CONTENTS

Asterisks * preceding page numbers refer to clinical studies.

- 3827 Tumor-specific Polyadenylated RNAs from 7,12-Dimethylbenz(a)anthracene-induced Mammary Tumors Revealed through Hybridization with Fractionated Single-Copy DNA. Scott C. Supowit and Jeffrey M. Rosen.
- 3835 Cytokinetic and Cytotoxic Effects of Antimetabolites on 9L Rat Brain Tumor Cells in Vitro. Michael Weizsaecker, Takao Hoshino, Dennis F. Deen, and Shu Kobayashi.
- 3840 Reversal of Resistance to Methotrexate by Hyperthermia in Chinese Hamster Ovary Cells.

 Terence S. Herman, Anne E. Cress, Cynthia Sweets, and Eugene W. Gerner.
- 3844 Immunochemistry of Conjugates Prepared from Serum Albumins and Acridine Nitrogen Mustards (ICR Mutagens). Hugh J. Creech and Anna P. O'Connell.
- 3852 Adriamycin-activated Macrophages as Tumor Growth Inhibitors. J. Stephen Haskill.
- 3857 Influence of the Estrous Cycle during Carcinogen Exposure on Nitrosomethylurea-induced Rat Mammary Carcinoma. William F. Lindsey, Tapas K. Das Gupta, and Craig W. Beattie.
- 3863 Preferential Growth of Mammary Tumors in Intact Mammary Fatpads. Fred R. Miller, Daniel Medina, and Gloria H. Heppner.
- *3868 Urinary Glycosaminoglycan Excretion as a Biochemical Marker in Patients with Bladder Carcinoma.

 Patrick T. Hennessey, Robert E. Hurst, George P. Hemstreet, III, and Gary Cutter.
- ** 3874 Use of Human Prostate-specific Antigen in Monitoring Prostate Cancer. Manabu Kuriyama, Ming C. Wang, Ching-li Lee, Lawrence D. Papsidero, Carl S. Killian, Hideo Inaji, Nelson H. Slack, Tsuneo Nishiura, Gerald P. Murphy, and T. Ming Chu.
- 3877 X-Ray Microanalysis of Electrolyte Content of Normal, Preneoplastic, and Neoplastic Mouse Mammary Tissue. Nancy K. R. Smith, Sidra B. Stabler, Ivan L. Cameron, and Daniel Medina.
- 3881 Schedule-dependent Synergism of Combinations of Hydroxyurea with Adriamycin and 1-β-p-Arabinofuranosylcytosine with Adriamycin. Paul S. Ritch, Sandra J. Occhipinti, Robert E. Cunningham, and Stanley E. Shackney.

- 3885 Quantitation of Viral Antigens Released into Plasma and Culture Fluids by Murine Mammary Tumor Cells.

 Earl M. Ritzi, Bobby A. Smith, Robert L. Stolfi, and Dan S. Martin.
- Response of L1210 Leukemia to Treatment with 1,3-Bis(2-chloroethyl)-1-nitrosourea plus 4'-Demethyle-pipodophyllotoxin-9-(4,6-*O*-2-thenylidene-β-p-gluco-pyranoside). DeWayne Roberts, Charles Peck, Susan Hilliard, and James G. Karas.
- 3896 Phase I Trial and Clinical Pharmacology of 1-(2-Chloroethyl)-3-(2,6-dioxo-1-piperidyl)-1-nitrosourea.
 Paul V. Woolley, III, Phuong Van T. Luc, Aquilur Rahman, Susan J. Korsmeyer, Frederick P. Smith, and Philip S. Schein.
- 3901 Maleic Vinyl Ether Activation of Murine Macrophages against Lung-metastasizing Tumors. Scott E. Loveless and Albert E. Munson.
- 3907 Isolation and Characterization of Polyploid Nuclei of R3230AC Mammary Adenocarcinoma and Comparison with Normal Mammary Nuclei. David Kulick and Dai Kee Liu.
- 3913 Cell-specific Cytotoxicity Expressed by a Conjugate of Ricin and Murine Monoclonal Antibody Directed against Thy 1.1 Antigen. L. L. Houston and Robert C. Nowinski.
- 3918 Effects of 3-Isobutyl-1-methylxanthine and Cyclic Nucleotides on 12-O-Tetradecanoylphorbol-13-acetate-induced Ornithine Decarboxylase Activity in Mouse Epidermis in Vivo. Jean-Pierre Perchellet and R. K. Boutwell.
- 3927 Effects of 3-Isobutyl-1-methylxanthine and Cyclic Nucleotides on the Biochemical Processes Linked to Skin Tumor Promotion by 12-O-Tetradecanoylphor-bol-13-acetate. Jean-Pierre Perchellet and R. K. Boutwell.
- 3936 Differences in the Pharmacokinetics of the Diastereoisomers of Citrovorum Factor in Dogs. James A. Straw, Joseph M. Covey, and Daniele Szapary.
- 3940 Effects of 2- and 3-tert-Butyl-4-hydroxyanisole on Glutathione S-Transferase and Epoxide Hydrolase Activities and Sulfhydryl Levels in Liver and Forestomach of Mice. Luke K. T. Lam, Velta L. Sparnins, J. Bradley Hochalter, and Lee W. Wattenberg.

- 3944 Improved Methotrexate Therapy of Murine Tumors
 Obtained by Probenecid-mediated Pharmacological
 Modulation at the Level of Membrane Transport.
 F. M. Sirotnak, D. M. Moccio, C. H. Hancock, and
 C. W. Young.
- 3950 Role of T-Cells in the Mechanism of Reactivity of the Microplate Leukocyte Adherence Inhibition Assay. Suresh Raina, Anthony J. Russo, Debra Jenkins, and Martin H. Goldrosen.
- 3956 Immunobiological Properties of 1-Butanol-extracted Cell Surface Antigens. Stephen J. LeGrue, James P. Allison, Catherine M. Macek, Neal R. Pellis, and Barry D. Kahan.
- 3961 Promotion by Unsaturated Fat of Azaserine-induced Pancreatic Carcinogenesis in the Rat. B. D. Roebuck, James D. Yager, Jr., Daniel S. Longnecker, and Seri A. Wilpone.
- 3967 In Vivo Kinetics of O⁶-Methylguanine and 7-Methylguanine Formation and Persistence in DNA of Rats
 Treated with Symmetrical Dimethylhydrazine.
 Deborah Carlson Herron and Ronald C. Shank.
- 3973 DNA Replication in X-Irradiated Human Lymphocytes. Shyam S. Agarwal, Edward J. Katz, Awtar Krishan, and Lawrence A. Loeb.
- * 3979 Glucocorticoid Receptor Determinations in Leukemia Patients Using Cytosol and Whole-Cell Assays.
 Stefano Iacobelli, Vittoria Natoli, Paola Longo, Franco O. Ranelletti, Giulio De Rossi, Daniela Pasqualetti, Franco Mandelli, and Renato Mastrangelo.
 - 3985 Surface Membrane Antigens of Hemopoietic Tumor Cell Lines and Normal Marrow Progenitor Cells.
 Suzanne Hasthorpe, Jean Rogerson, and Ian F. C. McKenzie.
 - 3992 Absence of Volatile Nitrosamines in Human Feces.
 Lyang-ja Lee, Michael C. Archer, and W. Robert
 Bruce.
 - 3995 Biological Behavior of Human Malignant Tumors Grown in the Nude Mouse. Andreas P. Kyriazis, Aikaterini A. Kyriazis, William B. McCombs, III, and James A. Kereiakes.
 - 4001 Morphological and Functional Aspects of Active Specific Immunotherapy of Established Pulmonary Metastases in Guinea Pigs. M. G. Hanna, Jr., and L. C. Peters.
 - 4010 Demonstration of a Correlation between Tumor Cell H-2 Antigen Content, Immunogenicity, and Tumorigenicity Using Lectin-resistant Tumor Variants.

 James W. Dennis, Terrence P. Donaghue, Douglas A. Carlow, and Robert S. Kerbel.
 - 4020 DNA Supercoiling, Shortening, and Induction of Single-Strand Regions by *cis*-Diamminedichloroplatinum (II). Seymour Mong, Yerach Daskal, Archie W. Prestayko, and Stanley T. Crooke.
 - 4027 Collagen Cell Attachment Protein from Rat Hepatoma Cells. W. Daryl Dickey and Cary M. Seals.

- 4031 Isolation and Characterization of Plasma Membranes from Transplantable Human Astrocytoma, Oat Cell Carcinoma, and Melanomas. Aileen F. Knowles, Jose F. Leis, and Nathan O. Kaplan.
- 4039 Early Events during Liver Carcinogenesis Involving
 Two Carcinogen:Protein Complexes. Gary R.
 Blackburn, John P. Andrews, R. Philip Custer, and
 Sam Sorof.
- 4050 Comparison of Lipid Composition and 1,6-Diphenyl1,3,5-hexatriene Fluorescence Polarization Measurements of Hairy Cells with Monocytes and Lymphocytes from Normal Subjects and Patients with
 Chronic Lymphocytic Leukemia. Leonard F. Liebes,
 Edward Pelle, Dorothea Zucker-Franklin, and Robert
 Silber.
- 4057 Visualization by Light and Scanning Electron Microscopy of Reproductive Tract Lesions in Female Mice Treated Transplacentally with Diethylstilbestrol.

 James C. Lamb, IV, Retha R. Newbold, and John A. McLachlan.
- 4063 Gap Junction Assembly and Endocytosis Correlated with Patterns of Growth in a Cultured Adrenocortical Tumor Cell (SW-13). Sandra A. Murray, William J. Larsen, Jerome Trout, and Sam T. Donta.
- 4075 Differential Sensitivity of Normal and Chemically Transformed Epithelial Cells to Cholera Toxin.
 Richard M. Niles, Barbara Loewy, and David Krah.
- 4080 Binding of Benzo(a)pyrene Derivatives to Specific Proteins in Nuclei of Intact Hamster Embryo Cells.

 Michael C. MacLeod, Arend Kootstra, Betty K. Mansfield, Thomas J. Slaga, and James K. Selkirk.
- * 4087 Prognostic Value of Concanavalin A Reactivity of Primary Human Breast Cancer Cells. Philip Furmanski, Willis L. Kirkland, Trudy Gargala, Marvin A. Rich, and the Breast Cancer Prognostic Study Clinical Associates.
- 4093 Growth of Human Mammary Epithelial Cells on Collagen Gel Surfaces. Ning-Sun Yang, Donald Kube, Collin Park, and Philip Furmanski.
- 4101 Elevated Transcriptional Complexity and Decrease in Enzymatic DNA Methylation in Cells Treated with L-Ethionine. Thomas L. J. Boehm and Dusan Drahovsky.
- 4107 Effects of Hyperthermia on Cell Surface Charge and Cell Survival in Mastocytoma Cells. Chikako Sato, Tokiko Nakayama, Kiyohide Kojima, Yoshio Nishimoto, and Wataru Nakamura.
- 4111 Ethanol-induced Cell Sensitization to Bleomycin Cytotoxicity and the Inhibition of Recovery from Potentially Lethal Damage. Satoshi Mizuno.
- 4115 Repair of DNA Adducts of the Carcinogen 15,16-Dihydro-11-methylcyclopenta[a]phenanthren-17one in Mouse Tissues and Its Relation to Tumor Induction. Peter J. Abbott and Frances Crew.

- 4121 Enzyme Immunoassay for Pepleomycin, a New Bleomycin Analog. Kunio Fujiwara, Motomi Yasuno, and Tsunehiro Kitagawa.
- 4127 Immunochemical Studies of DNA Modified by cis-Dichlorodiammineplatinum(II) in Vivo and in Vitro. Bernard Malfoy, Brigitte Hartmann, Jean-Pierre Macquet, and Marc Leng.
- 4132 Utilization of 5-Fluoro-2'-deoxyuridine Triphosphate and 5-Fluoro-2'-deoxycytidine Triphosphate in DNA Synthesis by DNA Polymerase α and β from Calf Thymus. Masao Tanaka, Shonen Yoshida, Mineo Saneyoshi, and Toshifumi Yamaguchi.
- 4136 Oncogenic Transformation and Cell Lysis in C3H/
 10T½ Cells and Increased Sister Chromatid Exchange in Human Lymphocytes by Nickel Subsulfide.
 Harald J. K. Saxholm, Albrecht Reith, and Anton Bragger.
- 4140 Failure to Discriminate Initiation from Promotion of Liver Tumors in a Long-Term Study with the Phenobarbital-type Inducer α-Hexachlorocyclohexane and the Role of Sustained Stimulation of Hepatic Growth and Monooxygenases. Rolf Schulte-Hermann and Wolfram Parzefall.
- 4147 Enzyme Deviation Patterns in Primary Rat Hepatomas Induced by Sequential Administration of Two Chemically Different Carcinogens. Kiyomi Sato, Ichiro Hatayama, Keiji Hoshino, Fusako Imai, Shigeki Tsuchida, Tsuyoshi Sato, Koya Nishimura, Masae Tatematsu, and Nobuyuki Ito.
- 4154 Metabolic Host Reaction in Response to the Proliferation of Nonmalignant Cells versus Malignant Cells in Vivo. Ingvar Karlberg, Staffan Edström, Lars Ekman, Sonny Johansson, Tore Scherstén, and Kent Lundholm.

- 4162 Ultrastructural, Cell Membrane, and Cytogenetic Characteristics of B-Cell Leukemia, a Murine Model of Chronic Lymphocytic Leukemia. Shimon Slavin, Lola Weiss, Shoshana Morecki, Hannah Ben Bassat, Rachel Leizerowitz, Haim Gamliel, Aviva Korkesh, Ruth Voss, and Aaron Polliack.
- 4167 Thyroid Hormone Receptors in Human Breast Cancer.

 Marco-Antonio Cerbon, Marie-France Pichon, and
 Edwin Milgrom.
- 4174 Association of Phenotypic Reversion of Transformed Cells Induced by Interferon with Morphological and Biochemical Changes in the Cytoskeleton.

 Danièle Brouty-Boyé, Yih-Shyun E. Cheng, and Lan Bo Chen.
- 4185 Blood Group A-like Glycolipid and a Novel Forssman Antigen in the Hepatocarcinoma of a Blood Group O Individual. Masayoshi Yokota, Glenn A. Warner, and Sen-itiroh Hakomori.
- 4191. Letters to the Editor
 Correspondence re: A. F. Gazdar, D. N. Carney,
 E. K. Russell, H. L. Sims, S. B. Baylin, P. A. Bunn,
 Jr., J. G. Guccion, and J. D. Minna: an Establishment
 of Continuous, Clonable Cultures of Small-Cell Carcinoma of the Lung Which Have Amine Precursor
 Uptake and Decarboxylation Cell Properties. Cancer
 Res., 40:3502-3507, 1980. Adi F. Gazdar.
- 4192 Correspondence re: S. J. Rinkus and M. S. Legator. Chemical Characterization of 465 Known or Suspected Carcinogens and Their Correlation with Mutagenic Activity in the Salmonella typhimurium System. Cancer Res., 39: 3289-3318, 1979. S. J. Rinkus and M. S. Legator. B. N. Ames and J. McCann.
- 4204 Announcements
- 4207 Author Index