



CONTENTS

Asterisks * preceding page numbers refer to clinical studies.

- 4767** Heterogeneity in Growth Inhibition by β -*trans*-Retinoic Acid of Metastatic B16 Melanoma Clones and *In Vivo*-selected Cell Variant Lines. Reuben Lotan and Garth L. Nicolson.
- 4772** Cellular Cytotoxicity and Serum Inhibition in Normal Mice following Transfer of Xenogeneic Tumor-sensitized Cells. Bernard Fisher, Norman Wolmark, and Elizabeth A. Saffer.
- 4777** Pharmacokinetic Studies during Phase I Trials of High-Dose Thymidine Infusions. Daniel S. Zaharko, Bruce J. Bolten, Delia Chiuten, and Peter H. Wiernik.
- 4782** Variable Expression of Membrane Proteins among Murine Lymphoblastoid Tumors as Seen with Sodium Dodecyl Sulfate-Polyacrylamide Gradient Gel Electrophoresis of [35 S]Methionine-labeled Cell Membranes. David J. Malenka, Kevin M. Rogan, Rawleigh C. Howe, Richard S. Nelson, Charles J. Wrobel, Aftab Ahmed, and Robert E. Humphreys.
- 4791** Effects of 12-*O*-Tetradecanoylphorbol-13-acetate and Mezerein on Epidermal Ornithine Decarboxylase Activity, Isoproterenol-stimulated Levels of Cyclic Adenosine 3':5'-Monophosphate, and Induction of Mouse Skin Tumors *In Vivo*. R. Allan Mufson, Susan M. Fischer, A. K. Verma, Greta L. Gleason, Thomas J. Slaga, and R. K. Boutwell.
- 4796** Detection of Breast Tumor Antigen-sensitive Circulating T-Lymphocytes by Antigen-stimulated Active Rosette Formation. William G. Ramey, George A. Hashim, Warren B. Burrows, Alexander J. Swistel, Antoine Munther, and Hugh F. Fitzpatrick.
- 4802** Inhibition of DNA Synthesis in Cultured Lymphocytes and Tumor Cells by Extracts of Betel Nut, Tobacco, and Miang Leaf, Plant Substances Associated with Cancer of the Ororespiratory Epithelium. Jean A. Yang, Sally A. Huber, and Zoltan J. Lucas.
- 4810** Detection of Both T-Cell and Ia-like Antigens on Cells from Patients with Acute Myelomonocytic Leukemia and Chronic Myelogenous Leukemia in Blast Crisis. Joy K. Anderson, Joseph O. Moore, and Richard S. Metzgar.
- 4816** Comparative Biological and Biochemical Effects of Nogalamycin and Its Analogs on L1210 Leukemia. Li H. Li, Sandra L. Kuentzel, Lana L. Murch, Loraine M. Pshigoda, and William C. Krueger.
- 4823** Quantitative Assessment of Generalized Epithelial Changes in Tracheal Mucosa following Exposure to 7,12-Dimethylbenz(*a*)anthracene. Douglas C. Topping, Richard A. Griesemer, and Paul Nettesheim.
- 4829** Development and Fate of Focal Epithelial Lesions in Tracheal Mucosa following Exposure to 7,12-Dimethylbenz(*a*)anthracene. Douglas C. Topping, Richard A. Griesemer, and Paul Nettesheim.
- 4838** Comparative Antitumor Effects of *Corynebacterium parvum*, *Bordetella pertussis*, *Bacillus Calmette-Guérin*, and Levamisole Alone or in Combination with Cyclophosphamide in the CaD₂ Murine Mammary Adenocarcinoma System. Dallas M. Purnell, Gerald L. Bartlett, John W. Kreider, Timothy G. Biro, and Joseph Kontra.
- 4843** Renal Tubular Transport of Methotrexate in the Rhesus Monkey and Dog. Kee C. Huang, Barbara A. Wenczak, and Yong K. Liu.
- 4849** Chronic Cardiotoxicity Studies in Rabbits with 7-*con-O*-Methylnogarol, a New Anthracycline Antitumor Agent. J. Patrick McGovern, Gary L. Neil, Robert H. Denlinger, Thomas L. Hall, Sheri L. Crampton, and James A. Swenberg.
- 4856** Effect of Thymidine on the Survival of Mice with EL4 Tumors. Harvard Reiter.
- 4861** Relationship between Inhibition of Polyamine Biosynthesis and DNA Replication in Activated Lymphocytes. Christine E. Seyfried and David R. Morris.
- 4868** Inhibition of Synthesis of Pyrimidine Nucleotides by 2-Hydroxy-3-(3,3-dichloroallyl)-1,4-naphthoquinone. L. Lee Bennett, Jr., Donald Smithers, Lucy M. Rose, Doris J. Adamson, and H. Jeanette Thomas.
- 4875** Mutagenicity and Cytotoxicity of Nineteen Heterocyclic Mustards (ICR Compounds) in Cultured Mammalian Cells. James C. Fuscoe, J. Patrick O'Neill, Richard M. Peck, and Abraham W. Hsie.
- 4882** Effect of Catechol Estrogens on Rat Mammary Tumors. Yusuf J. Abul-Hajj.
- 4887** *In Vitro* Studies of Cell-mediated Immunity to Moloney Murine Leukemia Virus and Moloney Leukemia-associated Surface Antigens. Ah-Kau Ng, Robert S. Ames, Jr., Robert K. McIntire, and Ronald B. Herberman.

- 4894 Histaminase and Other Tumor Markers in Malignant Effusion Fluids.** Chi-Wei Lin, Norma R. Inglis, Allyn H. Rule, R. Nuran Turksoy, Clifford M. Chapman, Sandra D. Kirley, and Leo L. Stolbach.
- *4900 Lactate Metabolism in Patients with Metastatic Colorectal Cancer.** Christopher P. Holroyde, Rita S. Axelrod, Charles L. Skutches, Agnes C. Haff, Pavle Paul, and George A. Reichard.
- 4905 Effect of 5-Fluorouracil on RNA Metabolism in Novikoff Hepatoma Cells.** Joseph G. Cory, Jeanne Crumley Breland, and Gay L. Carter.
- 4914 Cell Lines from Human Colon Carcinoma with Unusual Cell Products, Double Minutes, and Homogeneously Staining Regions.** Laurie A. Quinn, George E. Moore, Robert T. Morgan, and Linda K. Woods.
- 4925 Biochemical Basis for Cytotoxicity of 7,12-Dimethylbenz(a)anthracene in Rat Liver Epithelial Cells.** P. T. Iype, J. E. Tomaszewski, and A. Dipple.
- 4930 Retinol Inhibition of Ornithine Decarboxylase Induction and G₁ Progression in Chinese Hamster Ovary Cells.** Mari K. Haddox, Karen F. Frasier Scott, and Diane Haddock Russell.
- 4939 Characterization of Cytosolic and Nuclear Glucocorticoid-binding Components in Human Leukemic Lymphocytes.** John Stevens, Yee-Wan Stevens, and Robert L. Rosenthal.
- 4949 Rejection of Adenovirus 2-transformed Cell Tumors and Immune Responsiveness in Syrian Hamsters.** James L. Cook, Charles H. Kirkpatrick, Alan S. Rabson, and Andrew M. Lewis, Jr.
- 4956 Promotion of Azoxymethane-induced Intestinal Cancer by High-Fat Diet in Rats.** Arthur W. Bull, Barbara K. Soullier, Paulette S. Wilson, Molly Tan Hayden, and Norman D. Nigro.
- 4960 Adaptation of Sinclair Swine Melanoma Cells to Long-Term Growth *in Vitro*.** Jane Berkelhammer, Sharon M. Caines, Daniel L. Dexter, Edward H. Adelstein, Ronald W. Oxenhandler, and Reuel R. Hook, Jr.
- 4965 Effect of Age at Treatment on Incidence and Type of Renal Neoplasm Induced in the Rat by a Single Dose of Dimethylnitrosamine.** Gordon C. Hard.
- 4971 Effect of Hypoxia on ⁶⁷Ga Incorporation into Human Granulocytes.** F. Ostroy, R. B. Johnston, and R. A. Gams.
- 4975 Effects of Caffeine on Purine Metabolism and Ultraviolet Light-induced Lethality in Cultured Mammalian Cells.** Charles A. Waldren and David Patterson.
- 4983 Suppression of Proliferative Response and Lymphokine Production during the Progression of a Spontaneous Tumor.** L. Varesio, M. Giovarelli, S. Landolfo, and G. Forni.
- 4989 Effect of Thiourea on Survival and DNA Cross-Link Formation in Cells Treated with Platinum(II) Complexes, L-Phenylalanine Mustard, and Bis(2-chloroethyl)methylamine.** Leonard A. Zwelling, Jan Filipski, and Kurt W. Kohn.
- 4996 Kidney Tumors Induced in Rats by the Antischistosomal Drug Niridazole.** Orhan Bulay, Kashinath Patil, Richard Wilson, and Philippe Shubik.
- 5003 Formation and Subsequent Excision of O⁶-Ethylguanine from DNA of Rat Liver following Administration of Diethylnitrosamine.** Anthony E. Pegg and Balint Balog.
- 5010 Putrescine as a Biochemical Marker of Malignant Brain Tumors.** Sami I. Harik and Carl H. Sutton.
- *5016 Disposition and Metabolism of Pentamethylmelamine and Hexamethylmelamine in Rabbits and Humans.** Matthew M. Ames, Garth Powis, John S. Kovach, and Robert T. Eagan.
- 5022 Effect of Dietary Cholesterol on Ultraviolet Light Carcinogenesis.** Homer S. Black, Susan V. Henderson, Charles M. Kleinhans, A. Warner Phelps, and John I. Thornby.
- 5028 Effects of Hormones on Growth and α -Lactalbumin Activity in the Transplantable Rat Mammary Tumor MCCLX.** Toby M. Horn and Tamiko Kano-Sueoka.
- *5036 Serum Sialic Acid and Sialyltransferase as Monitors of Tumor Burden in Malignant Melanoma Patients.** Hulbert K. B. Silver, Karim A. Karim, Elizabeth L. Archibald, and Fernando A. Salinas.
- 5043 Antiestrogen Modulation of the Growth and Properties of Ovarian-Autonomous and Ovarian-Dependent Mammary Tumors in Rats.** Ten-Lin Sie Tsai, Susan Rutledge, and Benita S. Katzenellenbogen.
- 5051 Development of an Agar-Methyl Cellulose Clonogenic Assay for Cells in Transitional Cell Carcinoma of the Human Bladder.** R. N. Buick, T. H. Stanisic, S. E. Fry, S. E. Salmon, J. M. Trent, and P. Krasovich.
- 5057 Assay for Microsomal α -Hydroxylation of *N*'-Nitrosornicotine and Determination of the Deuterium Isotope Effect for α -Hydroxylation.** Chi-hong B. Chen, Ping T. Fung, and Stephen S. Hecht.
- 5063 Tumorigenicity of Bay-Region Epoxides and Other Derivatives of Chrysene and Phenanthrene in Newborn Mice.** Mildred K. Buening, Wayne Levin, Jean M. Karle, Haruhiko Yagi, Donald M. Jerina, and Allan H. Conney.
- 5069 Mathematical Models and the Statistical Analyses of Cell Transformation Experiments.** John J. Gart, Joseph A. DiPaolo, and Paul J. Donovan.
- *5076 Role of Single-Breath Carbon Monoxide-diffusing Capacity in Monitoring the Pulmonary Effects of Bleomycin in Germ Cell Tumor Patients.** Robert L. Comis, Mitchell S. Kuppinger, Sandra J. Ginsberg, Stanley T. Crooke, Robert Gilbert, J. Howland Auchincloss, and Archie W. Prestayko.

- 5081 **Substrate Specificity of Human Ribonucleotide Reductase from Molt-4F Cells.** Chi-Hsiung Chang and Yung-chi Cheng.
- 5087 **Effects of Nucleoside Triphosphates on Human Ribonucleotide Reductase from Molt-4F Cells.** Chi-Hsiung Chang and Yung-chi Cheng.
- 5093 **Histological and Biochemical Studies of a Transplantable Rat Chondrosarcoma.** Dirk Breikreutz, Lino Diaz de Leon, Larry Paglia, Steffen Gay, Richard L. Swarm, and Robert Stern.
- *5101 **Diet and Urinary Steroids in Black and White North American Men and Black South African Men.** P. Hill, E. L. Wynder, L. Garbaczewski, H. Garnes, and A. R. P. Walker.
- 5106 **Sequence Homology of Nucleic Acids from Human Breast Cancer Cells and Complementary DNA's from Murine Mammary Tumor Virus and Mason-Pfizer Monkey Virus.** Mukkattu Ramachandra Das and Michael M. Mink.
- 5114 **Effect of a Bacteriocin Produced by *Mycobacterium smegmatis* on Growth of Cultured Tumor and Normal Cells.** Hajime Saito and Takashi Watanabe.
- 5118 **Evaluation of Impaired Triglyceride Fatty Acid Transport and Oxidation for the Detection of Cancer in Mice.** Murad Ookhtens and Nome Baker.
- 5124 **A Correlation between Estrogen Sulfotransferase Levels and Estrogen Receptor Status in Human Primary Breast Carcinoma.** John B. Adams, Thanit Pewnim, David P. Chandra, Lesley Archibald, and Ming San Foo.
- 5127 **Characterization of Factors Stimulating Differentiation of Mouse Myeloid Leukemia Cells from a Yoshida Sarcoma Cell Line Cultured in Serum-free Medium.** Motoo Hozumi, Takehiko Umezawa, Keizo Takenaga, Tadao Ohno, Mikio Shikita, and Isao Yamane.
- 5132 **Alteration in Binding of Dexamethasone to Glucocorticoid Receptors in Regenerating Rat Liver after Partial Hepatectomy.** Fumihide Isohashi, Kazue Tsukanaka, Masako Terada, Yoko Nakanishi, Hisao Fukushima, and Yukiya Sakamoto.
- 5136 **Correlation of DNA Methylation by Methyl(acetoxy-methyl)nitrosamine with Organ-specific Carcinogenicity in Rats.** Paul Kleihues, Gerhard Doerjer, Larry K. Keefer, Jerry M. Rice, Peter P. Roller, and Ruth M. Hodgson.
- 5141 **Establishment of a Cell Culture Line from a Transplantable Rat Stomach Cancer Induced by *N*-Methyl-*N'*-nitro-*N*-nitrosoguanidine.** Oichiro Kobori, François Martin, Monique Martin, and Claude Turc.
- 5147 **Mutagenicity of *N*-Methyl-*N'*-aryl-*N*-nitrosoureas and *N*-Methyl-*N'*-aryl-*N'*-methyl-*N*-nitrosoureas in Relation to Their Alkylating Activity.** Kazuyuki Yano and Masayoshi Isobe.
- 5150 **Control of Permeation of Bleomycin A₂ by Polyene Antibiotics in Cultured Chinese Hamster Cells.** Shin-ichi Akiyama, Katsuhiko Hidaka, Sohtaro Komiya, and Michihiko Kuwano.
- 5155 **Binding Characteristics of a Major Protein in Rat Ventral Prostate Cytosol That Interacts with Estramustine, a Nitrogen Mustard Derivative of 17 β -Estradiol.** Björn Forsgren, Jan-Åke Gustafsson, Åke Pousette, and Bertil Högborg.
- 5165 **Formation and Removal of Aflatoxin B₁-induced DNA Lesions in Epithelioid Human Lung Cells.** Tzu-chien V. Wang and Peter A. Cerutti.
- 5171 **Reactivity of Anti-Daudi Serum with Acute and Chronic Leukemias.** Stephane Carrel, Nicole Gross, and Jean-Pierre Mach.
- 5177 **Letter to the Editor: Lack of Proportionality between Rate of Cell Division and Induction of Tumors in Carcinogen-exposed Regenerating Livers.** Frederick F. Becker.
- 5179 **Announcements**
- 5180 **Acknowledgment to Reviewers**
- 5187 **Author Index to Volume 39**
- 5217 **Subject Index to Volume 39**
- iii **Contents of Volume 39**
- vi **Cover Illustrations for Volume 39**