Cancer Research
The Official Organ of the American Association for Cancer Research, Inc.

VOLUME 29 / NUMBER 1 / January 1969

Contents

1 Studies of the Significance of Tumor Antigens in Induction and Repression of Neoplastic Diseases: Presidential Address.
Lloyd W. Law.

22 Zonal Electrophoresis of the Soluble Nuclear Proteins of Normal and Preneoplastic Livers.
Bohdan Bakay and Sam Sorof.

28 Azoproteins of Liver Nuclei Isolated in an Aqueous or Nonaqueous Medium from Rats Fed an Azocarcinogen.
Bohdan Bakay, Sam Sorof, and Günther Siebert.

33 Electron Microscopy of the Irises of Chickens with Spontaneous Ocular Leukosis.
Charles F. Simpson.

40 Enzymes of Thymidine Triphosphate Synthesis in Selected Morris Hepatomas.

55 Systematic Oscillations in Metabolic Activity in Rat Liver and Hepatomas. Survey of Normal Diploid and Other Hepatoma Lines.

79 Inhibition of Rat Dihydropyrimidine Dehydrogenase by 5-Cyanouracil in Vitro.
Marion T. Dorsett, Paul A. Morse, Jr., and Glenn A. Gentry.

83 Morphologic and Biologic Characteristics of the Canine Cutaneous Histiocyotoma.
Dee O. N. Taylor, C. Richard Dorn, and Osman H. Luis.

93 The Effects of Urethan and N-Methylformamide on Pyrimidine Metabolism.
Arthur J. Tomisek, Paula Wedeles Allan, and William A. Short.

98 Effects of Nitrogen Mustard and Cyclophosphamide upon the Synthesis of DNA in Vivo and in Cell-free Preparations.
Glynn P. Wheeler and Jo Ann Alexander.

110 Studies on the Biologic Activity and Mode of Action of 7-Deazainosine.

116 Comparative Study of the Toxicologic Effects of 7-Deazaadenosine (Tubercidin) and 7-Deazainosine.
E. Mihich, C. L. Simpson, and A. I. Mulhern.

124 Morphologic and Metabolic Alterations in Hepatic Cell Nucleoli Induced by Varying Doses of Actinomycin D.
Peter J. Goldblatt, Richard J. Sullivan, and Emmanuel Farber.

Emmanuel Farber and Renato Baserga.

140 Antigens Common to Rat Hepatomas Induced with 2-Acetylaminofluorene.
Shinzo Isojima, Yasuo Yagi, and David Pressman.

145 In Vitro Transformation of Hamster Embryonic Kidney Cultures Exposed to Human Adenovirus 12.
Gudmundur Petursson, Donald Armstrong, Etienne de Harven, and Jörgen Fogh.

154 Concentration by Diaflo Ultrafiltration of Murine Leukemia and Sarcoma Viruses Grown in Tissue Cultures.
Joehn Sik Rhim, L. B. Williams, Jr., R. J. Huebner, and H. C. Turner.

157 Isolation and Degradation of DNA from Cells Treated with Tritium-labeled 7,12-Dimethylbenz(a)anthracene: Studies on the Nature of the Binding of This Carcinogen to DNA.
Peter Brookes and Charles Heidelberger.

166 Enzyme Activities and Deoxynucleoside Utilization of Leukemic Leukocytes in Relation to Drug Therapy and Resistance.
DeWayne Roberts and Thomas C. Hall.

174 Spontaneous Mammary Adenocarcinoma in Mice: Influence of Thymectomy and Reconstitution with Thymus Grafts or Spleen Cells.
E. J. Yunis, C. Martinez, J. Smith, O. Stutman, and R. A. Good.
The most impressive result of cancer chemotherapy, up to the present time, is the curative effect of Methotrexate in women with disseminated choriocarcinoma. Roy Hertz (b. 1909, in Cleveland, Ohio), pictured on the left, while chief of the Endocrinology Branch of the National Cancer Institute, Bethesda, Maryland, was instrumental in introducing and developing the therapy. The first observations were made in collaboration with M. C. Li (b. 1919, in Canton, China), who is pictured on the right (Li, M. C., Hertz, R., and Spencer, D. B. Effect of Methotrexate Therapy upon Choriocarcinoma and Chorioadenoma. Proc. Soc. Exptl. Biol. and Med., 93: 361–366, 1956).

Complete and sustained remissions of this otherwise fatal disease were achieved in over 50% of patients (Hertz, R., Lewis, J., and Lipsett, M. B. Five Years' Experience with the Chemotherapy of Metastatic Choriocarcinoma and Related Trophoblastic Tumors in Women. Am. J. Obst. and Gyn., 82: 631–640, 1961). The figure shows the course of a patient with disseminated choriocarcinoma treated with intermittent courses of Methotrexate, who is alive and well 7 years later, and who experienced a normal pregnancy.

The results can be further improved by the use of actinomycin D in Methotrexate-resistant patients (Ross, G. T., Stelbach, L., and Hertz, R. Actinomycin D in the Treatment of Methotrexate-resistant Trophoblastic Disease in Women. Cancer Res., 22: 1015–1017, 1962).

We are indebted to Drs. Hertz and Li for the photographs and figure.