595 |
|--|-----|

| | |
|-----------------|-----|
| INDEX | 599 |
|-----------------|-----|