



## CONTENTS

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

- 3911 **Has the Well Gone Dry? The First Cain Memorial Award Lecture.** John A. Montgomery.
- BASIC SCIENCES**
- 3918 **Morphological Classification of Mouse Liver Tumors Based on Biological Characteristics.** Frederick F. Becker.
- \*3924 **Induction of Differentiation of the Human Histiocytic Lymphoma Cell Line U-937 by Retinoic Acid and Cyclic Adenosine 3':5'-Monophosphate-inducing Agents.** Inge L. Olsson and Theodore R. Breitman.
- \*3928 **Priming of Human Myeloid Leukemic Cell Lines HL-60 and U-937 with Retinoic Acid for Differentiation Effects of Cyclic Adenosine 3':5'-Monophosphate-inducing Agents and a T-Lymphocyte-derived Differentiation Factor.** Inge L. Olsson, Theodore R. Breitman, and Robert C. Gallo.
- 3934 **Enhanced Survival of Adriamycin-treated Chinese Hamster Cells by 2-Deoxy-D-glucose and 2,4-Dinitrophenol.** J. R. Colofiore, G. Ara, D. Berry, and J. A. Belli.
- 3941 **Inhibition of Ultraviolet-B Epidermal Ornithine Decarboxylase Induction and Skin Carcinogenesis in Hairless Mice by Topical Indomethacin and Triamcinolone Acetonide.** Nicholas J. Lowe, Michael J. Connor, James Breeding, and Marc Chalet.
- 3944 **Effect of Verapamil on Malignant Tissue Blood Flow in SMT-2A Tumor-bearing Rats.** William G. Kaelin, Jr., Shashi Shrivastav, David G. Shand, and Randy L. Jirtle.
- \*3950 ***In Vitro* X-Ray Sensitivity in Ataxia Telangiectasia Homozygote and Heterozygote Skin Fibroblasts under Oxidic and Hypoxic Conditions.** Timothy J. Kinsella, James B. Mitchell, Scott McPherson, Angelo Russo, and Frank Tietze.
- 3957 **Biochemical Effects of 2'-Fluoro-5-methyl-1-β-D-arabinofuranosyluracil and 2'-Fluoro-5-iodo-1-β-D-arabinofuranosylcytosine in Mouse Leukemic Cells Sensitive and Resistant to 1-β-D-Arabinofuranosylcytosine.** Ting-Chao Chou, Joseph H. Burchenal, Franz A. Schmid, Thomas J. Braun, Tsann-Long Su, Kyoichi A. Watanabe, Jack J. Fox, and Frederick S. Philips.
- 3964 **High-Dose 5-Fluorouracil with Delayed Uridine "Rescue" in Mice.** Daniel S. Martin, Robert L. Stolfi, Robert C. Sawyer, Sol Spiegelman, and Charles W. Young.
- \*3971 **Differential Segregation Patterns of Human Chromosomes in Somatic Cell Hybrids Constructed with Human B-Lymphocytes and Human Melanoma Cells.** Mark C. Glassy and Soldano Ferrone.
- 3974 **Induction of Unscheduled DNA Synthesis in Primary Culture of Dog, Rat, and Mouse Urothelial Cells by Arylamine and Nitrofurans Derivatives.** Ching Y. Wang, E. M. Linsmaier-Bednar, Charles D. Garner, and Mei-Sie Lee.
- \*3978 **Human Tumor-associated Antigens Detected by Serological Techniques: Analysis of Autologous Humoral Immune Responses to Primary and Metastatic Human Sarcomas by an Enzyme-linked Immunosorbant Solid-Phase Assay (ELISA).** Jack A. Roth and Robert A. Wesley.
- \*3987 **Biochemical and Chemotherapeutic Studies on 2,4-Diamino-6-(2, 5-dimethoxybenzyl)-5-methylpyrido [2,3-d]pyrimidine (BW 301U), a Novel Lipid-soluble Inhibitor of Dihydrofolate Reductase.** David S. Duch, Mark P. Edelstein, Seaton W. Bowers, and Charles A. Nichol.
- 3995 **Neutralization of Feline Leukemia Virus with Feline Antisera to Leukocyte Alloantigens.** T. H. Lee, M. Essex, F. de Noronha, and J. Azocar.
- \*4000 **Susceptibility of Fanconi's Anemia Lymphoblasts to DNA-cross-linking and Alkylating Agents.** Ryoji Ishida and Manuel Buchwald.
- \*4007 **Differential Effect of N-(Phosphonacetyl)-L-aspartate on 1-β-D-Arabinofuranosylcytosine Metabolism and Cytotoxicity in Human Leukemia and Normal Bone Marrow Progenitors.** Steven Grant, Frank Rauscher III, and Ed Cadman.
- 4014 **Temporal Dynamics of Cortisol and Dexamethasone Prevention of Benzo(a)pyrene-induced Morphological Transformation of Syrian Hamster Cells.** John W. Greiner and Charles H. Evans.
- 4018 **A Model System for Studying Metastasis Using the Embryonic Chick.** Ann F. Chambers, Roslyn Shafir, and Victor Ling.
- \*4026 **Bleomycin Hydrolase Activity and Cytotoxicity in Human Tumors.** John S. Lazo, Carl J. Boland, and Peter E. Schwartz.
- 4032 **Metabolism and Covalent Binding to DNA of 7-Methylbenzo(a)pyrene.** Takeshi Kinoshita, Maria Konieczny, Regina Santella, and Alan M. Jeffrey.

- 4039 3-Deazaguanine: Inhibition of Initiation of Translation in L1210 Cells.** Rachel S. Rivest, David Irwin, and H. George Mandel.
- 4045 Tumor-initiating Activity and Metabolism of Polymethylated Phenanthrenes.** Edmond J. LaVoie, Victoria Bedenko, Lorraine Tulley-Freiler, and Dietrich Hoffmann.
- 4050 DNA Strand Breaks Caused by Inhibitors of DNA Synthesis: 1- $\beta$ -D-Arabinofuranosylcytosine and Aphidicolin.** R. J. Fram and D. W. Kufe.
- 4054 Clonal Analysis of the Stepwise Appearance of Anchorage Independence and Tumorigenicity in CAK, a Permanent Line of Mouse Cells.** David G. Thomassen and Robert DeMars.
- 4064 Intraspecies Variation in Transfer RNA Methyltransferases of Inbred Mice.** Mark Dizik, Noel M. Relyea, and Elsie Wainfan.
- 4068 Immunological and Pharmacological Characterization of Poly-DL-alanyl-modified *Erwinia carotovora* L-Asparaginase.** Jack R. Uren, Betty J. Hargis, and Peter Beardsley.
- 4072 Biological Properties of *N*<sup>4</sup>-Spermidine Derivatives and Their Potential in Anticancer Chemotherapy.** Carl W. Porter, Raymond J. Bergeron, and Neal J. Stolowich.
- 4079 Hypothetical Mechanism of Therapeutic Synergism Induced by the Combination of 6-Thioguanine and 3-[(4-Amino-2-methyl-5-pyrimidinyl)methyl]-1-(2-chloroethyl)-1-nitrosourea Hydrochloride.** Shuichi Fujimoto, Makoto Ogawa, and Yoshio Sakurai.
- \*4086 Heterogeneity in Growth Pattern and Drug Sensitivity of Primary Tumor and Metastases in the Human Tumor Colony-forming Assay.** Peter Schlag and Wolfgang Schreml.
- 4090 Amino Acid, Glucose, and Lactic Acid Utilization *in Vivo* by Rat Tumors.** Leonard A. Sauer, J. Webster Stayman III, and Robert T. Dauchy.
- 4098 Localization of a *M*, 52,000 Keratin in Basal Epithelial Cells of the Mouse Bladder and Expression throughout Neoplastic Progression.** Ian C. Summerhayes and Lan Bo Chen.
- \*4110 Heterogeneity of HLA-A, B, Ia-like, and Melanoma-associated Antigen Expression by Human Melanoma Cell Lines Analyzed with Monoclonal Antibodies and Flow Cytometry.** Scott W. Burchiel, John C. Martin, Kohzoh Imai, Soldano Ferrone, and Noel L. Warner.
- 4116 Neoplastic Transformation of Syrian Hamster Epidermal Cells *in Vitro*.** Joseph F. Sina, Matthews O. Bradley, and Thomas G. O'Brien.
- \*4124 Microtubule Complexes Correlated with Growth Rate and Water Proton Relaxation Times in Human Breast Cancer Cells.** Paula T. Beall, B. R. Brinkley, Donald C. Chang, and Carlton F. Hazlewood.
- 4131 Chromosomal Changes Associated with Progression of the Dunning R-3327 Rat Prostatic Adenocarcinoma System.** N. Wake, J. Isaacs, and A. A. Sandberg.
- 4143 Expression of  $\gamma$ -Glutamyl Transpeptidase Activity in the Developing Mouse Tooth, Intervertebral Disc, and Hair Follicle.** William L. Richards and Erle Grieg Astrup.
- 4153 Alkylation and *de Novo* Synthesis of Liver Cell DNA from C3H Mice during Continuous Dimethylnitrosamine Exposure.** C. Lindamood III, M. A. Bede!!, K. C. Billings, and J. A. Swenberg.
- 4158 Histochemical and Cytochemical Study of Butyrylcholinesterase Activity in Rat Hepatocellular Carcinomas Induced by 3'-Methyl-4-dimethylaminoazobenzene.** Shigeaki Yokoyama, Aiko Kaneko, Kimimaro Dempo, Noriyasu Chisaka, Michio Mori, and Tamenori Onoe.
- 4164 Protein Modifications Induced in Mouse Epidermis by Potent and Weak Tumor-promoting Hyperplasiogenic Agents.** Karen Gray Nelson, Katherine B. Stephenson, and Thomas J. Slaga.
- 4176 Keratin Modifications in Epidermis, Papillomas, and Carcinomas during Two-Stage Carcinogenesis in the SENCAR Mouse.** Karen Gray Nelson and Thomas J. Slaga.
- \*4182 Induction of Monocyte-Macrophage Differentiation in a New Diploid Line of Human Hematopoietic Cells (CM-S) by Phorbol Esters.** Gianni Monaco, Eliana Vigneti, Massimo Lancieri, Paolo Cornaglia-Ferraris, Giorgio Lambertenghi-Dellileri, and Roberto Revoltella.
- 4190 Influence of Time and Temperature on the Kinetics of Thermotolerance in L<sub>1</sub>A<sub>2</sub> Cells *in Vitro*.** Ole S. Nielsen and Jens Overgaard.
- 4197 Cytotoxic T-Cell-mediated Antitumor Effect of Levamisole against Murine Syngeneic Fibrosarcoma.** Katsushige Gomi, Makoto Morimoto, and Kikuo Nomoto.
- 4203 Effect of Acute Doses of 2-Acetylaminofluorene on the Capacity of Rat Liver to Repair Methylated Purines in DNA *in Vivo* and *in Vitro*.** Donald P. Cooper, Peter J. O'Connor, and Geoffrey P. Margison.
- 4210 Adenine Phosphoribosyltransferase Deficiency in Cultured Mouse Mammary Tumor FM3A Cells Resistant to 4-Carbamoylimidazolium 5-Olate.** Hideki Koyama and Hiro-aki Kodama.
- 4215 Benzo(a)pyrene Metabolism by Rat Liver Microsomes: Effects of Adding Purified Glutathione S-Transferases A, B, and C.** Ralf Morgenstern, Claes Guthenberg, Bengt Mannervik, Joseph W. DePierre, and Lars Ernster.
- 4222 Correlations of Inheritance and Expression between a Tumor Gene and the Cellular Homolog of the Rous Sarcoma Virus-transforming Gene in *Xiphophorus*.** Manfred Scharfl, Angelika Barnekow, Heinz Bauer, and Fritz Anders.

- \*4228** **Characterization of Some Glycolytic Enzymes from Human Retina and Retinoblastoma.** Frits A. Beemer, Annie M. C. Vlug, Gert Rijkssen, Alfred Hamburg, and Gerard E. J. Staal.
- 4233** **Superoxide Dismutase in Various Tissues from Rabbits Bearing the Vx-2 Carcinoma in the Maxillary Sinus.** Yoshikazu Takada, Tomoo Noguchi, Takashi Okabe, and Minoru Kajiyama.
- 4236** **Sequential Changes in Tumor Development Induced by 1,4-Dinitrosopiperazine in the Nasal Cavity of F344 Rats.** Tsuyoshi Takano, Tomoyuki Shirai, Tadashi Ogiso, Hiroyuki Tsuda, Shunkichi Baba, and Nobuyuki Ito.
- \*4241** **Reversibility of Bronchial Cell Atypia.** Gert Auer, Jutaro Ono, Magnus Nasiell, Torbjörn Caspersson, Harubumi Kato, Chimori Konaka, and Yoshihiro Hayata.
- \*4248** **Interactions between Normal Epithelial and Squamous Carcinoma Cells in Monolayer Culture.** Gerald C. Easty, Gisela Haemmerli, Dorothy M. Easty, and Peter Sträuli.
- 4256** **Communication: Immunohistochemical Detection of an Estrogen-regulated Protein by Monoclonal Antibodies.** Daniel R. Ciocca, David J. Adams, Robert J. Bjercke, Dean P. Edwards, and William L. McGuire.
- \*4259** **Communication: Several New Monoclonal Antibodies Directed to Human T-Cell Leukemia Antigens.** Shigeru Negoro and Ben K. Seon.
- 4263** **Letter to the Editor. Correspondence re: J. H. Pincus, A. K. Jameson, and A. E. Brandt, Immunotherapy of L1210 Leukemia Using Neuraminidase-modified Plasma Membranes Combined with Chemotherapy. Cancer Res., 41: 3082-3086, 1981.** J. J. Killion. A. E. Brandt.
- CLINICAL INVESTIGATIONS**
- 4265** **Phase I and Pharmacological Studies of Adriamycin Administered Intraperitoneally to Patients with Ovarian Cancer.** Robert F. Ozols, Robert C. Young, James L. Speyer, Paul H. Sugarbaker, Raymond Greene, Jean Jenkins, and Charles E. Myers.
- 4270** **Autologous Bone Marrow Transplantation in the Therapy of Small Cell Carcinoma of the Lung.** L. Michael Glode, William A. Robinson, Diethelm W. Hartmann, Jakob J. Klein, Mathew R. Thomas, and Nancy Morton.
- 4276** **Increase of HLA-DR4 in Melanoma Patients from Alabama.** Bruce O. Barger, Ronald T. Acton, Seng-Jaw Soong, Jeffrey Roseman, and Charles Balch.
- 4280** **In Vivo Measurements in Familial Polyposis: Kinetics and Location of Proliferating Cells in Colonic Adenomas.** Charles Lightdale, Martin Lipkin, and Eleanor Deschner.
- 4284** **Analysis of the Fecal Microflora and Its Enzymatic Activity in Individuals Genetically Predisposed to Colon Cancer.** Jane D. Keathley and Cynthia A. Needham.
- 4289** **Cytogenetic Studies of Long-Term Survivors of Childhood Acute Lymphoblastic Leukemia.** Leslie L. Robison, Diane C. Arthur, David W. Ball, Thomas J. Danzl, and Mark E. Nesbit.
- 4293** **Metabolic Balance across the Leg in Weight-losing Cancer Patients Compared to Depleted Patients without Cancer.** K. Bennegård, E. Edén, L. Ekman, T. Scherstén, and K. Lundholm.
- 4300** **Prostatic Hexosaminidase Activity in Patients with Benign Prostatic Hyperplasia and Prostatic Carcinoma.** Garnett B. Whitehurst, Jay P. Mashburn, Thomas G. Pretlow II, Edwin L. Bradley, Jr., and Emily A. Boohaker.
- 4304** **Announcements**
- 4306** **Recent Death**
- 4306** **Erratum**
- 4307** **Books Received**
- 4308** **Author Index**

# Cancer Research

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

## 42 (10)

*Cancer Res* 1982;42:3911-4307.

**Updated version** Access the most recent version of this article at:  
<http://cancerres.aacrjournals.org/content/42/10.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/42/10.citation>. Click on "Request Permissions" which will take you to the Copyright Clearance Center's (CCC) Rightslink site.