



## CONTENTS\*

*Advances in Brief begin on p. 4042.*

- 3831** Distribution of Misonidazole Adducts in 9L Gliosarcoma Tumors and Spheroids: Implications for Oxygen Distribution. Allan J. Franko, Cameron J. Koch, and Don P. J. Boisvert.
- 3838** Long-Term Growth Suppression of Human Glioma Xenografts by Chemoimmunoconjugates of 4-Desacetylvinblastine-3-carboxyhydrazide and Monoclonal Antibody 9.2.27. Martin Schrappe, Thomas F. Bumol, Lynn D. Apelgren, Stephen L. Briggs, Gary A. Koppel, Dorothy D. Markowitz, Barbara M. Mueller, and Ralph A. Reisfeld.
- 3845** Effect of Systemic Hyperinsulinemia in Cancer Patients. Martin J. Heslin, Elliot Newman, Ronald F. Wolf, Peter W. T. Pisters, and Murray F. Brennan.
- 3851** Modulation of Ethylnitrosourea-induced Toxicity and Mutagenicity in Human Cells by *O*<sup>6</sup>-Benzylguanine. S. Maynard Bronstein, Michelle J. Hooth, James A. Swenberg, and Thomas R. Skopek.
- 3857** Mechanism-related Circumvention of Acquired *cis*-Diamminedichloro Resistance Using Two Pairs of Human Ovarian Carcinoma Cell Lines by Ammine/Amine Platinum(IV) Dicarboxylates. Lloyd R. Kelland, Prakash Mistry, George Abel, Swee Y. Loh, Ciaran F. O'Neill, Barry A. Murrer, and Kenneth R. Harrap.
- 3865** Relation of Obesity and Body Fat Distribution to Endometrial Cancer in Shanghai, China. Xiao Ou Shu, Louise A. Brinton, Wei Zheng, Christine A. Swanson, Maureen C. Hatch, Yu-Tang Gao, and Joseph F. Fraumeni, Jr.
- 3871** Phase II Study of Intravenous Idarubicin in Unfavorable Non-Hodgkin's Lymphoma. Delvyn C. Case, Jr., Mirjam C. Gerber, Richard A. Gams, Jeffrey Crawford, May L. Votaw, Celestia S. Higano, Brian T. Pruitt, and James Gould.
- 3875** Inhibition of Tobacco-specific Nitrosamine-induced Lung Tumorigenesis in A/J Mice by Green Tea and Its Major Polyphenol as Antioxidants. Yong Xu, Chi-Tang Ho, Shantu G. Amin, Chi Han, and Fung-Lung Chung.
- 3880** Tumoricidal Activation of Murine Resident Peritoneal Macrophages by Interleukin 2 and Tumor Necrosis Factor  $\alpha$ . Srdan Verstovsek, Darbie Maccubbin, M. Jane Ehrke, and Enrico Mihich.
- 3886** 1- $\beta$ -D-Arabinofuranosylcytosine-diphosphate-choline Is Formed by the Reversal of Cholinephosphotransferase and not via Cytidylyltransferase. Gregory L. Kucera and Robert L. Capizzi.
- 3892** Identification of Novel Antimitotic Agents Acting at the Tubulin Level by Computer-assisted Evaluation of Differential Cytotoxicity Data. Kenneth D. Paull, Chii M. Lin, Louis Malspeis, and Ernest Hamel.
- 3901** Free Human Chorionic Gonadotropin  $\beta$  Subunit in Gonadal and Nongonadal Neoplasms. Isabelle Marcillac, Frédéric Troalen, Jean-Michel Bidart, Pascale Ghillani, Vincent Ribrag, Bernard Escudier, Benoit Malassagne, Jean-Pierre Droz, Catherine Lhommé, Philippe Rougier, Pierre Duvillard, Michel Prade, Pierre-Marie Lugagne, François Richard, Thierry Poynard, Claude Bohuon, Jack Wands, and Dominique Bellet.
- 3908** Intrinsic Resistance to Methotrexate in Human Soft Tissue Sarcoma Cell Lines. Wei-Wei Li, James T. Lin, Barry I. Schweitzer, William P. Tong, Donna Niedzwiecki, and Joseph R. Bertino.
- 3914** Correlation of Loss of Alleles on the Short Arms of Chromosomes 11 and 17 with Metastasis of Primary Breast Cancer to Lymph Nodes. Ken-ichi Takita, Takaaki Sato, Mutsuko Miyagi, Masahiro Watatani, Futoshi Akiyama, Goi Sakamoto, Fujio Kasumi, Rikiya Abe, and Yusuke Nakamura.
- 3918** *p53* Mutations Occur in Aggressive Breast Cancer. Raoul Mazars, Laura Spinardi, Meryem BenCheikh, Joelle Simony-Lafontaine, Philippe Jeanteur, and Charles Theillet.
- 3924** Insulin Receptor Expression and Function in Human Breast Cancer Cell Lines. Giovanni Milazzo, Francesco Giorgino, Giuseppe Damante, Chin Sung, Martha R. Stampfer, Riccardo Vigneri, Ira D. Goldfine, and Antonino Belfiore.
- 3931** Genetic Modification of a Murine Fibrosarcoma to Produce Interleukin 7 Stimulates Host Cell Infiltration and Tumor Immunity. William H. McBride, J. Dean Thacker, Sian Comora, James S. Economou, David Kelley, Donna Hogge, Steven M. Dubinett, and Graeme J. Dougherty.
- 3938** Retinoid Antagonism of Estrogen-responsive Transforming Growth Factor  $\alpha$  and *p52* Gene Expression in Breast Carcinoma Cells. Joseph A. Fontana, Clara Nervi, Zhi-Ming Shao, and Anton M. Jetten.
- 3946** *N-ras* Mutation in Ultraviolet Radiation-induced Murine Skin Cancers. William E. Pierceall, Margaret L. Kripke, and Honnavara N. Ananthaswamy.
- 3952** Mechanism of *c-fos* Induction by Active Oxygen. Paul A. Amstad, Georg Krupitza, and Peter A. Cerutti.
- 3961** *Salmonella typhimurium* Strains Expressing Human Arylamine *N*-Acetyltransferases: Metabolism and Mutagenic Activation of Aromatic Amines. Denis M. Grant, P. David Josephy, Heather L. Lord, and Lesley D. Morrison.
- 3965** Genetic Changes of Both *p53* Alleles Associated with the Conversion from Colorectal Adenoma to Early Carcinoma in Familial Adenomatous Polyposis and Non-Familial Adenomatous Polyposis Patients. Rei Kikuchi-Yanoshita, Motoko Konishi, Satomi Ito, Madoka Seki, Kiyoko Tanaka, Yoshiharu Maeda, Hiroshi Iino, Masashi Fukayama, Morio Koike, Takeo Mori, Hitoshi Sakuraba, Hiroyuki Fukunari, Takeo Iwama, and Michiko Miyaki.
- 3972** Distribution of the Glucose Transporters in Human Brain Tumors. Tatsuya Nishioka, Yoshifumi Oda, Yutaka Seino, Taizo Yamamoto, Nobuya Inagaki, Hideki Yano, Hiroo Imura, Ryuichi Shigemoto, and Haruhiko Kikuchi.
- 3980** Complete Inhibition of Growth followed by Death of Human Malignant Melanoma Cells *in Vitro* and Regression of Human Melanoma Xenografts in Immunodeficient Mice by Camptothecins. Panayotis Pantazis, Hellmuth R. Hinz, John T. Mendoza, A. J. Kozielski, Leo J. Williams, Jr., John S. Stehlin, Jr., and Beppino C. Giovanella.
- 3988** Localization of Tumors and Evaluation of Their State of Oxygenation by Phosphorescence Imaging. David F. Wilson and George J. Cerniglia.

\* The CONTENTS arranged by Subject Category can be found immediately following these CONTENTS.

- 3994 Growth Inhibition of Human Glioma Cells Induced by 8-Chloroadenosine, an Active Metabolite of 8-Chloro Cyclic Adenosine 3':5'-Monophosphate.** Cornelis H. Langeveld, Cornelis A. M. Jongenelen, Jan J. Heimans, and Johannes C. Stoof.
- 4000 Subcellular Distribution of the Anticancer Drug Mitoxantrone in Human and Drug-resistant Murine Cells Analyzed by Flow Cytometry and Confocal Microscopy and Its Relationship to the Induction of DNA Damage.** Paul J. Smith, Hazel R. Sykes, Mary E. Fox, and Isla J. Furlong.
- 4009 HLA Class II Antigen Expression in Human Papillomavirus-associated Cervical Cancer.** Susan S. Glew, Margaret Duggan-Keen, Teresa Cabrera, and Peter L. Stern.
- 4017 Herbimycin A, an Inhibitor of Tyrosine Kinase, Prolongs Survival of Mice Inoculated with Myeloid Leukemia C1 Cells with High Expression of *v-abl* Tyrosine Kinase.** Yoshio Honma, Junko Okabe-Kado, Takashi Kasukabe, Motoo Hozumi, Hiroaki Kodama, Sachiko Kajigaya, Toshio Suda, and Yoshisada Miura.
- 4021 Limonene-induced Regression of Mammary Carcinomas.** Jill D. Haag, Mary J. Lindstrom, and Michael N. Gould.
- 4027 Differentiation-induced Changes in Protein-Tyrosine Phosphatase Activity and Commensurate Expression of CD45 in Human Leukemia Cell Lines.** Marina Buzzi, Li Lu, Anthony J. Lombardi, Jr., Marshall R. Posner, David L. Brautigam, Lauren D. Fast, and A. Raymond Frackelton, Jr.
- 4036 Expression of a Transfected *H-2K<sup>b</sup>* Gene in B16 Cells Correlates with Suppression of Liver Metastases in Triple Immunodeficient Mice.** Lido Calorini, Anna Marozzi, H. Randolph Byers, Gerald L. Waneck, Kenneth W. Lee, Kurt J. Isselbacher, and Sebastiano Gattoni-Celli.
- 4050 Enhancement of Antioxidant and Phase II Enzymes by Oral Feeding of Green Tea Polyphenols in Drinking Water to SKH-1 Hairless Mice: Possible Role in Cancer Chemoprevention.** Sikandar G. Khan, Santosh K. Katiyar, Rajesh Agarwal, and Hasan Mukhtar.
- 4053 3-Aminobenzamide Can Act as a Cocarcinogen for Ultraviolet Light-induced Carcinogenesis in Mouse Skin.** John H. Epstein and James E. Cleaver.
- 4055 Correlation between the Location of Germ-Line Mutations in the *APC* Gene and the Number of Colorectal Polyps in Familial Adenomatous Polyposis Patients.** Hiroki Nagase, Yasuo Miyoshi, Akira Horii, Takahisa Aoki, Michio Ogawa, Joji Utsunomiya, Shozo Baba, Takehiko Sasazuki, and Yusuke Nakamura.

---

## MEETING REPORT

- 4058 Workshop Report from the Division of Research Grants, National Institutes of Health: Metal Carcinogenesis—A Chemical Pathology Study Section Workshop.** Karen E. Wetterhahn, Bruce Demple, Molly Kulesz-Martin, and Edmund S. Copeland.
- 
- 4064 Announcements**  
 Eighty-Fourth Annual Meeting of the AACR  
 AACR Special Conferences in Cancer Research  
 Recent Death  
 Calendar of Events
- 4066 Erratum**  
 C. R. Boland *et al.*, 51: 657–665, 1991.
- 4067 Author Index**

---

## ADVANCES IN BRIEF

- 4042 Transforming Growth Factor  $\beta_1$  Induces Apoptotic Cell Death in Cultured Human Gastric Carcinoma Cells.** Kazuyoshi Yanagihara and Masaru Tsumuraya.
- 4046 Abundant Expression of Immunoreactive Endothelin 1 in Mammary Phyllodes Tumor: Possible Paracrine Role of Endothelin 1 in the Growth of Stromal Cells in Phyllodes Tumor.** Jun-ichi Yamashita, Michio Ogawa, Hiroshi Egami, Shuichi Matsuo, Hideo Kiyohara, Kazuo Inada, Shin-ichi Yamashita, and Syoji Fujita.

**NOTE: 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**

# Cancer Research

VOLUME 52 • NUMBER 14

## CONTENTS Arranged by Subject Category

---

### ADVANCES IN BRIEF

- 4042** Transforming Growth Factor  $\beta$ , Induces Apoptotic Cell Death in Cultured Human Gastric Carcinoma Cells. Kazuyoshi Yanagihara and Masaru Tsumuraya.
- 4046** Abundant Expression of Immunoreactive Endothelin 1 in Mammary Phyllodes Tumor: Possible Paracrine Role of Endothelin 1 in the Growth of Stromal Cells in Phyllodes Tumor. Jun-ichi Yamashita, Michio Ogawa, Hiroshi Egami, Shuichi Matsuo, Hideo Kiyohara, Kazuo Inada, Shin-ichi Yamashita, and Syoji Fujita.
- 4050** Enhancement of Antioxidant and Phase II Enzymes by Oral Feeding of Green Tea Polyphenols in Drinking Water to SKH-1 Hairless Mice: Possible Role in Cancer Chemoprevention. Sikandar G. Khan, Santosh K. Katiyar, Rajesh Agarwal, and Hasan Mukhtar.
- 4053** 3-Aminobenzamide Can Act as a Cocarcinogen for Ultraviolet Light-induced Carcinogenesis in Mouse Skin. John H. Epstein and James E. Cleaver.
- 4055** Correlation between the Location of Germ-Line Mutations in the APC Gene and the Number of Colorectal Polyps in Familial Adenomatous Polyposis Patients. Hiroki Nagase, Yasuo Miyoshi, Akira Horii, Takahisa Aoki, Michio Ogawa, Joji Utsunomiya, Shozo Baba, Takehiko Sasazuki, and Yusuke Nakamura.

---

### BASIC SCIENCES

#### *Biochemistry and Biophysics*

- 3886** 1- $\beta$ -D-Arabinofuranosylcytosine-diphosphate-choline Is Formed by the Reversal of Cholinephosphotransferase and not via Cytidylyltransferase. Gregory L. Kucera and Robert L. Capizzi.
- 3988** Localization of Tumors and Evaluation of Their State of Oxygenation by Phosphorescence Imaging. David F. Wilson and George J. Cerniglia.
- 4000** Subcellular Distribution of the Anticancer Drug Mitoxantrone in Human and Drug-resistant Murine Cells Analyzed by Flow Cytometry and Confocal Microscopy and Its Relationship to the Induction of DNA Damage. Paul J. Smith, Hazel R. Sykes, Mary E. Fox, and Isla J. Furlong.

#### *Carcinogenesis*

- 3851** Modulation of Ethylnitrosourea-induced Toxicity and Mutagenicity in Human Cells by *O*<sup>6</sup>-Benzylguanine. S. Maynard Bronstein, Michelle J. Hooth, James A. Swenberg, and Thomas R. Skopek.
- 3875** Inhibition of Tobacco-specific Nitrosamine-induced Lung Tumorigenesis in A/J Mice by Green Tea and Its Major Polyphenol as Antioxidants. Yong Xu, Chi-Tang Ho, Shantu G. Amin, Chi Han, and Fung-Lung Chung.
- 3946** N-ras Mutation in Ultraviolet Radiation-induced Murine Skin Cancers. William E. Pierceall, Margaret L. Kripke, and Honnavara N. Ananthaswamy.
- 3952** Mechanism of c-fos Induction by Active Oxygen. Paul A. Amstad, Georg Krupitza, and Peter A. Cerutti.

- 3961** *Salmonella typhimurium* Strains Expressing Human Arylamine N-Acetyltransferases: Metabolism and Mutagenic Activation of Aromatic Amines. Denis M. Grant, P. David Josephy, Heather L. Lord, and Lesley D. Morrison.

#### *Endocrinology*

- 3924** Insulin Receptor Expression and Function in Human Breast Cancer Cell Lines. Giovanni Milazzo, Francesco Giorgino, Giuseppe Damante, Chin Sung, Martha R. Stampfer, Riccardo Vigneri, Ira D. Goldfine, and Antonino Belfiore.
- 3938** Retinoid Antagonism of Estrogen-responsive Transforming Growth Factor  $\alpha$  and pS2 Gene Expression in Breast Carcinoma Cells. Joseph A. Fontana, Clara Nervi, Zhi-Ming Shao, and Anton M. Jetten.

#### *Immunology*

- 3880** Tumoricidal Activation of Murine Resident Peritoneal Macrophages by Interleukin 2 and Tumor Necrosis Factor  $\alpha$ . Srdan Verstovsek, Darbie Maccubbin, M. Jane Ehrke, and Enrico Mihich.
- 3931** Genetic Modification of a Murine Fibrosarcoma to Produce Interleukin 7 Stimulates Host Cell Infiltration and Tumor Immunity. William H. McBride, J. Dean Thacker, Sian Comora, James S. Economou, David Kelley, Donna Hogge, Steven M. Dubinett, and Graeme J. Dougherty.
- 4027** Differentiation-induced Changes in Protein-Tyrosine Phosphatase Activity and Commensurate Expression of CD45 in Human Leukemia Cell Lines. Marina Buzzi, Li Lu, Anthony J. Lombardi, Jr., Marshall R. Posner, David L. Brautigan, Lauren D. Fast, and A. Raymond Frackelton, Jr.

#### *Molecular Biology and Genetics*

- 3914** Correlation of Loss of Alleles on the Short Arms of Chromosomes 11 and 17 with Metastasis of Primary Breast Cancer to Lymph Nodes. Ken-ichi Takita, Takaaki Sato, Mutsuko Miyagi, Masahiro Watatani, Futoshi Akiyama, Goi Sakamoto, Fujio Kasumi, Rikiya Abe, and Yusuke Nakamura.
- 3918** p53 Mutations Occur in Aggressive Breast Cancer. Raoul Mazars, Laura Spinardi, Meryem BenCheikh, Joelle Simony-Lafontaine, Philippe Jeanteur, and Charles Theillet.
- 3965** Genetic Changes of Both p53 Alleles Associated with the Conversion from Colorectal Adenoma to Early Carcinoma in Familial Adenomatous Polyposis and Non-Familial Adenomatous Polyposis Patients. Rei Kikuchi-Yanoshita, Motoko Konishi, Satomi Ito, Madoka Seki, Kiyoko Tanaka, Yoshiharu Maeda, Hiroshi Iino, Masashi Fukayama, Morio Koike, Takeo Mori, Hitoshi Sakuraba, Hiroyuki Fukunari, Takeo Iwama, and Michiko Miyaki.
- 4036** Expression of a Transfected H-2K<sup>b</sup> Gene in B16 Cells Correlates with Suppression of Liver Metastases in Triple Immunodeficient Mice. Lido Calorini, Anna Marozzi, H. Randolph Byers, Gerald L. Waneck, Kenneth W. Lee, Kurt J. Isselbacher, and Sebastiano Gattoni-Celli.

#### *Preclinical Pharmacology and Experimental Therapeutics*

- 3838** Long-Term Growth Suppression of Human Glioma Xenografts by Chemoimmunoconjugates of 4-Desacetylvinblastine-3-carboxyhydrazide and Monoclonal Antibody 9.2.27. Martin Schrappe, Thomas F. Bumol, Lynn D. Apelgren, Stephen L. Briggs, Gary A. Koppel, Dorothy D. Markowitz, Barbara M. Mueller, and Ralph A. Reisfeld.

## CLINICAL AND EPIDEMIOLOGICAL INVESTIGATIONS

### Clinical

- 3857 **Mechanism-related Circumvention of Acquired *cis*-Diamminedichloroplatinum(II) Resistance Using Two Pairs of Human Ovarian Carcinoma Cell Lines by Ammine/Amine Platinum(IV) Dicarboxylates.** Lloyd R. Kelland, Prakash Mistry, George Abel, Swee Y. Loh, Ciaran F. O'Neill, Barry A. Murrer, and Kenneth R. Harrap.
- 3892 **Identification of Novel Antimitotic Agents Acting at the Tubulin Level by Computer-assisted Evaluation of Differential Cytotoxicity Data.** Kenneth D. Paull, Chii M. Lin, Louis Malspeis, and Ernest Hamel.
- 3908 **Intrinsic Resistance to Methotrexate in Human Soft Tissue Sarcoma Cell Lines.** Wei-Wei Li, James T. Lin, Barry I. Schweitzer, William P. Tong, Donna Niedzwiecki, and Joseph R. Bertino.
- 3980 **Complete Inhibition of Growth followed by Death of Human Malignant Melanoma Cells *in Vitro* and Regression of Human Melanoma Xenografts in Immunodeficient Mice Induced by Camptothecins.** Panayotis Pantazis, Hellmuth R. Hinz, John T. Mendoza, A. J. Kozlowski, Leo J. Williams, Jr., John S. Stehlin, Jr., and Beppino C. Giovannella.
- 3994 **Growth Inhibition of Human Glioma Cells Induced by 8-Chloroadenosine, an Active Metabolite of 8-Chloro Cyclic Adenosine 3':5'-Monophosphate.** Cornelis H. Langeveld, Cornelis A. M. Jongenelen, Jan J. Heimans, and Johannes C. Stoof.
- 4017 **Herbimycin A, an Inhibitor of Tyrosine Kinase, Prolongs Survival of Mice Inoculated with Myeloid Leukemia C1 Cells with High Expression of *v-abl* Tyrosine Kinase.** Yoshio Honma, Junko Okabe-Kado, Takashi Kasukabe, Motoo Hozumi, Hiroaki Kodama, Sachiko Kajigaya, Toshio Suda, and Yoshisada Miura.

4021 **Limonene-induced Regression of Mammary Carcinomas.** Jill D. Haag, Mary J. Lindstrom, and Michael N. Gould.

### Tumor Biology

- 3831 **Distribution of Misonidazole Adducts in 9L Gliosarcoma Tumors and Spheroids: Implications for Oxygen Distribution.** Allan J. Franko, Cameron J. Koch, and Don P. J. Boisvert.
- 3972 **Distribution of the Glucose Transporters in Human Brain Tumors.** Tatsuya Nishioka, Yoshifumi Oda, Yutaka Seino, Taizo Yamamoto, Nobuya Inagaki, Hideki Yano, Hiroo Imura, Ryuichi Shigemoto, and Haruhiko Kikuchi.
- 4009 **HLA Class II Antigen Expression in Human Papillomavirus-associated Cervical Cancer.** Susan S. Glew, Margaret Duggan-Keen, Teresa Cabrera, and Peter L. Stern.

### Epidemiological

- 3845 **Effect of Systemic Hyperinsulinemia in Cancer Patients.** Martin J. Heslin, Elliot Newman, Ronald F. Wolf, Peter W. T. Pisters, and Murray F. Brennan.
- 3871 **Phase II Study of Intravenous Idarubicin in Unfavorable Non-Hodgkin's Lymphoma.** Delvyn C. Case, Jr., Mirjam C. Gerber, Richard A. Gams, Jeffrey Crawford, May L. Votaw, Celestia S. Higan, Brian T. Pruitt, and James Gould.
- 3901 **Free Human Chorionic Gonadotropin  $\beta$  Subunit in Gonadal and Nongonadal Neoplasms.** Isabelle Marcillac, Frédéric Troalen, Jean-Michel Bidart, Pascale Ghillani, Vincent Ribrag, Bernard Escudier, Benoit Malassagne, Jean-Pierre Droz, Catherine Lhommé, Philippe Rougier, Pierre Duvillard, Michel Prade, Pierre-Marie Lugagne, François Richard, Thierry Poynard, Claude Bohuon, Jack Wands, and Dominique Bellet.

## MEETING REPORT

- 4058 **Workshop Report from the Division of Research Grants, National Institutes of Health: Metal Carcinogenesis—A Chemical Pathology Study Section Workshop.** Karen E. Wetterhahn, Bruce Demple, Molly Kulesz-Martin, and Edmund S. Copeland.

- 4064 **Announcements**  
Eighty-Fourth Annual Meeting of the AACR  
AACR Special Conferences in Cancer Research  
Recent Death  
Calendar of Events

- 4066 **Erratum**  
C. R. Boland *et al.*, 51: 657-665, 1991.

- 4067 **Author Index**

NOTE: 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

# Cancer Research

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

## 52 (14)

*Cancer Res* 1992;52:3831-4066.

**Updated version** Access the most recent version of this article at:  
<http://cancerres.aacrjournals.org/content/52/14.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/52/14.citation>. Click on "Request Permissions" which will take you to the Copyright Clearance Center's (CCC) Rightslink site.