



## CONTENTS

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

### BASIC SCIENCES

- 4525** Effect of Adjuvant Endocrine and Adjuvant Chemoen-docrine Therapies on Metastasis of Androgen-de-pendent Shionogi Carcinoma 115. Tateo Yoshikawa, Yukihiko Kitamura, Naomi Uchida, Kenji Yamaguchi, and Keishi Matsumoto.
- 4530** Effects of Some Sugar Alcohol Derivatives on Muta-tion and Induction of Sister Chromatid Exchanges. Edith Oláh, Károly Tóth, János Sugár, Lajos Hegedüs, and Susan Somfai-Relle.
- \*4537** Insulin Receptor Regulation in Cultured Human Tumor Cells. Kathleen G. Mountjoy, Ian M. Holdaway, and Graeme J. Finlay.
- 4543** Anthracycline Antibiotic-stimulated Superoxide, Hy-drogen Peroxide, and Hydroxyl Radical Production by NADH Dehydrogenase. James H. Doroshow.
- 4552** Antagonist of Phorbol Ester Receptor-mediated Chemotaxis in Mouse Peritoneal Macrophages. Robert J. Sturm, Bonita M. Smith, Richard W. Lane, Debra L. Laskin, Louis S. Harris, and Richard A. Carchman.
- 4557** Hyperthermia and Bleomycin Schedules on V79 Chinese Hamster Cell Cytotoxicity *in Vitro*. Peck-Sun Lin, Kathleen Heffer, and Mark Jones.
- \*4562** Self-stimulating Growth Factor Production by B-Cell Lines Derived from Burkitt's Lymphomas and Other Lines Transformed *in Vitro* by Epstein-Barr Virus. Beverly A. Blazar, Linda M. Sutton, and Marshall Strome.
- \*4569** Myeloid and Megakaryocytic Properties of K-562 Cell Lines. A. Tabilio, P. G. Pelicci, G. Vinci, P. Mannoni, C. I. Civin, W. Vainchenker, U. Testa, M. Lipinski, H. Rochant, and J. Breton-Gorius.
- 4575** Effects of Calcium and Magnesium Acetates on the Carcinogenicity of Cadmium Chloride in Wistar Rats. Lionel A. Poirier, Kazimierz S. Kasprzak, Karen L. Hoover, and Martin L. Wenk.
- \*4582** Phorbol Ester Modulation of T-Cell Antigens in the Jurkat Lymphoblastic Leukemia Cell Line. Diana L. Cassel, James A. Hoxie, and Richard A. Cooper.
- 4587** Nonlinear Pharmacokinetics of Thymidine, Thymine, and Fluorouracil and Their Kinetic Interactions in Normal Dogs. Joseph M. Covey and James A. Straw.
- \*4596** Direct Action of Interferon and Inducers of Interferon on Tumor Cells in Athymic Nude Mice. Yves Rivière and Ara Hovanessian.
- \*4600** Delivery of Aclacinomycin A to Human Glioma Cells *in Vitro* by the Low-Density Lipoprotein Pathway. Mats J. Rudling, V. Peter Collins, and Curt O. Peterson.
- 4606** Influence of Polyamine Depletion Caused by  $\alpha$ -Difluo-romethylornithine, an Enzyme-activated Irreversible Inhibitor of Ornithine Decarboxylase, on Alkylation- and Carbamoylation-induced Cytotoxicity in 9L Rat Brain Tumor Cells *in Vitro*. Stina M. Oredsson, Dennis F. Deen, and Laurence J. Marton.
- 4610** Characteristic Immunological Responses to an Exper-imental Mouse Brain Tumor. Toshiki Yamasaki, Hajime Handa, Junkoh Yamashita, Yuziro Namba, and Masao Hanaoka.
- \*4618** Effects of Biologically Active Metabolites of Tamoxi-fen on the Proliferation Kinetics of MCF-7 Human Breast Cancer Cells *in Vitro*. Roger R. Reddel, Leigh C. Murphy, and Robert L. Sutherland.
- 4625** Tumor-initiating Activity of Benz[c]acridine and Twelve of Its Derivatives on Mouse Skin. Wayne Levin, Alexander W. Wood, Richard L. Chang, Subodh Kumar, Haruhiko Yagi, Donald M. Jerina, Roland E. Lehr, and Allan H. Conney.
- \*4629** Effects of Physiological Oxygen Concentration on Hu-man Tumor Colony Growth in Soft Agar. Kasi S. Sridhar, Terry F. Plasse, James F. Holland, Marilyn Shapiro, and Takao Ohnuma.
- 4632** Specific Binding of [20-<sup>3</sup>H]12-Deoxyphorbol 13-Iso-butyrate to Phorbol Ester Receptor Subclasses in Mouse Skin Particulate Preparations. Joseph A. Dunn and Peter M. Blumberg.
- 4638** Inhibition of Estrogen-induced Renal Carcinoma in Syrian Hamsters by Vitamin C. Joachim G. Liehr and William J. Wheeler.
- 4643** High Proliferation of Granulocyte-Macrophage Pro-genitors in Tumor-bearing Mice. Lodovico Balducci and Cheryl Hardy.
- \*4648** *In Vitro* Formation of Polyglutamyl Derivatives of Meth-otrexate and 7-Hydroxymethotrexate in Human Lym-phoblastic Leukemia Cells. Gerard Fabre, Larry H. Matherly, Roger Favre, Jacques Catalin, and Jean-Paul Cano.
- 4653** Improved Therapeutic Index with Sequential N-Phos-phonacetyl-L-aspartate plus High-Dose Methotrexate plus High-Dose 5-Fluorouracil and Appropriate Res-cue. Daniel S. Martin, Robert L. Stoffi, Robert C. Sawyer, Sol Spiegelman, and Charles W. Young.

- \* 4662 **Comparison of Energy Metabolism in Human Normal and Neoplastic (Burkitt's Lymphoma) Lymphoid Cells.** Sarah Sariban-Sohraby, Ian T. Magrath, and Robert S. Balaban.
- 4665 **Microwave Hyperthermia and Its Effect on Tumor Blood Flow in Rats.** Shashi Shrivastav, William G. Kaelin, Jr., William T. Joines, and Randy L. Jirtle.
- 4670 **Mechanisms of the Potentiation of Specific Antitumor Immunity by Intratumor Injection of *Corynebacterium parvum*.** Hiroshi Miyata, Kunisuke Himeno, and Kikuo Nomoto.
- 4676 **Tumor Promoter-dependent Mouse Leukemia Cell Line.** Hideto Kaneshima, Hiroshi Hiai, Hirota Fujiki, Yumiko B. Oguro, Soichi Iijima, Takashi Sugimura, and Yasuaki Nishizuka.
- \* 4681 **Hormonal Regulation of *de Novo* Pyrimidine Synthesis and Utilization in Human Breast Cancer Cells in Tissue Culture.** Susan C. Aitken and Marc E. Lippman.
- \* 4691 **Sugar Chain of  $\alpha$ -Fetoprotein Produced in Human Yolk Sac Tumor.** Katsuko Yamashita, Akira Hitoi, Yoshiaki Tsuchida, Shinzo Nishi, and Akira Kobata.
- \* 4696 **Dehydroascorbate Uptake as an *in Vitro* Biochemical Marker of Granulocyte Differentiation.** Robert Anderson, Libuse Stankova, Robert H. Bigley, and Grover C. Bagby, Jr.
- \* 4699 **Conversion of 5'-Deoxy-5'-methylthioadenosine and 5'-Deoxy-5'-methylthioinosine to Methionine in Cultured Human Leukemic Cells.** Todd M. Savarese, Lucy Y. Ghoda, Daniel L. Dexter, and Robert E. Parks, Jr.
- 4703 **Selective Killing of Transformed Cells by Methotrexate with Histidine Deprivation or with  $\alpha$ -Amino Alcohols.** Edward M. Newman, David W. Nierenberg, and Daniel V. Santi.
- 4709 ***In Vivo* Chemosensitization by Misonidazole in Sensitive and Resistant Tumor Lines.** R. Timothy Mulcahy and Dietmar W. Siemann.
- 4714 **Influence of Dietary Fat and Indomethacin on the Growth of Transplantable Mammary Tumors in Rats.** G. Mark Kollmorgen, M. Margaret King, Stanley D. Kosanke, and Cuong Do.
- 4720 **Effect of Carcinogenic Components of Cigarette Smoke on *In Vivo* Production of Murine Interferon.** Gerald Sonnenfeld and Russell W. Hudgens.
- \* 4723 **Interspecies Comparisons of Benzo(a)pyrene Metabolism and DNA-Adduct Formation in Cultured Human and Animal Bladder and Tracheobronchial Tissues.** F. Bernard Daniel, Herman A. J. Schut, David W. Sandwisch, Kathleen M. Schenck, Clifford O. Hoffmann, James R. Patrick, and Gary D. Stoner.
- 4730 **Enhancement of Adriamycin Delivery to Liver Metastatic Cells with Increased Tumoricidal Effect Using Liposomes as Drug Carriers.** A Gabizon, D. Goren, Z. Fuks, Y. Barenholz, A. Dagan, and A. Meshorer.
- 4736 **Loss of Tumorigenicity with Simultaneous Changes in Radiosensitivity and Photosensitivity during *In Vitro* Growth of L5178Y Murine Lymphoma Cells.** Janusz Z. Beer, Ewa Budzicka, Elzbieta Niepokojczycka, Olgierd Rosiek, Irena Szumiel, and Małgorzata Walicka.
- 4743 **Requirements for Protein Synthesis and Calcium for Stimulation of Prostaglandin Synthesis in Cultured Rat Liver Cells by Tumor Promoters.** Gerry T. Snoek and Lawrence Levine.
- 4747 **Effects of *p*-Methoxyphenol and Diet on Carcinogen-induced Neoplasia of the Mouse Forestomach.** Lee W. Wattenberg, Peter Borchert, Charles M. Destafney, and Judith B. Coccia.
- 4752 **Purified Form of Cytochrome P-450 from Rainbow Trout with High Activity toward Conversion of Aflatoxin B<sub>1</sub> to Aflatoxin B<sub>1</sub>-2,3-epoxide.** David E. Williams and Donald R. Buhler.
- \* 4757 **Correlation between Glucocorticoid Receptor Content and the Antiproliferative Effect of Dexamethasone in Experimental Solid Tumors.** Paul G. Braunschweiger, Han L. Ting, and Lewis M. Schiffer.
- 4762 **Effect of Aspirin and Indomethacin on the Formation of Benzo(a)pyrene-induced Pulmonary Adenomas and DNA Adducts in A/HeJ Mice.** Peter I. Adriaenssens, Kandiah Sivarajah, Gary A. Boorman, Thomas E. Eling, and Marshall W. Anderson.
- 4768 ***In Vivo* Antitumor Effects of Monoclonal Antibodies with Different Immunoglobulin Classes.** Masao Seto, Toshitada Takahashi, Sohko Nakamura, Yasue Matsudaira, and Yasuaki Nishizuka.
- 4774 **Differential Susceptibility of Avian Sarcoma Cells Derived from Different Periods of Tumor Growth to Natural Killer Cell Activity.** Mark A. Wainberg, Sylvie Beaupr e, Barbara Beiss, and Evelyne Israel.
- 4781 **Suppression of Diethylstilbestrol and *N*-Nitrosobutylurea-induced Mammary and Pituitary Tumorigenesis in Rats by Prolonged Treatment with 2-Bromoergocryptine.** Chiyo Sumi, Kenjiro Yokoro, and Ryotaro Matsushima.
- 4786 **Pharmacokinetic Model for *N*-Nitrosodimethylamine Based on Michaelis-Menten Constants Determined with the Isolated Perfused Rat Liver.** Paul L. Skipper, John F. Tomera, John S. Wishnok, Henri Brunengraber, and Steven R. Tannenbaum.
- 4791 **Resistance to 9- $\beta$ -D-Arabinofuranosyladenine in Cultured Leukemia L1210 Cells.** Carol E. Cass, Milada Selner, and J. Robert Phillips.
- 4799 **Coordination of Interstrand Cross-Links between Polydeoxyguanylic Acid and Polydeoxycytidylic Acid by *cis*-Diamminedichloroplatinum(II).** Harold C. Harder and Christine C. Lee.
- 4805 **Some Biotransformation Enzymes Responsible for Polycyclic Aromatic Hydrocarbon Metabolism in Rat Nasal Turbinates: Effects on Enzyme Activities of *In Vitro* Modifiers and Intraperitoneal and Inhalation Exposure of Rats to Inducing Agents.** James A. Bond.

- \*4812 Differentiation Antigens of Human Hemopoietic Cells: Patterns of Reactivity of Two Monoclonal Antibodies.** Silvana Pessano, Lisabianca Bottero, Jeffrey Faust, Massimo Trucco, Antonio Palumbo, Luigi Pegoraro, Beverly Lange, Colette Brezin, Jannie Borst, Cox Terhorst, and Giovanni Rovera.
- 4816 Uptake and Hepatobiliary Fate of Two Hepatocarcinogens, *N,N*-Dimethyl-4-aminoazobenzene and 3'-Methyl-*N,N*-dimethyl-4-aminoazobenzene, in the Rat.** Audrey R. Samuels, Madhu M. Bhargava, and Walter G. Levine.
- 4822 Spontaneous Neoplastic Evolution of Chinese Hamster Cells in Culture: Multistep Progression of Phenotype.** Paul M. Kraemer, Gayle L. Travis, F. Andrew Ray, and L. Scott Cram.
- 4828 Spontaneous Neoplastic Evolution of Chinese Hamster Cells in Culture: Multistep Progression of Karyotype.** L. Scott Cram, Marty F. Bartholdi, F. Andrew Ray, Gayle L. Travis, and Paul M. Kraemer.
- 4838 Morphometric Study of the Rat Duodenal Epithelium during the Initial Six Months of 1,2-Dimethylhydrazine Carcinogenesis.** Alan D. Snow and Gabriel G. Altmann.
- \*4850 Biochemical and Quantitative Histochemical Study of Reduced Pyridine Nucleotide Dehydrogenation by Human Colonic Carcinomas.** Norberto A. Schor and Cornelis J. Cornelisse.
- \*4856 Polycyclic Aromatic Hydrocarbon Toxicity and Induction of Metabolism in Cultivated Esophageal and Epidermal Keratinocytes.** Ruth Heimann and Robert H. Rice.
- 4863 Overproduction of Two Antigenically Distinct Forms of Dihydrofolate Reductase in a Highly Methotrexate-resistant Mouse Leukemia Cell Line.** Shoukat Dedhar and James H. Goldie.
- 4872 Transplacental Action of Diethylstilbestrol on Reproductive and Endocrine Organs, Mammary Glands, and Serum Hormone Levels in Two- and Nine-Month-Old Female Rats.** Elizabeth S. Boylan, Robert E. Calhoon, and Barbara K. Vonderhaar.
- 4879 Transplacental Action of Diethylstilbestrol on Mammary Carcinogenesis in Female Rats Given One or Two Doses of 7,12-Dimethylbenz(a)anthracene.** Elizabeth S. Boylan and Robert E. Calhoon.
- 4885 Carcinogenicity of *N*-Nitrosomethyl(2-oxobutyl)amine and *N*-Nitrosomethyl(3-oxobutyl)amine in Syrian Hamsters with Special Reference to the Pancreas.** Parviz M. Pour, Donald Nagel, and Terence Lawson.
- 4891 Long-Term Survival of Adult Mouse Mammary Glands in Culture and Their Response to a Retinoid.** Nitin T. Telang and Nurul H. Sarkar.
- \*4901 Variable 5-Methylcytosine Levels in Human Tumor Cell Lines and Fresh Pediatric Tumor Explants.** Edith Flatau, Emil Bogenmann, and Peter A. Jones.
- 4906 Induction of Squamous Metaplasia in Organ Cultures of Hamster Trachea by Naturally Occurring and Synthetic Fibers.** Craig D. Woodworth, Brooke T. Mossman, and John E. Craighead.
- 4913 Effects of Divalent Metal Cations on Composition and Neoplasia-specific Antigenicity of Chromatins.** Sherry L. F. Dupere, Steve Holland, Stephen Gawne, Kevin E. Cancelliere, B. Ann Sedita, Phylis J. Dale, Ellen D. Jarrell, and Timothy E. O'Connor.
- \*4920 Establishment and Characterization of a New Human Functional Cell Line from a Choriocarcinoma.** Tetsuro Okabe, Norio Sasaki, Masaaki Matsuzaki, Yasuo Imai, Yoshiyasu Kaneko, Fukashi Matsuzaki, Fumimaro Takaku, and Toshio Tsushima.
- 4927 Antitumor Activity, Induction of Cross-Resistance, and Nephrotoxicity of a New Platinum Analogue, *cis*-1,1-Diaminomethylcyclohexaneplatinum(II) Sulfate, and of *cis*-Diamminedichloroplatinum(II) in an Immunocytoma Model in the LOU/M Rat.** W. H. de Jong, P. A. Steerenberg, J. G. Vos, E. J. Bulten, F. Verbeek, W. Kruizinga, and E. J. Ruitenberg.
- 4935 Epidermal Cell Cycle and Transit Times during Hyperplastic Growth Induced by Abrasion or Treatment with 12-*O*-Tetradecanoylphorbol-13-acetate.** Rebecca Morris and Thomas S. Argyris.
- \*4943 Development and Characterization of a Human Sarcoma Cell Line, MES-SA, Sensitive to Multiple Drugs.** W. Graydon Harker, F. Roy MacKintosh, and Branimir Ivan Sikic.
- 4951 Differential Sensitivity of AKR Murine Leukemia and Normal Bone Marrow Cells to Hyperthermia.** H. Ian Robins, Richard A. Steeves, Allen W. Clark, Patricia A. Martin, Kenneth Miller, and Warren H. Dennis.
- \*4956 New Approach for Visualizing Estrogen Receptors in Target Cells Using Inherently Fluorescent Ligands and Image Intensification.** Pierre M. Martin, Henri P. Magdelenat, Bahia Benyahia, Odile Rigaud, and John A. Katzenellenbogen.
- \*4966 Purification and Characterization of Actin from Normal and Chronic Lymphocytic Leukemia Lymphocytes.** Leonard F. Liebes, Richard Stark, Denise Nevria, George Grusky, Dorothea Zucker-Franklin, and Robert Silber.
- 4974 Distinct Inhibitory Effects of Dihydroteleocidin B and the Phorbol Ester Tumor Promoters on the Adipocyte Differentiation of 3T3-L1 Cells.** Yoshiko Shimizu, Nobuyoshi Shimizu, Hirota Fujiki, and Takashi Sugimura.
- \*4980 Tissue Distribution of an Epithelial and Tumor-associated Antigen Recognized by Monoclonal Antibody F36/22.** Gary A. Croghan, Lawrence D. Papsidero, Luis A. Valenzuela, Takuma Nemoto, Remedios Penetrante, and T. Ming Chu.
- \*4989 Control of Macrophage Cell Differentiation in Human Promyelocytic HL-60 Leukemia Cells by 1,25-Dihydroxyvitamin D<sub>3</sub> and Phorbol-12-myristate-13-acetate.** Shin-ichi Murao, M. Anne Gemmell, Michael F. Callahan, N. Leigh Anderson, and Eliezer Huberman.

**4997 Factors Affecting Expression of Glycolipid Tumor Antigens: Influence of Ceramide Composition and Co-existing Glycolipid on the Antigenicity of Gangliosialosylceramide in Murine Lymphoma Cells.** Reiji Kannagi, Robert Stroup, Nancy A. Cochran, David L. Urdal, William W. Young, Jr., and Sen-itiroh Hakomori.

### CLINICAL INVESTIGATIONS

**5006 Phase I Evaluation of 2'-Fluoro-5-iodo-1- $\beta$ -D-arabinofuranosylcytosine in Immunosuppressed Patients with Herpesvirus Infection.** Charles W. Young, Robert Schneider, Brian Leyland-Jones, Donald Armstrong, Charlotte T. C. Tan, Carlos Lopez, Kyoichi A. Watanabe, Jack J. Fox, and Frederick S. Philips.

**5010 Nonrandom Chromosome Changes in Malignant Melanoma.** Reinhard Becher, Zenon Gibas, Constantine Karakousis, and Avery A. Sandberg.

**5017 Pharmacokinetics of Mitomycin C in Humans.** J. den Hartigh, J. G. McVie, W. J. van Oort, and H. M. Pinedo.

**5022 Phase I Trial of Intravenous L-Phenylalanine Mustard plus the Sensitizer Misonidazole.** C. Norman Coleman, Michael K. Friedman, Charlotte Jacobs, Joanne Halsey, Robert Ignoffo, Stephen Leibel, V. Kate Hirst, Melanie Gribble, Steven K. Carter, and Theodore L. Phillips.

**5026 Diagnostic and Biological Implications of Flow Cytometric DNA Content Analysis in Lung Cancer.** Paul A. Bunn, Jr., Desmond N. Carney, Adi F. Gazdar, Jacqueline Whang-Peng, and Mary J. Matthews.

**5033 Simple Biochemical Method to Assess Progestin Effects on Human Endometrial DNA Synthesis and Its Application to Endometrial Carcinoma.** R. J. B. King, K. S. Raju, N. C. Siddle, R. W. Taylor, and M. I. Whitehead.

**5037 Elevated Activity of  $\beta$ -Hexosaminidase and Sulfhydryl Modification in the B-Variant of Human Lung Cancer.** Masaki Narita, Naoyuki Taniguchi, Akira Makita, Tetsuo Kodama, Eiji Araki, and Kiyoshi Oikawa.

**5043 Special Announcement**

**5044 Announcements**

**5046 Errata**

**5047 Author Index**

# Cancer Research

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

## 43 (10)

*Cancer Res* 1983;43:4525-5046.

**Updated version** Access the most recent version of this article at:  
<http://cancerres.aacrjournals.org/content/43/10.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](mailto:pubs@aacr.org).

**Permissions** To request permission to re-use all or part of this article, use this link <http://cancerres.aacrjournals.org/content/43/10.citation>. Click on "Request Permissions" which will take you to the Copyright Clearance Center's (CCC) Rightslink site.