

## CONTENTS OF VOLUME 2

NUMBER 1, FEBRUARY 1966

N. RONALD MORRIS AND JOHN W. CRAMER. DNA Synthesis by Mammalian Cells Inhibited in Culture by 5-Iodo-2'-deoxyuridine . . . . .	1
MACKENZIE WALSER AND VICTOR E. NAHMOD. Association of Alkali Metal and Alkaline Earth Cations with Subcellular Particles Prepared from Renal Cortex	10
VICTOR E. NAHMOD AND MACKENZIE WALSER. The Effect of Ouabain on Renal Tubular Reabsorption and Cortical Concentrations of Several Cations and on Their Association with Subcellular Particles . . . . .	22
B. A. CALLINGHAM AND A. S. V. BURGEN. The Uptake of Isoprenaline and Noradrenaline by the Perfused Rat Heart. . . . .	37
ERIC J. SIMON, DINA VAN PRAAG, AND FRANK L. ARONSON. The Selective Inhibition of Ribosomal RNA Synthesis in <i>E. coli</i> by 2,4-Dinitrophenol . . . . .	43
CHARLES W. YOUNG. Inhibitory Effects of Acetoxycycloheximide, Puromycin and Pactamycin upon Synthesis of Protein and DNA in Asynchronous Populations of HeLa Cells . . . . .	50
R. K. BANERJEE AND A. B. ROY. The Sulfotransferases of Guinea Pig Liver . . . . .	56
HANS-PETER BAER, GEORGE I. DRUMMOND, AND E. LOVERNE DUNCAN. Formation and Deamination of Adenosine by Cardiac Muscle Enzymes . . . . .	67
ALVARO L. GIMENO, JORGE L. LACUARA, MARTHA F. GIMENO, ELENA CERETTI, AND J. LEYDEN WEBB. Effects of 2-Deoxy-D-glucose on Isolated Atria . . . . .	77
SHORT COMMUNICATIONS	
ALVIN H. GOLD AND HAROLD L. SEGAL. Effect of Prednisolone on the Randomization of Glucose Incorporated into Glycogen. . . . .	84
C. A. MUEHLBAECHER, F. L. DEBON, AND R. M. FEATHERSTONE. Further Studies on the Solubilities of Xenon and Cyclopropane in Blood and Protein Solutions . . . . .	86
P. LANGEN AND G. ETZOLD. Enhancement of 5-Iododeoxyuridine Incorporation into DNA of Cat Tissue <i>in Vivo</i> by Inhibition of Uridine-Deoxyuridine Phosphorylase . . . . .	89
ULDIS ROZE AND JACK L. STROMINGER. Alanine Racemase from <i>Staphylococcus aureus</i> : Conformation of Its Substrates and Its Inhibitor, D-Cycloserine. . . . .	92

NUMBER 2, APRIL 1966

SIDNEY UDEFRIEND, PEROLA ZALTZMAN-NIRENBERG, ROBERT GORDON, AND SYDNEY SPECTOR. Evaluation of the Biochemical Effects Produced <i>in Vivo</i> by Inhibitors of the Three Enzymes Involved in Norepinephrine Biosynthesis . . . . .	95
K. R. HORN BROOK, HELEN B. BURCH, AND OLIVER H. LOWRY. The Effects of Adrenalectomy and Hydrocortisone on Rat Liver Metabolites and Glycogen Synthetase Activity . . . . .	106
PAULO M. S. MIRANDA AND JAMES L. WAY. The Metabolism of C <sup>14</sup> 2-PAM in the Isolated Perfused Rat Liver. IV. 1-Methyl-2-Pyridone . . . . .	117
CARL RITTER. NAD Biosynthesis as an Early Part of Androgen Action . . . . .	125
PHILIP NEEDLEMAN AND F. EDMUND HUNTER, JR. Effects of Organic Nitrates on	

Mitochondrial Respiration and Swelling: Possible Correlations with the Mechanism of Pharmacologic Action . . . . .	134
THOMAS H. MAREN, ARTHUR C. ELLISON, SUSAN K. FELLNER, AND WALTER B. GRAHAM. A Study of Hepatic Carbonic Anhydrase . . . . .	144
H. K. DAS, AVRAM GOLDSTEIN, AND LEE C. KANNER. Inhibition by Chloramphenicol of the Growth of Nascent Protein Chains in <i>Escherichia coli</i> . . . . .	158
R. KATO, W. R. JONDORF, L. A. LOEB, T. BEN, AND H. V. GELBOIN. Studies on the Mechanism of Drug-Induced Microsomal Enzyme Activities. V. Phenobarbital Stimulation of Endogenous Messenger RNA and Polyuridylic Acid-Directed L-[ <sup>14</sup> C]-Phenylalanine Incorporation . . . . .	171

SHORT COMMUNICATION

H. REMMER, J. SCHENKMAN, R. W. ESTABROOK, H. SASAME, J. GILLETTE, S. NARASIMHULU, D. Y. COOPER, AND O. ROSENTHALL. Drug Interaction with Hepatic Microsomal Cytochrome . . . . .	187
--	-----

NUMBER 3, JUNE 1966

JOHN R. WILLIAMSON AND D. JAMIESON. Metabolic Effects of Epinephrine in the Perfused Rat Heart. I. Comparison of Intracellular Redox States, Tissue pO <sub>2</sub> , and Force of Contraction . . . . .	191
JOHN R. WILLIAMSON. Metabolic Effects of Epinephrine in the Perfused Rat Heart. II. Control Steps of Glucose and Glycogen Metabolism . . . . .	206
RICHARD M. FINKEL, EDGAR C. HENSHAW, AND HOWARD H. HIATT. Early Changes in Liver Cytoplasmic RNA of Hydrocortisone-Treated Rats . . . . .	221
P. D. BEWSHER, C. C. HILLMAN, AND J. ASHMORE. Effects of Nethalide on Insulin Activity and Binding by Rat Muscle and Adipose Tissue . . . . .	227
JOHN N. FAIN, DAVID J. GALTON, AND VANCO P. KOVACEV. Effect of Drugs on the Lipolytic Action of Hormones in Isolated Fat Cells . . . . .	237
D. J. NELSON AND C. E. CARTER. Inhibition of the Biosynthesis of Thymidylic Acid by 4- <i>N</i> -Hydroxy-2'-Deoxycytidine in L5178Y Leukemic Cells . . . . .	248
JOACHIM K. SEYDEL. Prediction of <i>in Vitro</i> Activity of Sulfonamides, Using Hammett Constants or Spectrophotometric Data of the Basic Amines for Calculation . . . . .	259

SHORT COMMUNICATION

W. F. WEVERS AND R. K. RALPH. Drug Action and Aminoacyl RNA Ligases . . . . .	266
---	-----

ERRATUM . . . . .	268
-------------------	-----

NUMBER 4, JULY 1966

K. G. DAWSON, P. PATEY, D. RUBINSTEIN, AND J. C. BECK. Growth Hormone and Protein Synthesis . . . . .	269
ALAN C. SARTORELLI AND SHIRO TSUNAMURA. Studies on the Biochemical Mode of Action of a Cytotoxic Methylhydrazine Derivative, <i>N</i> -Isopropyl- $\alpha$ -(2-methylhydrazino)- <i>p</i> -toluamide . . . . .	275
E. W. GILL AND H. P. RANG. An Alkylating Derivative of Benzilylcholine with Specific and Long-Lasting Parasympatholytic Activity . . . . .	284
KAREN B. HELLE. Some Chemical and Physical Properties of the Soluble Protein Fraction of Bovine Adrenal Chromaffin Granules . . . . .	298

JOHN MILLS AND DONALD T. DUBIN. Some Effects of Spermine on <i>Escherichia coli</i>	311
M. W. ANDERS AND G. J. MANNERING. Inhibition of Drug Metabolism. I. Kinetics of the Inhibition of the N-Demethylation of Ethylmorphine by 2-Diethylaminoethyl 2,2-Diphenylvalerate HCl (SKF 525-A) and Related Compounds . . .	319
M. W. ANDERS, A. P. ALVARES, AND G. J. MANNERING. Inhibition of Drug Metabolism. II. Metabolism of 2-Diethylaminoethyl 2,2-Diphenylvalerate HCl (SKF 525-A) . . . . .	328
R. E. STITZEL, M. W. ANDERS, AND G. J. MANNERING. Inhibition of Drug Metabolism. III. Inhibition of Hexobarbital Metabolism in the Intact Rat and in the Isolated Perfused Liver by 2-Diethylaminoethyl 2,2-Diphenylvalerate HCl (SKF 525-A) and Its N-Deethylated Derivatives . . . . .	335
M. W. ANDERS AND G. J. MANNERING. Inhibition of Drug Metabolism. IV. Induction of Drug Metabolism by 2-Diethylaminoethyl 2,2-Diphenylvalerate HCl (SKF 525-A) and 2,4-Dichloro-6-phenylphenoxyethyldiethylamine HBr (Lilly 18947) and the Effect of Induction on the Inhibitory Properties of SKF 525-A Type Compounds . . . . .	341
GERTRUDE P. QUINN, PAUL GREENGARD, AND MARIA B. REID. Prevention by Anti-depressant Drugs of Reserpine Effect on Pyridine Nucleotide Metabolism . .	347
ISRAEL HANIN, DONALD J. JENDEN, AND ARTHUR K. CHO. The Influence of pH on the Muscarinic Action of Oxotremorine Arecoline, Pilocarpine, and their Quaternary Ammonium Analogs . . . . .	352

SHORT COMMUNICATIONS

L. L. IVERSEN AND E. A. KRAVITZ. Sodium Dependence of Transmitter Uptake at Adrenergic Nerve Terminals . . . . .	360
JOHN W. CRAMER AND N. RONALD MORRIS. Absence of DNA Synthesis in One-Half of a Population of Mammalian Tumor Cells Inhibited in Culture by 5-Iodo-2'-Deoxyuridine . . . . .	363

NUMBER 5, SEPTEMBER 1966

JEAN-PIERRE CHANGEUX. Responses of Acetylcholinesterase from <i>Torpedo marmorata</i> to Salts and Curarizing Drugs . . . . .	369
STEVEN E. MAYER, ANNETTE C. MAYFIELD, AND JOSEPH A. HAAS. Heart Muscle Hexokinase: Subcellular Distribution and Inhibition by Glucose 6-Phosphate .	393
EDWARD BRESNICK. Ribonucleic Acid Polymerase Activity in Liver Nuclei from Rats Pretreated with 3-Methylcholanthrene . . . . .	406
B. BELLEAU AND H. TANI. A Novel Irreversible Inhibitor of Acetylcholinesterase Specifically Directed at the Anionic Binding Site: Structure-Activity Relationships . . . . .	411
SIGMUND F. ZAKRZEWSKI, MAIRE T. HAKALA, AND CHARLES A. NICHOL. Purification and Properties of Folate Reductase, the Cellular Receptor of Amethopterin .	423
L. LEE BENNETT, JR., HANS P. SCHNEBLI, MARGARET H. VAIL, PAULA W. ALLAN, AND JOHN A. MONTGOMERY. Purine Ribonucleoside Kinase Activity and Resistance to Some Analogs of Adenosine . . . . .	432
HERBERT L. ENNIS. Inhibition of Protein Synthesis by Polypeptide Antibiotics. III. Ribosomal Site of Inhibition . . . . .	444
BETTY J. WILLIAMS AND STEVEN E. MAYER. Hormonal Effects on Glycogen Metabolism in the Rat Heart <i>in Situ</i> . . . . .	454
MAIRE T. HAKALA AND ELSE-MAJ SUOLINNA. Specific Protection of Folate Reductase against Chemical and Proteolytic Inactivation . . . . .	465

ERNEST KUN, HORACE H. LOH, AND S. B. I. EL-FIKY. Control of Ammonia Formation from ATP in a Multienzyme System of Liver in Presence of Uncouplers of Oxidative Phosphorylation . . . . .	481
--	-----

SHORT COMMUNICATIONS

R. P. MAICKEL, M. T. BUSH, W. R. JONDORF, F. P. MILLER, AND J. R. GILLETTE. Factors Influencing the Metabolism and Distribution of Corticosterone-1, 2- <sup>3</sup> H in the Rat . . . . .	491
B. P. SCHOENBORN AND C. L. NOBBS. The Binding of Xenon to Sperm Whale Deoxy-myoglobin . . . . .	496

OBITUARY ANNOUNCEMENT . . . . .	499
---------------------------------	-----

NUMBER 6, NOVEMBER 1966

JOHN J. LECH, PITAMBAR SOMANI, AND DEANE N. CALVERT. Blockade of Norepinephrine-Induced Lipolysis by Isomers of dl-1-(Nitrophenyl)-1-Hydroxy-2-Isopropylaminoethane . . . . .	501
W. R. JONDORF, D. C. SIMON, AND M. AVNIMELECH. Further Studies on the Stimulation of L-( <sup>14</sup> C)-Amino Acid Incorporation with Cycloheximide. . . . .	506
AMIR ASKARI. Modifying Effects of Anions on the Alkali-Cation-Activated AMP Deaminase of Human Erythrocyte. . . . .	518
B. J. GOULD, P. D. DAWKINS, M. J. H. SMITH, AND A. J. LAWRENCE. The Mechanism of the Inhibition of Aminotransferases by Salicylate. . . . .	526
WILLIAM D. NOTEBOOM AND GERALD C. MUELLER. Inhibition of Protein and RNA Synthesis in HeLa Cells by Levallorphan and Levorphanol . . . . .	534
HERBERT L. ENNIS. Synthesis of Ribonucleic Acid in L Cells during Inhibition of Protein Synthesis by Cycloheximide . . . . .	543
R. M. KRUPKA. Fluoride Inhibition of Acetylcholinesterase . . . . .	558
STEPHEN ZAMENHOF AND SHIGEYO ARIKAWA. Studies on Depurination and Alkylation of DNA's of Different Base Compositions . . . . .	570
MARGARET ROCKWELL AND M. HELEN MAGUIRE. Studies on Adenosine Deaminase. I. Purification and Properties of Ox Heart Adenosine Deaminase . . . . .	574
DAVID B. LUDLUM. Chemical Methylation of Synthetic Polynucleotides . . . . .	585
R. D. O'BRIEN, B. D. HILTON, AND L. GILMOUR. The Reaction of Carbamates with Cholinesterase. . . . .	593

SHORT COMMUNICATIONS

J. J. BLUM, N. KIRSHNER, AND J. UTLEY. The Effect of Reserpine on Growth and Catecholamine Content of <i>Tetrahymena</i> . . . . .	606
J. ŠKODA, V. LISÝ, J. SMRT, A. HOLÝ, AND F. ŠORM. Formation of a Dead Code Triplet through Replacement of the Terminal Ribonucleoside in Guanylyl-Uridylyl-Uridine and Guanylyl-Uridylyl-Cytidine by 6-Azacytidine . . . . .	608
ROBERT GORDON, JOHN V. O. REID, ALBERT SJOERDSMA, AND SIDNEY UDEN-FRIEND. Increased Synthesis of Norepinephrine in the Rat Heart on Electrical Stimulation of the Stellate Ganglia . . . . .	610

INDEX . . . . .	614
-----------------	-----