Contents

Asterisks preceding the title refer to studies in humans.

1141 Survival Kinetics of Cultured Human Lymphoma Cells Exposed to Adriamycin. 
Benjamin Drewinko and Jeffrey A. Gottlieb.

1146 Potentiation of Rifampicin, Rifampicin Analogs, and Tetracycline, against Animal Cells by Amphotericin B and Polymyxin B. 

1150 Bioassay and Relative Cytotoxic Potency of Cyclophosphamide Metabolites Generated in Vitro and in Vivo. 
N. E. Sladek.

1159 Reactions of Esters of N-Hydroxy-2-acetamidophenanthrene with Cellular Nucleophiles and the Formation of Free Radicals upon Decomposition of N-Acetoxy-N-arylacetamides. 
John D. Scribner and Norma K. Naimy.

1165 Intracisternal Type A Particles Occurring in Foreign Body-induced Sarcomas. 

1169 A Comparative Study of Some Properties of Chromatin from Two “Minimal Deviation” Hepatomas. 
Eugene A. Arnold, Mary Margaret Buksas, and Keith E. Young.

1177 Serum Immunoglobulin Content in Normal and Lymphoid Tumor-bearing Xenopus laevis. 
Irandokht Hadji-Azimi.

1183 Coenzymes Q Levels in Liver, Spleen, and Blood of Mice with Friend Leukemia Virus Infection. 
Adria Catala Casey and Emile G. Blznakov.

1187 DNA Polymerases I and II in Regenerating Rat Liver and Morris Hepatomas. 
Earl F. Baril, Murphy D. Jenkins, Oliver E. Brown, John Laszlo, and Harold P. Morris.

1194 Altered Populations of Acidic Chromatin Proteins in Breast Cancer Cells. 
Nobuyuki Kadokama and Roger W. Turkington.

1202 * Leukocyte Purine Phosphoribosyltransferases in Human Leukemias Sensitive and Resistant to 6-Thiopurines. 
Martin Rosman and Hibbard E. Williams.

1210 Isolation and Partial Characterization of Multiple DNA Polymerases of the Murine Myeloma, MOPC-21. 

1217 A Study of the Mechanism by Which Anticoagulation with Warfarin Inhibits Blood-borne Metastases. 
J. Martin Brown.

1225 Effect of the Urine and Calculus Formation on the Incidence of Bladder Tumors in Rats Implanted with Paraffin Wax Pellets. 
Warren H. Chapman, Dieter Kirchheim, and J. William McRoberts.

1230 * Phagocytic Activity of the Leukemic Cell and Its Response to the Phagocytosis-stimulating Tetrapeptide, Tuftsin. 

1235 Enzyme Activities in Regressing Estrone-induced Mammary Tumors of the Rat. 
J. Harry Cutts.

1238 Viropexis of Type B Particles in Reticulum Cell Sarcoma of RIII/Dm Strain Mice. 
Gabriel Seman and Leon Dmochowski.

1247 Effects of Diethylstilbestrol on Hybridizability of Mouse Testicular RNA. 
Kiyoshi Kotok, Robert A. Huseby, Alberto Baldi, and Leo T. Samuels.

1253 Protection of L5178Y Lymphoblasts by Choline and Ethanolamine against Cytocidal Effect of Nitrogen Mustard in Vitro. 
Gerald J. Goldberg and B. K. Sinha.

James F. Holland, Carol Scharlau, Salmon Gailani, Melvin J. Krant, Kenneth B. Olson, John Horton, Bruce I. Schneider, John J. Lynch, Albert Owens, Paul P. Carbone, Jacob Colsky, David Grab, Sherwood P. Miller, and Thomas C. Hall.

1265 Studies on the Mode of Action of 2,2'-Anhydro-1-β-D-arabinofuranosylcytosine. 
M. C. Wang, R. A. Sharma, and A. Bloch.
1272 Separable DNA Polymerase Activities in Host Liver and Morris Hepatomas. 
Peter Ove, Mona L. Coetzee, and Harold P. Morris.

1284 Evidence for a Glucuronic Acid Conjugate of N$\text{-}$Hydroxy-$4$-aminobiphenyl in the Urine of Dogs Given $4$-Aminobiphenyl. 
Jack L. Radomski, Alberto A. Rey, and Earl Brill.

1290 Differential Cell Permeability and the Basis for Selective Activity of Methotrexate during Therapy of the L1210 Leukemia. 
Francis M. Sirotnak and Ruth C. Donsbach.

1295 Enhanced Growth of Fibrosarcoma in Mice Treated with Phytohemagglutinin. 
D. J. Theo Wagener.

1301 Abnormal Cholesterol Uptake, Storage, and Synthesis in the Livers of $2$-Acetylamino-fluorene-fed Rats. 
Brian J. Horton, Jeanette D. Horton, and Henry C. Pitot.

1306 Poly(Adenosine Diphosphate Ribose) Synthesis during the Cell Cycle of Transformed Hamster Lung Cells. 
Masanao Miwa, Takashi Sugimura, Naomichi Inui, and Shozo Takayama.

1310 * Clinical and Pharmacological Studies with cis-Diaminedichloroplatinum (II). 
Ronald C. DeConti, Bartlett R. Toftness, Robert C. Lange, and William A. Creasey.

1316 Protein Turnover in Microsomal Subfractions of Liver and Morris Hepatomas $7800$ and $9618$A. 
Geoffrey H. Moyer and Henry C. Pitot.

1326 Effect of 5-Bromo-$2$-deoxyuridine on Transport of Deoxyglucose and Cycloleucine in $3T6$ Fibroblasts. 
Atsushi Tsuboi and Renato Baserga.

1331 Rapid Arrest of DNA Synthesis by $N^4,O^6$-Dibutyryl Cyclic Adenosine $3',5'$-Monophosphate in Cultured Hepatoma Cells. 
Roeland Van Wijk, Wesley D. Wicks, Marinus M. Bevers, and Johannes Van Rijn.

1339 Protection against Radiation Leukemogenesis by Repeated Injections of Immune and Non-immune Foreign Sera. 
Jorge F. Ferrer, Miriam Lieberman, and Henry S. Kaplan.

1345 Symposium: Herpesvirus and Cervical Cancer.

1346 Program.

1349 List of Participants.

1350 Program Committee.

1351 Introduction. 
Jack W. Milder

1352 Foreword. 
George D. Wilbanks.

I. D. Rotkin.

1368 Cytohistopathology of Cervical Cancer. 
Elizabeth Stern.

1379 A Selective Review of Experimental Studies in Cervical Carcinoma. 
George D. Wilbanks.

1382 Summary of Informal Discussion on General Aspects of Cervical Cancer. 
George D. Wilbanks.

1385 The Genetics of Herpesvirus. 
John Subak-Sharpe.

Albert S. Kaplan.

1399 Latent Infections Induced by Herpes Simplex Virus. 
Jack G. Stevens and Margery L. Cook.

1402 The Transcription and State of Herpes Simplex Virus DNA in Productive Infection and in Human Cervical Cancer Tissue. 
Bernard Roizman and Niza Frenkel.

1417 Summary of Informal Discussion on General Aspects of Herpesvirus. 
Clyde R. Goodheart.

1419 Evidence for an Oncogenic Potential of the Epstein-Barr Virus. 
Werner Henle and Gertrude Henle.

1424 Simian Herpesviruses. 
Friedrich Deinhardt, Lawrence A. Falk, and Lauren G. Wolfe.

1427 Oncogenesis of Marek's Disease. 
Keyvan Nazarian.

1431 Herpesvirus and the Lucké Tumor. 
Allan Granoff.

1434 Oncogenicity of Rabbit Herpesvirus. 
Harry C. Hinze and Dennis L. Wegner.

1436 Oncogenic Potential of Guinea Pig Herpes- and C-Type Viruses. 

1443 Summary of Informal Discussion on Oncogenicity of Other Herpesviruses. 
Clyde R. Goodheart.

1446 Clinical Features of Herpes Genitalis. 

1452 Relation of Cytohistopathology of Genital Herpesvirus Infection to Cervical Anaplasia. 

1464 Summary of Informal Discussion of Part I of Genital Herpesviruses. 
William E. Josey.

1465 Antigens of Herpes Simplex Virus of Oral and Genital Origin. 
Peter Willy.
A Review of the Identification and Titration of Antibodies to Herpes Simplex Viruses Type 1 and Type 2 in Human Sera.
G. Plummer.

An Analysis of Seroepidemiological Studies of Herpesvirus Type 2 and Carcinoma of the Cervix.
William E. Rawls, Ervin Adam, and Joseph L. Melnick.

Summary of Informal Discussion of Part II of Genital Herpesviruses.
André J. Nahmias.

Possible Etiologies of Cancer of the Cervix Other than Herpesvirus.
E. Russell Alexander.

Prospective Studies of the Association of Genital Herpes Simplex Infection and Cervical Anaplasia.

Effect of Herpesvirus Type 2 and Hormonal Imbalance on the Uterine Cervix of the Mouse.
Nubia Muñoz.

Herpesvirus and Cervical Cancer Studies in Experimental Animals.
John L. Sever.

William E. Rawls.

An important pioneer program in experimental cancer chemotherapy was initiated by Cornelius Packard Rhoads (1898-1959) in New York during the 1940's.
Rhoads was born in Springfield, Massachusetts, completed his medical education at Harvard School of Medicine in 1924, and, following training in pathology, joined the research staff of the Rockefeller Institute for Medical Research in New York. In 1940 he succeeded James Ewing as Director of the Memorial Hospital for Cancer and Allied Diseases in New York City. During World War II he served in the United States Army Chemical Warfare Service. Under the cloak of wartime secrecy, nitrogen mustard was shown to have therapeutic effects in patients with leukemia and lymphoma. This led to the exploration for therapeutic effects of many analogs of nitrogen mustard and related chemicals developed for warfare and subsequent synthesis of many other alkylating chemicals.

Following the war, the Sloan-Kettering Institute for Cancer Research was organized, and the Memorial Hospital expanded to form the Memorial Center for Cancer and Allied Diseases (later Memorial-Sloan Kettering Cancer Center), of which Rhoads was the Director until his sudden death in 1959. Cancer chemotherapy was emphasized in the research program. Among the key personnel brought together by Rhoads were Dr. Joseph H. Burchenal, the late Dr. David A. Karnofsky, Dr. Frederick S. Philips, Dr. C. Chester Stock, and Dr. K. Sugiura.

The experimental cancer chemotherapy program was organized at the Sloan-Kettering Institute by Dr. C. Chester Stock (b. 1910) as Chief of the Division of Experimental Chemotherapy. In addition, he subsequently became the Director of the subsidiary Donald S. Walker Laboratory in Rye, New York, as well as a Vice-President of the Institute.

Dr. Kanematsu Sugiura (b. 1890) became head of the Tumor Spectrum Section of the chemotherapy program, with responsibility in the bioassay procedures. A native of Japan, Sugiura was brought to the United States in 1905, and his subsequent education and career developed in New York, in close association with many of the cancer research programs that evolved in the city. Sugiura's contributions to experimental cancer chemotherapy extend back to 1912 and are recorded in his many publications.

While he has been considered a "Jack of all trades" insofar as his talents and interests are concerned, his most important work has been focused on tumor transplantation, the effects of radiation in experimental tumor systems, frozen experimental tumors, and enzymes (particularly lipase) in tumors and normal tissue.


Rhoads is pictured on the left, Stock on the upper right, and Sugiura on the lower right. We are indebted to Dr. C. Chester Stock and Dr. Dorris J. Hutchison of the Sloan-Kettering Institute for the illustrations and information, and Claire Yaaffa, who photographed Dr. Sugiura.