



CONTENTS

Asterisks * preceding page numbers refer to studies using human-derived material.

3981 Editorial. P. N. Magee.

Perspectives in Cancer Research

3982 **Flow Cytometry in Clinical Cancer Research.** Barthel Barlogie, Martin N. Raber, Johannes Schumann, Tod S. Johnson, Benjamin Drewinko, Douglas E. Swartzendruber, Wolfgang Göhde, Michael Andreeff, and Emil J Freireich.

BASIC SCIENCES

*3998 **Cell Proliferation Kinetics of MCF-7 Human Mammary Carcinoma Cells in Culture and Effects of Tamoxifen on Exponentially Growing and Plateau-Phase Cells.** Robert L. Sutherland, Rosemary E. Hall, and Ian W. Taylor.

*4007 **Effects of Tamoxifen on Cell Cycle Progression of Synchronous MCF-7 Human Mammary Carcinoma Cells.** Ian W. Taylor, Pamela J. Hodson, Michael D. Green, and Robert L. Sutherland.

*4011 **Sequence-dependent Synergism between Dichloromethotrexate and 5-Fluorouracil in a Human Colon Carcinoma Cell Line.** Alberto F. Sobrero and Joseph R. Bertino.

*4014 **Sensitivity of Xenografts of Human Pancreatic Adenocarcinoma in Nude Mice to Heat and Heat Combined with Chemotherapy.** Man H. Shiu, Anthony Cahan, Jørgen Fogh, and Joseph G. Fortner.

*4019 **Direct Suppression of Natural Killer Activity in Human Peripheral Blood Leukocyte Cultures by Glucocorticoids and Its Modulation by Interferon.** Nikki J. Holbrook, William I. Cox, and Heidi C. Horner.

4026 **Inhibition of Primary and Metastatic Tumor Growth in Mice by Cancer-associated Galactosyltransferase Acceptor.** Daniel K. Podolsky, Edward A. Carter, and Kurt J. Isselbacher.

4031 **Effects of α -Difluoromethylornithine on the Growth of Experimental Wilms' Tumor and Renal Adenocarcinoma.** Andrew N. Kingsnorth, Peter P. McCann, Keith A. Diekema, Jeffrey S. Ross, and Ronald A. Malt.

*4035 **Effects of α -Difluoromethylornithine and 5-Fluorouracil on the Proliferation of a Human Colon Adenocarcinoma Cell Line.** Andrew N. Kingsnorth, William E. Russell, Peter P. McCann, Keith A. Diekema, and Ronald A. Malt.

4039 **Metabolic Activation of *R,S*-1-(Tetrahydro-2-furanyl)-5-fluorouracil (Ftorafur) to 5-Fluorouracil by Soluble Enzymes.** Yousry M. El Sayed and Wolfgang Sadée.

*4045 **Subcellular Distribution, Synthesis, and Release of Carcinoembryonic Antigen in Cultured Human Colon Adenocarcinoma Cell Lines.** Zuo R. Shi, Dean Tsao, and Young S. Kim.

4050 **Nonrandom Escape of Tumor Cells from Immune Lysis Due to Intracolon Fluctuations in Antigen Expression.** Mary Ann Taupier, John F. Kearney, Paul J. Leibson, Michael R. Loken, and Hans Schreiber.

4057 **Enhancement of Rat Colon Carcinogenesis by Wheat Bran Consumption during the Stage of 1,2-Dimethylhydrazine Administration.** Lucien R. Jacobs.

4062 **Quantitative Neoplastic Transformation of C3H/10T1/2 Fibroblasts: Dependence upon the Size of the Initiated Cell Colony at Confluence.** Lawrence J. Mordan, John E. Martner, and John S. Bertram.

4068 **Change in Phase Relations of Circadian Rhythms in Cell Proliferation Induced by Time-limited Feeding in BALB/c \times DBA/2 F₁ Mice Bearing a Transplantable Harding-Passey Tumor.** David J. Lakatua, Mason White, Linda L. Sackett-Lundeen, and Erhard Haus.

4073 **Inhibition of 12-O-Tetradecanoylphorbol-13-acetate Induction of Epidermal Transglutaminase Activity by Protease Inhibitors.** Hideki Kawamura, James E. Strickland, and Stuart H. Yuspa.

4078 **Mutagenicity of Potassium Alkanediazotates and Their Use as Model Compounds for Activated Nitrosamines.** Lanny I. Hecker, Joseph E. Saavedra, James G. Farrelly, and A. W. Andrews.

4083 **Effect of Alterations in the Quality and Quantity of Dietary Fat on 1,2-Dimethylhydrazine-induced Colon Tumorigenesis in Rats.** Kathleen M. Nauss, Mary Locniskar, and Paul M. Newberne.

4091 **Characterization of a Unique Nuclear Estrogen-binding Component in an Estrogen-responsive Mouse Leydig Cell Tumor.** Yoshiaki Maeda, Bunzo Sato, Keizo Noma, Susumu Kishimoto, Kiyoshi Koizumi, Toshihiro Aono, and Keishi Matsumoto.

*4098 **Absence of Hypoxanthine:Guanine Phosphoribosyltransferase Activity in Murine Dunn Osteosarcoma.** Herbert T. Abelson and Carolyn Gorka.

- 4102** **Quantitative Selectivity of Contact-mediated Intercellular Communication in a Metastatic Mouse Mammary Tumor Line.** Bonnie E. Miller, Larry D. Roi, Laura M. Howard, and Fred R. Miller.
- 4108** **Ornithine Decarboxylase Activity and DNA Synthesis in Primary and Transformed Hamster Epidermal Cells Exposed to Tumor Promoter.** Joseph F. Sina, Matthews O. Bradley, Leila Diamond, and Thomas G. O'Brien.
- *4114** **Sister Chromatid Exchanges and Cell Division Delays Induced by Diethylstilbestrol, Estradiol, and Estriol in Human Lymphocytes.** Anna Hill and Sheldon Wolff.
- *4119** **Tumor Promoter Receptors Regulating Neurite Formation in Cultured Human Neuroblastoma Cells.** Walter Spinelli and Douglas N. Ishii.
- 4126** **Effects of Single Applications of 12-O-Tetradecanoylphorbol-13-acetate, Mezerein, or Ethylphenylpropionate on DNA Synthesis and Polyamine Levels in Hairless Mouse Epidermis.** Jan Erik Paulsen and Erle Grieg Astrup.
- 4132** **Evidence That Binding of 7,12-Dimethylbenz(a)-anthracene to DNA in Mouse Embryo Cell Cultures Results in Extensive Substitution of both Adenine and Guanine Residues.** Anthony Dipple, Margaret Pigott, Robert C. Moschel, and Nina Costantino.
- 4136** **Spontaneous Commitment of Murine Erythroleukemic Cells to Terminal Differentiation.** Eitan Fibach, Aliza Treves, and Eliezer A. Rachmilewitz.
- 4142** **Effect of 2'-Deoxycoformycin Infusion on S-Adenosylhomocysteine Hydrolase and the Amount of S-Adenosylhomocysteine and Related Compounds in Tissues of Mice.** Svein Helland and Per Magne Ueland.
- *4148** **Ability of the Immunomodulating Dipeptide Bestatin to Activate Cytotoxic Mononuclear Phagocytes.** Hans Ulrich Schorlemmer, Klaus Bosslet, and Hans Harald Sedlacek.
- *4154** **Activity of Mitomycin C for Aerobic and Hypoxic Cells *In Vitro* and *In Vivo*.** A. Michael Rauth, J. K. Mohindra, and Ian F. Tannock.
- *4159** **Presence of Fucosyl Residues on the Oligosaccharide Antennae of Membrane Glycopeptides of Human Neuroblastoma Cells.** Ursula V. Santer and Mary Catherine Glick.
- 4167** **Differences in Daunomycin Retention in Sensitive and Resistant P388 Leukemic Cells as Determined by Digitized Video Fluorescence Microscopy.** Saul Yanovich and Robert N. Taub.
- 4172** **Importance of Treatment Regimen of Interferon as an Antitumor Agent.** S. H. Lee, H. Chiu, E. Rinderknecht, W. Sabo, and N. Stebbing.
- 4176** **Purification of Cells from Livers of Carcinogen-treated Rats by Free-Flow Electrophoresis.** Steven B. Miller, Gaetano Saccomani, Theresa P. Pretlow, Pamela M. Kimball, Joe A. Scott, George Sachs, and Thomas G. Pretlow II.
- *4180** **Enhancement of Human Tumor Cell Killing by L-Canavanine in Combination with γ -Radiation.** Melvin H. Green and John F. Ward.
- 4183** **Differences in Biological Activity among Batches of Lyophilized Tice *Bacillus Calmette-Guérin* and Their Association with Clinical Course in Stage I Lung Cancer.** James A. Bennett, Howard Gruft, Martin F. McKneally, Daniel Zelterman, and Ray G. Crispin.
- 4191** **Photosensitization of Mitochondrial Cytochrome c Oxidase by Hematoporphyrin Derivative and Related Porphyrins *In Vitro* and *In Vivo*.** Scott L. Gibson and Russell Hiif.
- 4198** **Involvement of a Cytosolic Carrier-Protein Fraction in the Microsomal Metabolism of Benzo(a)pyrene in Rat Liver.** Olivia Hanson-Painton, Martin J. Griffin, and Jordan Tang.
- 4207** **Effect of Nonspecific Phospholipid Transfer Protein on Cholesterol Esterification in Microsomes from Morris Hepatomas.** G. Paul H. van Heusden, Theo P. van der Krift, Karl Y. Hostetler, and Karel W. A. Wirtz.
- 4211** **Inhibition of Amino Acid Transport by *cis*-Diamminedichloroplatinum(II) Derivatives in L1210 Murine Leukemia Cells.** K. J. Scanlon, R. L. Safirstein, H. Thies, R. B. Gross, S. Waxman, and J. B. Guttenplan.
- *4216** **Differential Enhancement of Cytotoxicity by Combination of the Carcinostatic Agent Benzaldehyde and Hyperthermia in Simian Virus 40-transformed and Normal Cell Lines.** Akiko Ishida, Nobuhiko Miwa, and Satoshi Mizuno.
- 4221** **Formation of 7-Hydroxymethyl-12-methylbenz(a)anthracene-DNA Adducts from 7,12-Dimethylbenz(a)anthracene in Mouse Epidermis.** John DiGiovanni, Andrew P. Nebzydoski, and Patricia C. Decina.
- 4227** **Cell Cycle Effects of CC-1065.** Bijoy K. Bhuyan, Sheri L. Crampton, and Earl G. Adams.
- *4233** **Effect of Cellular Phospholipid Modification on Phorbol Diester Binding.** Myles C. Cabot.
- *4239** **Successful Treatment with DL- α -Difluoromethylornithine in Established Human Small Cell Variant Lung Carcinoma Implants in Athymic Mice.** Gordon D. Luk, Martin D. Abeloff, Constance A. Griffin, and Stephen B. Baylin.
- *4244** **Increased Level of Bleomycin-induced Chromosome Breakage in Ataxia Telangiectasia Skin Fibroblasts.** Meira Shaham, Yechiel Becker, Israela Lerer, and Ruth Voss.
- *4248** **Rat Natural Killer Cell Activity against Lymphoid and Nonlymphoid Tumor Cells and Normal Rat Cell Lines.** Robert C. Rees, Craig W. Reynolds, and Ronald B. Herberman.
- 4253** **Kinetics of Diethylnitrosamine Hepatocarcinogenesis in the Infant Mouse.** Stan D. Vesselinovich and Nikola Mihailovich.

- 4260 Steroid Metabolism and Steroid Receptors in Dimethylbenz(a)anthracene-induced Rat Mammary Tumors.** Willy Eechange, Leopold de Thibault de Boesinghe, and Eric Lacroix.
- 4266 Serological Demonstration of an Allogeneic Ia.7 Antigen on the Cell Surface of SJL/J-derived Reticulum Cell Sarcomas.** Stanley M. Wilbur, Ornella Marelli, and Benjamin Bonavida.
- 4271 Transplacental Skin Tumor Initiation of Ha/ICR Mice at Different Fetal Ages.** Ellen P. Morris, Fredric J. Burns, and Roy E. Albert.
- 4275 Inverse Correlation of Collagen Production to Anchorage Independence and Tumorigenicity in W8- and M-Cell Lines.** Barbara D. Smith, Ann P. Mahoney, and Roy S. Feldman.
- 4283 Effects of Arotinoids upon Murine Embryonal Carcinoma Cells.** Michael I. Sherman, Mary Lou Paternoster, and Makoto Taketo.
- *4291 Comparison of Rates of Phenotypic Variability in Surface Antigen Expression in Normal and Cancerous Human Breast Epithelial Cells.** Jerry A. Peterson, Roberto L. Ceriani, Edward W. Blank, and Lydia Osvaldo.
- *4297 Detection of a M, 24,000 Estrogen-regulated Protein in Human Breast Cancer by Monoclonal Antibodies.** David J. Adams, Hiyam Hajj, Dean P. Edwards, Robert J. Bjercke, and William L. McGuire.
- 4302 Effect of a Proteoglycan Produced by Rat Tumor Cells on Their Adhesion to Fibronectin-Collagen Substrata.** Michael J. Brennan, Åke Oldberg, Edward G. Hayman, and Erkki Ruoslahti.
- 4308 Morphological and Biochemical Characterization of Four Clonal Osteogenic Sarcoma Cell Lines of Rat Origin.** Nicola C. Partridge, Daine Alcorn, Valdo P. Michelangeli, Graeme Ryan, and T. John Martin.
- 4315 Changes in the Host Lymphocyte Subsets during Chemical Carcinogenesis.** Pnina Brodt and Peeyush K. Lala.
- *4323 Tumor Degeneration by Human Embryonic Fibroblasts and Its Enhancement by Interferon.** Jiro Imanishi, Shoko Hoshino, Hidekazu Matsuoka, Hidetoshi Uemura, Tadashi Imanishi, Atsuo Tanaka, Hoyoku Nishino, and Tsunataro Kishida.
- 4327 Solubilization, Purification, and Reconstitution of a Phorbol Ester Receptor from the Particulate Protein Fraction of Mouse Brain.** Curtis L. Ashendel, Jonathan M. Staller, and R. K. Boutwell.
- 4333 Protein Kinase Activity Associated with a Phorbol Ester Receptor Purified from Mouse Brain.** Curtis L. Ashendel, Jonathan M. Staller, and R. K. Boutwell.
- 4338 Preferential Inhibition of the Activity of a Stimulatory Protein of Eukaryotic Transcription by Platinum(II) Complexes.** Noriko Matsumoto, Kazuhisa Sekimizu, Masami Horikoshi, Masahiko Ohtsuki, Yoshinori Kidani, and Shunji Natori.
- 4343 Metabolism of Tobacco-specific Nitrosamines by Cultured Rat Nasal Mucosa.** Eva B. Brittebo, Andre Castonguay, Keizo Furuya, and Stephen S. Hecht.
- *4349 Amplification of the Murine Leukemia Virus M, 70,000 Glycoprotein Gene Product by Human Xenografts in Athymic Mice.** Gillian M. Beattie, Robert A. Lannom, Stephen M. Baird, Eugene V. Hellsell III, Fred C. Jensen, Jose F. Leis, and Nathan O. Kaplan.
- 4355 Effects of *in Vivo* Friend Leukemia Virus Infection on Levels of Serum Thymic Factors and on Selected T-Cell Functions in Mice.** Giorgio Tonietti, Giovanni Battista Rossi, Vera Del Gobbo, Lidia Accinni, Alessandra Ranucci, Fausto Titti, Maria Grazia Premrov, and Enrico Garaci.
- 4364 Physicochemical and Morphological Characterization of a New Allograftable Mammary Carcinoma Ascites Subline, TA3-St/ticol/-A.** John F. Codington, Tina Dalianis, Scott C. Miller, Hasi R. Das, George Klein, Lorna A. Lampert, Cyla Silber, Debra M. Darby, and Roger W. Jeanloz.
- 4373 Cell Surface Characteristics of an Allograftable TA3 Ascites Subline Resulting from a Process of Immunoselection.** John F. Codington, Hasi R. Das, Tina Dalianis, George Klein, Scott C. Miller, Cyla Silber, Lorna A. Lampert, Debra M. Darby, and Roger W. Jeanloz.
- 4382 Carcinogenicity of Formaldehyde in Rats and Mice after Long-Term Inhalation Exposure.** William D. Kerns, Kenneth L. Pavkov, David J. Donofrio, Edward J. Gralla, and James A. Swenberg.
- *4393 Establishment and Characterization of Human Pancreatic Adenocarcinoma Cell Line SW-1990 in Tissue Culture and the Nude Mouse.** Andreas P. Kyriazis, William B. McCombs III, Avery A. Sandberg, Aikaterini A. Kyriazis, Nathan H. Sloane, and Ross Lepera.
- *4402 Growth Inhibition of Human Tumor Cells in Soft-Agar Cultures by Treatment with Low Levels of Adenosine 5'-Triphosphate.** Eliezer Rapaport, Robert F. Fishman, and Cicek Gerdel.
- *4407 Progesterone-specific Stimulation of Triglyceride Biosynthesis in a Breast Cancer Cell Line (T-47D).** Sheila M. Judge and Robert T. Chatterton, Jr.
- 4413 Daunorubicin-resistant Chinese Hamster Ovary Cells Expressing Multidrug Resistance and a Cell-Surface P-Glycoprotein.** Norbert Kartner, Michael Shales, John R. Riordan, and Victor Ling.
- 4420 Guinea Pig Line 10 Hepatocarcinoma Model: Characterization of Monoclonal Antibody and *in Vivo* Effect of Unconjugated Antibody and Antibody Conjugated to Diphtheria Toxin A Chain.** Michael I. Bernhard, Kenneth A. Foon, Thomas N. Oeltmann, Marc E. Key, Kou M. Hwang, Gregory C. Clarke, Wayne L. Christensen, Lawrence C. Hoyer, Michael G. Hanna, Jr., and Robert K. Oldham.

- 4429 Localization of ¹¹¹In- and ¹²⁵I-labeled Monoclonal Antibody in Guinea Pigs Bearing Line 10 Hepatocarcinoma Tumors.** Michael I. Bernhard, Kuo M. Hwang, Kenneth A. Foon, Andrew M. Keenan, Robert M. Kessler, James M. Frincke, Dean J. Tallam, Michael G. Hanna, Jr., Leona Peters, and Robert K. Oldham.
- *4434 Procoagulant Activity Associated with Plasma Membrane Vesicles Shed by Cultured Tumor Cells.** Harold F. Dvorak, Livingston Van DeWater, Ann M. Bitzer, Ann M. Dvorak, Deborah Anderson, V. Susan Harvey, Ronald Bach, Gerald L. Davis, William DeWolf, and Angelina C. A. Carvalho.
- *4443 Inhibition of Human Cancer Cell Growth by 1,25-Dihydroxyvitamin D₃ Metabolites.** Richard J. Frampton, Sharyn A. Omond, and John A. Eisman.
- 4448 Guinea Pig Cutaneous Nevi Transplanted to Athymic Nude Mice: A Potential Model for Benign and Malignant Melanocytic Lesions.** Robert H. Stubbs, Herbert H. Haberman, and Andrew Pawlowski.
- 4454 Promoting Effects of Sodium L-Ascorbate on Two-Stage Urinary Bladder Carcinogenesis in Rats.** Shoji Fukushima, Katsumi Imaida, Takao Sakata, Takehiko Okamura, Masa-aki Shibata, and Nobuyuki Ito.
- 4474 Pharmacokinetics of Intraarterial Mitomycin C in Humans.** Edward Hu and Stephen B. Howell.
- 4478 Analysis of Activated and Nonactivated Cytoplasmic Glucocorticoid-Receptor Complexes from Human Leukemia Cells by Rapid DNA-Diethylaminoethyl Minicolumn Chromatography.** Nikki J. Holbrook, Clara D. Bloomfield, and Allan Munck.
- 4483 Reactivity of Acute Lymphoblastic Leukemia and Normal Bone Marrow Cells with the Monoclonal Anti-B-Lymphocyte Antibody, Anti-Y 29/55.** Andreas Hirt, Christoph Baumgartner, Hansjörg K. Forster, Paul Imbach, and Hans P. Wagner.
- 4486 Diversity of Immunological Phenotypes of Lymphoblastic Lymphoma.** Jeffrey Cossman, Thomas M. Chused, Richard I. Fisher, Ian Magrath, Frederick Bollum, and Elaine S. Jaffe.
- 4491 Clinical Value of Serum Glycoprotein Galactosyltransferase Levels in Different Histological Types of Ovarian Carcinoma.** Pascal Gauduchon, Catherine Tillier, Christine Guyonnet, Jean-François Heron, Edith Bar-Guilloux, and Jean-Yves Le Talaer.
- 4497 Nuclear Estradiol-binding Sites in Human Breast Cancer.** Brigitte Vandewalle, Jean-Philippe Peyrat, Jacques Bonnetterre, Bernard Hecquet, Didier Dewailly, and Jean Lefebvre.

CLINICAL INVESTIGATIONS

- 4458 Phase I Study of Pharmacological and Immunological Effects of Human Lymphoblastoid Interferon Given to Patients with Cancer.** John Laszlo, Andrew T. Huang, Wayne D. Brenckman, Christina Jeffs, Hillel Koren, George Cianciolo, Richard Metzgar, William Cashdollar, Edwin Cox, C. E. Buckley III, C. Y. Tso, and Virgil S. Lucas, Jr.
- 4467 Age Dependence of the Early-Phase Pharmacokinetics of Doxorubicin.** Jacques Robert and Bernard Hoerni.
- 4470 A Phase I and Pharmacokinetic Study of Diamminedicyclobutanedicarboxylatoplatinum (NSC 241240).** Gregory A. Curt, John J. Grygiel, Brian J. Corden, Robert F. Ozols, Raymond B. Weiss, Daniel T. Tell, Charles E. Myers, and Jerry M. Collins.
- 4504 Monocyte-mediated Antibody-dependent Cell-mediated Cytotoxicity and Spontaneous Cytotoxicity in Normals and Cancer Patients as Assayed by Human Erythrocyte Lysis.** Michael I. Bernhard, Ronald C. Pace, Stephen W. Unger, and Harold J. Wanebo.
- 4511 *In Vivo* and *In Vitro* Biological Activities of Two Human Cell Lines Derived from Anaplastic Lung Cancers.** Richard S. Bockman, Anne Bellin, Mary A. Repo, Noreen J. Hickok, and Toru Kameya.
- 4517 Special Announcements**
- 4519 Announcements**
- 4521 Recent Death**
- 4522 Author Index**

Cancer Research

The Journal of Cancer Research (1916–1930) | The American Journal of Cancer (1931–1940)

43 (9)

Cancer Res 1983;43:3981-4521.

Updated version Access the most recent version of this article at:
<http://cancerres.aacrjournals.org/content/43/9.citation>

E-mail alerts [Sign up to receive free email-alerts](#) related to this article or journal.

Reprints and Subscriptions To order reprints of this article or to subscribe to the journal, contact the AACR Publications Department at pubs@aacr.org.

Permissions To request permission to re-use all or part of this article, use this link <http://cancerres.aacrjournals.org/content/43/9.citation>. Click on "Request Permissions" which will take you to the Copyright Clearance Center's (CCC) Rightslink site.