Contents

Asterisks preceding the title refer to studies in humans.

189 Frequency of Fish Tumors Found in a Polluted Watershed as Compared to Nonpolluted Canadian Waters. Eric R. Brown, James J. Hazdra, Louis Keith, Irving Greenspan, J. B. G. Kwapinski, and Parker Beamer.

199 Delayed Cutaneous Hypersensitivity to Cell-free Tumor Antigens. E. Carmack Holmes, Ralph A. Reisfeld, and Donald L. Morton.


234 Ultrastructural Effects of 5-Bromodeoxyuridine and 5-Fluorouracil in Drosophila. T. M. Rizki, Rose M. Rizki, and Mary Ann Lommen.

249 * Activities and Isoenzyme Patterns of Some Enzymes of Glucose Metabolism in Human Primary Malignant Hepatoma. D. Balinsky, E. Cayanis, E. W. Geddes, and I. Bersohn.


269 Ultrastructural, Histological, and Biochemical Alterations Produced by 12-O-Tetradecanoylphorbol-13-acetate on Mouse Epidermis and Their Relevance to Skin Tumor Promotion. Alberto N. Raick.
362 * DNA Repair with Purines and Pyrimidines in Radiation- and Carcinogen-damaged Normal and Xeroderma Pigmentosum Human Cells.  
J. E. Cleaver.

370 Early Effects of Glucocorticoid Treatment on Amino Acid Metabolism in Lymphosarcoma P1798.  
J. Stevens, Y.-W. Stevens, and V. P. Hollander.

375 Reversible and Irreversible Effects of Tissue Culture on Enzyme Patterns of Spontaneous Mouse Tumors and Mouse and Human Embryo Tissues.  
Patricia D. Wilson.

383 Folate Deficiency and Formiminoglutamic Acid Excretion during Chronic Diethylnitrosamine Administration to Rats.  
Lionel A. Poirier and V. Michael Whitehead.

389 Some Effects of Chlorambucil on the Chromatin of Yoshida Ascites Sarcoma Cells.  
Pamela G. Riches and K. R. Harrap.

394 Dihydroorotate Dehydrogenase in Liver and Morris Hepatomas.  
Martin J. Sweeney and David H. Hoffman.

397 Effects of 2-Acetylaminofluorene on Liver Cell Proliferation after Partial Hepatectomy of Female Rats.  
Carlton D. Jackson and Charles C. Irving.

402 Enhancement of Adenovirus Transformation by Treatment of Hamster Cells with Ultraviolet Irradiation, DNA Base Analogues, and Dibenz(a,h)anthracene.  
Bruce C. Casto.

408 Alterations of Cell-mediated Immunity in the Mouse following Administration of 4-Nitroquinoline 1-Oxide.  
H. C. Outzen and R. T. Prehn.

411 The Nature of Estrogen and Prolactin Effect on Mammary Tumorigenesis.  
Dilip Sinha, David Cooper, and Thomas L. Dao.

Robert J. Palzer and Charles Heidelberger.

422 Influence of Drugs and Synchrony on the Hyperthermic Killing of HeLa Cells.  
Robert J. Palzer and Charles Heidelberger.

428 * Transcription from Chromatin of Human Lymphocytic Leukemia Cells and Normal Lymphocytes.  
Hiroyoshi Sawada, Vardaman H. Gilmore, and Grady F. Saunders.

436 Obituary: Richard J. Winzler.  
Earl Frieden.

438 Books Received.

440 Announcements.

COVER LEGEND

The 1972 Albert Lasker Medical Research Awards were extended to 17 individuals, for 7 categories of accomplishment in clinical cancer chemotherapy: (1) Use of drugs in cures of gestational choriocarcinoma (Li and Hertz). (2) Use of drugs in long-term disease-free survivors with Burkitt’s tumor (Burkitt, Burchenal, Ngu, and Ziegler). (3) Use of topical chemotherapy and enhancement of host response for cures in skin cancers (Klein). (4) Use of combination drug therapy resulting in prolonged survival, in acute lymphatic leukemia (Frei, Freireich, Holland, and Pinkel). (5) Use of combination drug therapy, resulting in prolonged survival, in Hodgkin’s disease (Frei, Carbone, and DeVita). (6) Treatment of mycosis fungoides, with topical chemotherapy and enhancement of host response (Van Scott). (7) Supportive measures in treatment of toxicity, infection, and hemorrhage, due to side effects of drugs (Djerassi and Freireich).

A special Award was presented to Dr. C. Gordon Zubrod of the National Cancer Institute, for his leadership in the National Cancer Institute program of chemotherapy. The group picture of the awards ceremonies, held on November 16, 1972, in New York, shows: Left to right, seated in first row: Dr. Isaac Djerassi, Director of Research Hematology at Mercy Catholic Medical Center (Fitzgerald Division), Darby, Pa.; Dr. Edmund Klein, Chief of Department of Dermatology at Roswell Park Memorial Institute, Buffalo, N. Y.; Mrs. Albert D. Lasker, President of the Albert and Mary Lasker Foundation; Dr. Sidney Farber, Chairman of the Awards Jury; also President and Director of the Children’s Cancer Research Foundation, Boston, Mass.; Mrs. Alice Fordyce, Vice President of the Albert and Mary Lasker Foundation; Special Award Winner, Dr. C. Gordon Zubrod, Director of the Division of Cancer Treatment at the National Cancer Institute, Bethesda, Md.; Dr. Roy Hertz, Professor of Obstetrics and Gynecology and Director of Clinical Research at New York Medical College, Valhalla, N. Y. Seated in second row: Dr. Min Chiu Li, Director of Medical Research at Nassau Hospital, Mineola, N. Y.; Dr. Eugene J. Van Scott, Professor of Dermatology at the Skin and Cancer Hospital at Temple University, Philadelphia, Pa.; Dr. Paul P. Carbone, Associate Scientific Director for Medical Oncology at the National Cancer Institute and National Institutes of Health, Bethesda, Md.; Dr. Joseph H. Burchenal, Director of Clinical Investigation at Memorial Hospital for Cancer and Allied Diseases, New York, N. Y.; Mr. Denis Burkitt, Surgeon at Medical Research Council, London, England; Dr. Emil J. Freireich, Professor of Medicine and Chief of Research Hematology at the University of Texas, Houston, Texas. Standing: Dr. Emil Frei, III, Physician-in-Chief at Children’s Cancer Research Foundation, Boston, Mass.; Dr. Vincent T. DeVita, Jr., Chief of Medicine Branch at National Cancer Institute, Bethesda, Md.; Dr. V. Anomah Ngu, Professor of Surgery at Centre of Health Sciences, Yaounde, United Republic of Cameroon, Africa; Dr. Donald Pinkel, Medical Director at St. Jude Children’s Research Hospital, Memphis, Tenn. Absent was Dr. James F. Holland, Director, Cancer Clinical Research Center at Roswell Park Memorial Institute, Buffalo, N. Y.
