



## CONTENTS

### Advances in Brief

---

- 3325 Intravesical Gene Therapy: *In Vivo* Gene Transfer Using Recombinant Vaccinia Virus Vectors.** Sharon S. Lee, Laurence C. Eisenlohr, Peter A. McCue, Michael J. Mastrangelo, and Edmund C. Lattime.
- 3329 Expression and Cellular Localization of Messenger RNA for Plasminogen Activator Inhibitor Type 1 in Human Astrocytomas *in Vivo*.** Masaaki Yamamoto, Raymond Sawaya, Sanjeeva Mohanam, David J. Loskutoff, Janet M. Bruner, Velidi H. Rao, Kazunari Oka, Masamichi Tomonaga, Garth L. Nicolson, and Jasti S. Rao.
- 3333 Determination of Local Oxygen Consumption Rates in Tumors.** Mark W. Dewhirst, Timothy W. Secomb, Edgardo T. Ong, Richard Hsu, and Joseph F. Gross.
- 3337 Surface Protein Expression and Messenger RNA-splicing Analysis of CD44 in Uterine Cervical Cancer and Normal Cervical Epithelium.** Peter Dall, Karl-Heinz Heider, Armin Hekele, Gunther von Minckwitz, Manfred Kaufmann, Helmut Ponta, and Peter Herrlich.
- 3342 Polyvalent Melanoma Cell Vaccine Induces Delayed-Type Hypersensitivity and *in Vitro* Cellular Immune Response.** Andreas Barth, Dave S. B. Hoon, Leland J. Foshag, J. Anne Nizze, Estela Famatiga, Edward Okun, and Donald L. Morton.
- 3346 The Selective Antiproliferative Effects of  $\alpha$ -Tocopheryl Hemisuccinate and Cholesteryl Hemisuccinate on Murine Leukemia Cells Result from the Action of the Intact Compounds.** Marc W. Fariss, Michael B. Fortuna, Carleen K. Everett, J. Doyle Smith, David F. Trent, and Zora Djuric.
- 3352 Microvascular Permeability and Interstitial Penetration of Sterically Stabilized (Stealth) Liposomes in a Human Tumor Xenograft.** Fan Yuan, Michael Leunig, Shi Kun Huang, David A. Berk, Demetrios Papahadjopoulos, and Rakesh K. Jain.
- 3357 Tamoxifen Induces Hepatic Aneuploidy and Mitotic Spindle Disruption after a Single *in Vivo* Administration to Female Sprague-Dawley Rats.** Linda M. Sargent, Yvonne P. Dragan, Nicole Bahnb, John E. Wiley, Carol A. Sattler, Pauline Schroeder, Gerald L. Sattler, V. Craig Jordan, and Henry C. Pitot.
- 3361 Concomitant *p53* Gene Mutation and Increased Radiosensitivity in Rat Lung Embryo Epithelial Cells during Neoplastic Development.** D. S. F. Biard, M. Martin, Y. Le Rhun, A. Duthu, J. L. Lefaix, E. May, and P. May.
- 3365 *In Vivo* Radiation Protection by Nitric Oxide Modulation.** James Liebmann, Anne Marie DeLuca, Deborah Coffin, Larry K. Keefer, David Venzon, David A. Wink, and James B. Mitchell.
- 3369 Purification of an  $\alpha$  Class Glutathione S-Transferase from Melphalan-resistant Chinese Hamster Ovary Cells and Demonstration of Its Ability to Catalyze Melphalan-Glutathione Adduct Formation.** Andrew G. Hall, Elizabeth Matheson, Ian D. Hickson, Sally A. Foster, and Linda Hogarth.
- 3373 Frequent Replication Errors at Microsatellite Loci in Tumors of Patients with Multiple Primary Cancers.** Akira Horii, Hye-Jung Han, Mamoru Shimada, Akio Yanagisawa, Yo Kato, Hirotohi Ohta, Wataru Yasui, Eiichi Tahara, and Yusuke Nakamura.
- 3376 Type and Number of *Ki-ras* Point Mutations Relate to Stage of Human Colorectal Cancer.** Peter Moerkerk, Jan Willem Arends, Marjolein van Driel, Adriaan de Bruine, Anton de Goeij, and Joop ten Kate.
- 3379 Microsatellite Instability Occurs Frequently and in Both Diploid and Aneuploid Cell Populations of Barrett's-associated Esophageal Adenocarcinomas.** Stephen J. Meltzer, Jing Yin, Beth Manin, Mung-Gan Rhyu, John Cottrell, Eric Hudson, Jacquelyn L. Redd, Mark J. Krasna, John M. Abraham, and Brian J. Reid.
- 3383 Mutations in the Coding Region of *c-MYC* in AIDS-associated and Other Aggressive Lymphomas.** Helen M. Clark, Takahiro Yano, Takemi Otsuki, Elaine S. Jaffe, Darryl Shibata, and Mark Raffeld.
- 3387 HER2/neu-derived Peptides Are Shared Antigens among Human Non-Small Cell Lung Cancer and Ovarian Cancer.** Ichiro Yoshino, Peter S. Goedegebuure, George E. Peoples, Akhil S. Parikh, J. Michael DiMaio, H. Kim Lysterly, Adi F. Gazdar, and Timothy J. Eberlein.
- 3391 Induction of *WAF1/CIP1* by a *p53*-independent Pathway.** Paolo Michieli, Marcio Chedid, David Lin, Jacalyn H. Pierce, W. Edward Mercer, and David Givol.
- 3396 Frequent Somatic Mutation of the *MTS1/CDK4I* (Multiple Tumor Suppressor/Cyclin-dependent Kinase 4 Inhibitor) Gene in Esophageal Squamous Cell Carcinoma.** Takahiro Mori, Koh Miura, Takahisa Aoki, Tetsuro Nishihira, Shozo Mori, and Yusuke Nakamura.

### Review

---

- 3398 Genetic Changes in Epithelial Solid Neoplasia.** Eduardo Rodriguez, Chandrika Sreekantaiah, and R. S. K. Chaganti.

### Regular Articles

---

#### Biochemistry and Biophysics

- 3407 A Fumagillin Derivative Angiogenesis Inhibitor, AGM-1470, Inhibits Activation of Cyclin-dependent Kinases and Phosphorylation of Retinoblastoma Gene Product but not Protein Tyrosyl Phosphorylation or Protooncogene Expression in Vascular Endothelial Cells.** Jun'ichi Abe, Wei Zhou, Noriko Takuwa, Jun'ichi Taguchi, Kiyoshi Kurokawa, Mamoru Kumada, and Yoh Takuwa.

#### Carcinogenesis

- 3413 Development and Characterization of Nontumorigenic and Tumorigenic Epithelial Cell Lines from Rat Dorsal-Lateral Prostate.** David Danielpour, Kenji Kadomatsu, Mario A. Anzano, Joseph M. Smith, and Michael B. Sporn.
- 3422 Stable Expression of Human CYP1A2 and *N*-Acetyltransferases in Chinese Hamster CHL Cells: Mutagenic Activation of 2-Amino-3-methylimidazo[4,5-*f*]quinoline and 2-Amino-3,8-dimethylimidazo[4,5-*f*]quinoxaline.** Yoshiki Yanagawa, Minoru Sawada, Takeo Deguchi, Frank J. Gonzalez, and Tetsuya Kamataki.

- 3428 **Inhibitory Effects of Black Tea, Green Tea, Decaffeinated Black Tea, and Decaffeinated Green Tea on Ultraviolet B Light-induced Skin Carcinogenesis in 7,12-Dimethylbenz[*a*]anthracene-initiated SKH-1 Mice.** Zhi Y. Wang, Mou-Tuan Huang, You-Rong Lou, Jian-Guo Xie, Kenneth R. Reuhl, Harold L. Newmark, Chi-Tang Ho, Chung S. Yang, and Allan H. Conney.

### Clinical Investigations

- 3436 **Phase Ib Trial of Pentoxifylline and Ciprofloxacin in Patients Treated with Interleukin-2 and Lymphokine-activated Killer Cell Therapy for Metastatic Renal Cell Carcinoma.** John A. Thompson, James A. Bianco, Mark C. Benyunes, Marcus A. Neubauer, John T. Slattery, and Alexander Fefer.

### Endocrinology

- 3442 **Inhibition of Growth of Human Small Cell Lung Cancer by Bromocriptine.** Miyuki Ishibashi, Michio Fujisawa, Hisashi Furue, Yoshiharu Maeda, Masashi Fukayama, and Tohru Yamaji.
- 3447 **Regulation of Synthesis of the Transformation-induced Protein, Leukocyte Plastin, by Ovarian Steroid Hormones.** John Leavitt, Zong Ping Chen, Charles J. Lockwood, and Frederick Schatz.
- 3455 **Expression and Localization of Somatostatin Receptor SSTR1, SSTR2, and SSTR3 Messenger RNAs in Primary Human Tumors using *in Situ* Hybridization.** J. C. Reubi, J. C. Schaer, B. Waser, and G. Mengod.

### Experimental Therapeutics

- 3460 **B3(Fab)-PE38<sup>M</sup>: A Recombinant Immunotoxin in Which a Mutant Form of *Pseudomonas* Exotoxin Is Fused to the Fab Fragment of Monoclonal Antibody B.** MuHyeon Choe, Keith O. Webber, and Ira Pastan.
- 3468 **Biochemical Pharmacology of Homologous Alicyclic Mixed Amine Platinum(II) Complexes in Sensitive and Resistant Tumor Cell Lines.** Motofumi Yoshida, Abdul R. Khokhar, and Zahid H. Siddik.
- 3474 **Enhancement of Merocyanine 540 Uptake and Photodynamic Cell Killing by Salicylates.** Jimmy B. Feix, M. S. Anderson, and B. Kalyanaraman.
- 3479 ***In Vitro* Evaluation of DNA-DNA Hybridization as a Two-Step Approach in Radioimmunotherapy of Cancer.** Ebo S. Bos, Will H. A. Kuijpers, Marjolein Meesters-Winters, Diep T. Pham, Annemarie S. de Haan, Anton M. van Doornmalen, Frans M. Kaspersen, Constant A. A. van Boeckel, and Françoise Gougeon-Bertrand.
- 3487 **Elevated DNA Polymerase  $\alpha$ , DNA Polymerase  $\beta$ , and DNA Topoisomerase II in a Melphalan-resistant Rhabdomyosarcoma Xenograft That Is Cross-Resistant to Nitrosoureas and Topotecan.** Henry S. Friedman, M. Eileen Dolan, Scott H. Kaufmann, O. Michael Colvin, Owen W. Griffith, Robert C. Moschel, S. Clifford Schold, Darell D. Bigner, and Francis Ali-Osman.
- 3494 **Tributyrin: A Prodrug of Butyric Acid for Potential Clinical Application in Differentiation Therapy.** Zi-Xing Chen and Theodore R. Breitman.
- 3500 **Enhanced Replicative Bypass of Platinum-DNA Adducts in Cisplatin-resistant Human Ovarian Carcinoma Cell Lines.** Edward L. Mamenta, Eric E. Poma, William K. Kaufmann, Dean A. Delmastro, Heather L. Grady, and Stephen G. Chaney.
- 3506 **Enhancement of Tumor Radioresponse of a Murine Mammary Carcinoma by Paclitaxel.** Luka Milas, Nancy R. Hunter, Kathryn A. Mason, Belma Kurdoglu, and Lester J. Peters.

### Immunology

- 3511 **Human Monoclonal Antibody Identified an Immunoreactive Tetrapeptide Sequence (Lys-Tyr-Gln-Ile) in *M<sub>r</sub> 43,000* Protein of Human Melanoma.** Takanori Oka, Yoshikazu Kikumoto, Keiichi Itakura, Donald L. Morton, and Reiko F. Irie.
- 3516 **Immunotherapy of Bladder Cancer with Cytokine Gene-modified Tumor Vaccines.** Shiro Saito, Rajat Bannerji, Bernd Gansbacher, Felicia M. Rosenthal, Peter Romanenko, Warren D. W. Heston, William R. Fair, and Eli Gilboa.
- 3521 **Adenosine Inhibits the Adhesion of Anti-CD3-activated Killer Lymphocytes to Adenocarcinoma Cells through an A<sub>3</sub> Receptor.** Willena M. MacKenzie, David W. Hoskin, and Jonathan Blay.
- 3527 **Effect of Isotype on Internalization and Cytotoxicity of CD19-Ricin A Immunotoxins.** Ypke V. J. M. van Oosterhout, Ingrid E. van den Herik-Oudijk, Hans M. C. Wessels, Theo de Witte, Jan G. J. van de Winkel, and Frank W. M. B. Preijers.

### Molecular Biology and Genetics

- 3533 **Chromosomal Loss and Breakage in Mouse Bone Marrow and Spleen Cells Exposed to Benzene *in Vivo*.** Hongwei Chen, Doppalapudi S. Rupa, Rajpal Tomar, and David A. Eastmond.
- 3540 **Limonene Chemoprevention of Mammary Carcinoma Induction following Direct *in Situ* Transfer of *v-Ha-ras*.** Michael N. Gould, Cynthia J. Moore, Rong Zhang, Bingcheng Wang, Wendy S. Kennan, and Jill D. Haag.
- 3544 **Alterations in  $\beta$ -Catenin Phosphorylation and Plakoglobin Expression in Human Breast Cancer Cells.** Connie L. Sommers, Edward P. Gelmann, Rolf Kemler, Pamela Cowin, and Stephen W. Byers.
- 3553 **Association of APC Gene Mutations and Histological Characteristics of Colorectal Adenomas.** Laura De Benedetti, Stefania Sciallero, Viviana Gismondi, Rosella James, Anna Bafico, Roberta Biticchi, Emiliana Masetti, Luigina Bonelli, Abdelhamid Heouaine, Massimo Picasso, Joanna Groden, Margaret Robertson, Mauro Risio, Renzo Caprilli, Paolo Bruzzi, Raymond L. White, Hugo Aste, Leonardo Santi, Liliana Varesco, and Giovanni Battista Ferrara.
- 3557 **Telomere Shortening Associated with Disease Evolution Patterns in Myelodysplastic Syndromes.** Junko H. Ohyashiki, Kazuma Ohyashiki, Toshikatsu Fujimura, Ken Kawakubo, Takashi Shimamoto, Atsuhiko Iwabuchi, and Keisuke Toyama.
- 3561 **Loss of Amplified *c-myc* Genes in the Spontaneously Differentiated HL-60 Cells.** Noriaki Shimizu, Hitoshi Nakamura, Takumi Kadota, Kenji Kitajima, Tsukasa Oda, Tetsuo Hirano, and Hiroyasu Utiyama.
- 3568 **Detection of *K-ras* Mutations in the Stool of Patients with Pancreatic Adenocarcinoma and Pancreatic Ductal Hyperplasia.** Carlos Caldas, Stephan A. Hahn, Ralph H. Hruban, Mark S. Redston, Charles J. Yeo, and Scott E. Kern.
- 3574 **Potential Markers of Prostate Cancer Aggressiveness Detected by Fluorescence *in Situ* Hybridization in Needle Biopsies.** Satoru Takahashi, Junqi Qian, James A. Brown, Antonio Alcaraz, David G. Bostwick, Michael M. Lieber, and Robert B. Jenkins.

### Tumor Biology

- 3580 **Differential Expression of Nuclear Retinoid Receptors in Normal, Premalignant, and Malignant Head and Neck Tissues.** Xiao-Chun Xu, Jae Y. Ro, Jin S. Lee, Dong M. Shin, Waun K. Hong, and Reuben Lotan.
- 3588 **Mutations in the Conserved Regions of *p53* Are Infrequent in Betel-associated Oral Cancers from Papua New Guinea.** S. Thomas, J. Brennan, G. Martel, I. Frazer, R. Montesano, D. Sidransky, and M. Hollstein.

- 3594 **Castration Induces Apoptosis in the Ventral Prostate but not in an Androgen-sensitive Prostatic Adenocarcinoma in the Rat.** Anna Brändström, Patrick Westin, Anders Bergh, Stefan Cajander, and Jan-Erik Damber.
- 3602 **Effects of Neuropeptide Analogues on Calcium Flux and Proliferation in Lung Cancer Cell Lines.** Paul A. Bunn, Jr., Daniel Chan, John Stewart, Lajos Gera, Russell Tolley, Philip Jewett, Maureen Tagawa, Charlotte Alford, Tohru Mochzuki, and Noboru Yanaihara.
- 3611 **Autocrine Factor Enhancing the Secretion of *M*, 95,000 Gelatinase (Matrix Metalloproteinase 9) in Serum-free Medium Conditioned with Murine Metastatic Colon Carcinoma Cells.** Sumiko Hyuga, Yohko Nishikawa, Keita Sakata, Hidekazu Tanaka, Sadako Yamagata, Kenji Sugita, Shinsuke Saga, Mutsushi Matsuyama, and Satoru Shimizu.
- 3617 **Anticarcinogenic Activity of Indole-3-carbinol Acid Products: Ultrasensitive Bioassay by Trout Embryo Microinjection.** Roderick H. Dashwood, Arthur T. Fong, Daniel N. Arbogast, Leonard F. Bjeldanes, Jerry D. Hendricks, and George S. Bailey.
- 3620 **A Modified Invasion-3-(4,5-Dimethylthiazole-2-yl)-2,5-diphenyltetrazolium Bromide Assay for Quantitating Tumor Cell Invasion.** Hiroshi Imamura, Sonshin Takao, and Takashi Aikou.

---

## Meeting Report

---

- 3625 **Quantitative Estimation and Prediction of Risk at the International Agency for Research on Cancer.** Henrik Møller, Harri Vainio, and Elisabeth Heseltine.

---

### 3628 Announcements

Future Annual Meetings of the AACR  
 Gertrude Elion Cancer Research Award  
 New Privileges and Responsibilities of  
 Corresponding Membership  
 Broadening of Associate Membership  
 AACR Special Conferences in Cancer  
 Research  
 Recent Deaths  
 Calendar of Events

---

**AACR forms available  
 in the back of this issue:**

**Application for Active and  
 Corresponding Membership**

**Application for Associate  
 Membership**

---



---

**Also available in the back  
 of this issue:**

**Guidelines for Submitting Disks to  
 AACR Publications**

---

### 3632 Employment Register

### 3642 Author Index

# Cancer Research

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

## 54 (13)

*Cancer Res* 1994;54:3325-3631.

**Updated version** Access the most recent version of this article at:  
<http://cancerres.aacrjournals.org/content/54/13.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/54/13.citation>. Click on "Request Permissions" which will take you to the Copyright Clearance Center's (CCC) Rightslink site.