



CONTENTS§

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

- *4453 Flow Cytometric Analysis of DNA Damage and Repair in the Cells Resistant to Alkylating Agents. Oskar S. Frankfurt, Daniel Seckinger, and Everett V. Sugarbaker.
- 4458 Inhibition of Growth Factor-dependent Inositol Phosphate Ca²⁺ Signaling by Antitumor Ether Lipid Analogues. Markus J. Seewald, Richard A. Olsen, Inder Sehgal, Deborah C. Melder, Edward J. Modest, and Garth Powis.
- *4464 Pediatric Phase I Trial and Pharmacokinetic Study of Piritrexim Administered Orally on a Five-Day Schedule. Peter C. Adamson, Frank M. Balis, James Miser, Robert J. Wells, W. Archie Bleyer, Thomas E. Williams, Andrea Gillespie, John S. Penta, Neil J. Clendeninn, and David G. Poplack.
- *4468 Development of Drug Resistance to Gallium Nitrate through Modulation of Cellular Iron Uptake. Christopher R. Chitambar, Zorica Zivkovic-Gilgenbach, Jana Narasimhan, and William E. Antholine.
- 4473 Dependence of Indomethacin-induced Potentiation of Murine Tumor Radioresponse on Tumor Host Immunocompetence. Luka Milas, Yuichi Furuta, Nancy Hunter, Iku Nishiguchi, and Sanyukta Runkel.
- 4478 Interstitial Pressure Gradients in Tissue-isolated and Subcutaneous Tumors: Implications for Therapy. Yves Boucher, Laurence T. Baxter, and Rakesh K. Jain.
- *4485 Monoclonal Antibody and Synthetic Peptide Inhibitors of Human Tumor Cell Migration. Kenneth M. Yamada, Dorothy W. Kennedy, Susan S. Yamada, Harvey Gralnick, Wen-Tien Chen, and Steven K. Akiyama.
- *4497 Dietary Indicators of Laryngeal Cancer Risk. Carlo La Vecchia, Eva Negri, Barbara D'Avanzo, Silvia Franceschi, Adriano Decarli, and Peter Boyle.
- *4501 Photodynamic Therapy by Topical meso-Tetraphenylporphinesulfonate Tetrasodium Salt Administration in Superficial Basal Cell Carcinomas. Olivia Santoro, Gaetano Bandieramonte, Elsa Melloni, Renato Marchesini, Franco Zunino, Paolo Lepera, and Giuseppe De Palo.
- *4504 Inverse Relationship of Epidermal Growth Factor Receptor and HER2/*neu* Gene Expression in Human Renal Cell Carcinoma. Uwe Weidner, Stephan Peter, Torsten Strohmeyer, Rolf Hussnätter, Rolf Ackermann, and Helmut Sies.
- 4510 Effects of Three Irreversible Inhibitors of Ornithine Decarboxylase on Macrophage-mediated Tumoricidal Activity and Antitumor Activity in B16F1 Tumor-bearing Mice. Terry L. Bowlin, Brenda J. Hoeper, Andrea L. Rosenberger, Gregory F. Davis, and Prasad S. Sunkara.
- *4515 Thermal Response of Oncogene-transfected Rat Cells. Gloria C. Li, C. Clifton Ling, Brian Endlich, and Johnson Y. Mak.
- *4522 Potent Growth Inhibition of Human Tumor Cells in Culture by Arginine Deiminase Purified from a Culture Medium of a *Mycoplasma*-infected Cell Line. Kaoru Miyazaki, Haruo Takaku, Makoto Umeda, Tuyosi Fujita, Weida Huang, Takashi Kimura, Jinpei Yamashita, and Takekazu Horio.
- 4528 Anticachectic Activity of 5'-Deoxy-5-fluorouridine in a Murine Tumor Cachexia Model, Colon 26 Adenocarcinoma. Yutaka Tanaka, Hiroyuki Eda, Kaori Fujimoto, Takashi Tanaka, Tohru Ishikawa, and Hideo Ishitsuka.
- 4533 Effect of Sulfonation on the Cell and Tissue Distribution of the Photosensitizer Aluminum Phthalocyanine. Wai-Shun Chan, John F. Marshall, Russel Svensen, Joanne Bedwell, and Ian R. Hart.
- 4539 *In Vitro* Biotransformations of Tetrachloro(d,l-*trans*)-1,2-diaminocyclohexaneplatinum(IV) (Tetraplatin) in Rat Plasma. Stephen G. Chaney, Steven Wyrick, and Gail Kaun Till.
- *4546 Radioimmunotherapy of Human Colorectal Carcinoma Xenografts Using ⁹⁰Y-labeled Monoclonal Antibody CO17-1A Prepared by Two Bifunctional Chelate Techniques. Yu-Chen C. Lee, Lee C. Washburn, Tan Tan H. Sun, Bill L. Byrd, James E. Crook, E. C. Holloway, and Zenon Steplewski.
- 4552 5-Hexyl-2'-deoxyuridine Blocks the Cytotoxic Effects of 5-Fluorodeoxyuridine or Deoxyadenosine in Leukemia L1210 Cells in Culture. Joseph G. Cory, Mary C. Halley, Andras Jeney, and Karoly Lapis.
- *4557 Biosynthesis, Glycosylation and Intracellular Processing of the Neuroglandular Antigen, a Human Melanoma-associated Antigen. Walter T. Dixon, Douglas J. Demetrick, Kunio Ohyama, Lydia K. J. Sikora, and L. Martin Jerry.
- *4566 Mutations Induced at the Hypoxanthine-Guanine Phosphoribosyltransferase Locus of Human T-Lymphoblasts by Perturbations of Purine Deoxyribonucleoside Triphosphate Pools. Susan S. Mattano, Thomas D. Palella, and Beverly S. Mitchell.
- *4572 Synergistic Cytotoxicity Using 2'-Deoxy-5-azacytidine and Cisplatin or 4-Hydroperoxycyclophosphamide with Human Tumor Cells. Philip Frost, James L. Abbruzzese, Barbara Hunt, Dorellyn Lee, and Martha Ellis.
- 4578 Characterization of Tumor Binding by the IC-21 Macrophage Cell Line. Eric K. Crawford, Patricia S. Latham, Eliza M. Shah, and Jeffrey D. Hasday.
- *4584 Molecular Nature of *in Vivo* Mutations in Human Cells at the Autosomal HLA-A Locus. Alexander A. Morley, Scott A. Grist, David R. Turner, Alexander Kutlaca, and Greg Bennett.
- *4588 Biological and Clinical Effects of the Combination of β - and γ -Interferons Administered as a 5-Day Continuous Infusion. Joan H. Schiller, Barry Storer, Patricia L. Witt, Beth Nelson, Raymond R. Brown, Michel Horisberger, Sidney Grossberg, and Ernest C. Borden.
- *4595 Phase I and Pharmacokinetic Study of Brequinar Sodium (NSC 368390). Dennis A. Noe, Eric K. Rowinsky, Huey-Shin L. Shen, Barbara V. Clarke, Louise B. Grochow, William B. McGuire, Alexander Hantel, David B. Adams, Martin D. Abeloff, David S. Ettinger, and Ross C. Donehower.
- *4600 Exposure to Barbiturates *in Utero* and during Childhood and Risk of Intracranial and Spinal Cord Tumors. Marilyn K. Goldhaber, Joseph V. Selby, Robert A. Hiatt, and Charles P. Quesenberry.

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

- *4604** Phosphorylation of Pyruvate Kinase Type K in Human Gliomas by a Cyclic Adenosine 5'-Monophosphate-independent Protein Kinase. Paschal A. Oude Weermink, Gert Rijksen, Margreet C. M. van der Heijden, and Gerard E. J. Staal.
- *4611** Molecular Dosimetry of Polycyclic Aromatic Hydrocarbon Epoxides and Diol Epoxides via Hemoglobin Adducts. Billy W. Day, Stephen Naylor, Liang-Shang Gan, Yousif Sahali, Thanh T. Nguyen, Paul L. Skipper, John S. Wishnok, and Steven R. Tannenbaum.
- *4619** Oxidative Stress Induces DNA Damage and Inhibits the Repair of DNA Lesions Induced by *N*-Acetoxy-2-acetylaminofluorene in Human Peripheral Mononuclear Leukocytes. Ronald W. Pero, Marshall W. Anderson, Geraldine A. Doyle, Colleen H. Anna, Felix Romagna, Melvin Markowitz, and Carl Bryngelsson.
- *4626** Comparison of the Predictive Power of Different Prognostic Indices for Overall Survival in Patients with Advanced Ovarian Carcinoma. Birthe Lund, Paula Williamson, Hans C. van Houwelingen, and Jean P. Neijt.
- 4630** Mechanism of Tumoricidal Activity of OK-432-specific L3T4⁺ Lyt2⁻ T-Cells. Shoichi Ozaki, Toshihiko Suginoshita, Takeshi Watanabe, and Hiroshi Obayashi.
- *4635** Effect of Acrolein on Phosphoramidate Mustard-induced Sister Chromatid Exchanges in Cultured Human Lymphocytes. James L. Wilmer, Gregory L. Erexson, and Andrew D. Kligerman.
- 4639** Differing Specificities for 4-Aminofolate Analogues of Folylpolylglutamyl Synthetase from Tumors and Proliferative Intestinal Epithelium of the Mouse with Significance for Selective Antitumor Action. B. G. Rumberger, J. R. Barrueco, and F. M. Sirotnak.
- *4644** *In Vivo* Inhibition of the Pyrimidine *de Novo* Enzyme Dihydroorotic Acid Dehydrogenase by Brequinar Sodium (DUP-785; NSC 368390) in Mice and Patients. G. J. Peters, G. Schwartzmann, J. C. Nadal, E. J. Laurensse, C. J. van Groeningen, W. J. F. van der Vijgh, and H. M. Pinedo.
- 4650** Mechanism of 12-*O*-Tetradecanoylphorbol-13-acetate Enhanced Metabolism of Arachidonic Acid in Dog Urothelial Cells. Terry V. Zenser, Thomas E. Eling, Zofia M. Duniec, Yun-Hua Huang Wong, and Bernard B. Davis.
- *4656** Biosynthesis and Glycosylation of the Carcinoma-associated Antigen Recognized by Monoclonal Antibody KS1/4. Philip D. Fernsten, Katherine W. Pekny, Ralph A. Reisfeld, and Leslie E. Walker.
- *4664** Classifying Clinical Severity to Help Solve Problems of Stage Migration in Nonconcurrent Comparisons of Lung Cancer Therapy. David G. Pfister, Carolyn K. Wells, Charles K. Chan, and Alvan R. Feinstein.
- *4670** Oral Contraceptive Use, Human Papillomavirus Infection, and Risk of Early Cytological Abnormalities of the Cervix. Bryan P. Negrini, Mark H. Schiffman, Robert J. Kurman, Willard Barnes, Linda Lannom, Karen Malley, Louise A. Brinton, Gregorio Delgado, Sidney Jones, Jean-Gilles Tchabo, and Wayne D. Lancaster.
- *4676** Inhibition of Cancer Cell Urokinase Plasminogen Activator by Its Specific Inhibitor PAI-2 and Subsequent Effects on Extracellular Matrix Degradation. Mark S. Baker, Pamela Bleakley, Graeme C. Woodrow, and William F. Doe.
- 4685** Comparative Metabolism of *N*'-Nitrososornicotine and 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone by Cultured F344 Rat Oral Tissue and Esophagus. Sharon E. Murphy, Rachel Heiblum, and Neil Trushin.
- 4692** Decreased NADPH:Cytochrome P-450 Reductase Activity and Impaired Drug Activation in a Mammalian Cell Line Resistant to Mitomycin C under Aerobic but not Hypoxic Conditions. Paul R. Hoban, Michael I. Walton, Craig N. Robson, Judith Godden, Ian J. Stratford, Paul Workman, Adrian L. Harris, and Ian D. Hickson.
- *4698** 3'-Deamino-3'-morpholino-13-deoxy-10-hydroxycarminomycin Conquers Multidrug Resistance by Rapid Influx following Higher Frequency of Formation of DNA Single- and Double-Strand Breaks. Naoya Horichi, Haim Tapiero, Yoshikazu Sugimoto, Masami Bungo, Masahiko Nishiyama, Alain Fourcade, Theodore J. Lampidis, Kazuo Kasahara, Yasutsuna Sasaki, Terumi Takahashi, and Nagahiro Saijo.
- *4702** Plasma α -L-Fucosidase Activity and the Risk of Borderline Epithelial Ovarian Tumors. Bernard L. Harlow, Noel S. Weiss, and Eric H. Holmes.
- *4704** Effect of Osmotic Pressure on Uptake of Chemotherapeutic Agents by Carcinoma Cells. Robert L. Stephen, Jeanne M. Novak, Elizabeth M. Jensen, Carl Kablitz, and Sandra S. Buys.
- *4709** Potentiation of Interleukin 1 α Mediated Antitumor Effects by Ketoconazole. Paul G. Braunschweiger, Nirmal Kumar, Ioannis Constantinidis, Janna P. Wehrle, Jerry D. Glickson, Candace S. Johnson, and Philip Furmanski.
- *4718** Pharmacokinetics, Tissue Distribution, and Cell Localization of [³⁵S]Methionine-labeled Recombinant Human and Murine α Interferons in Mice. Terrance G. Johns, Julie A. Kerry, Barry A. J. Veitch, Ian R. Mackay, Peter J. Tutton, Martin J. Tymms, Brian F. Cheetham, Paul J. Hertzog, and Anthony W. Linnane.
- *4724** Neoplastic Transformation of a Human Colonic Epithelial Cell Line: *In Vitro* Evidence for the Adenoma to Carcinoma Sequence. Ann C. Williams, Sara J. Harper, and Christos Paraskeva.
- *4731** Gastric Precancerous Process in a High Risk Population: Cross-sectional Studies. Pelayo Correa, William Haenszel, Carlos Cuello, Diego Zavala, Elizabeth Fontham, Guillermo Zarama, Steven Tannenbaum, Tito Collazos, and Bernardo Ruiz.
- *4737** Gastric Precancerous Process in a High Risk Population: Cohort Follow-up. Pelayo Correa, William Haenszel, Carlos Cuello, Diego Zavala, Elizabeth Fontham, Guillermo Zarama, Steven Tannenbaum, Tito Collazos, and Bernardo Ruiz.
- 4741** Identification of Epidermal Cell Subpopulations with Increased Ornithine Decarboxylase Activity following Treatment of Murine Epidermis with 12-*O*-Tetradecanoylphorbol-13-acetate. Fredika M. Robertson, Susan K. Gilmour, Alan H. Conney, Mon-Tuan Huang, Andrew J. Beavis, Jeffrey D. Laskin, Oili A. Hietala, and Thomas G. O'Brien.
- 4747** Influence of Male Genital Tract Mesenchymes on Differentiation of Dunning Prostatic Adenocarcinoma. Norio Hayashi, Gerald R. Cunha, and Y. C. Wong.
- 4755** Identification and Characterization of a Rat Hepatic Oncofetal Membrane Glycoprotein. Ronald A. Faris, Kerry D. McEntire, Nancy L. Thompson, and Douglas C. Hixson.
- 4764** Immune Abnormalities in Avian Erythroblastosis Virus-infected Chickens. Arundhati Rao, Kimberly Kline, and Bob G. Sanders.
- *4771** Interleukin 1-induced Augmentation of Experimental Metastases from a Human Melanoma in Nude Mice. Raffaella Giavazzi, Angela Garofalo, Maria Rosa Bani, Mauro Abbate, Pietro Ghezzi, Diana Boraschi, Alberto Mantovani, and Elisabetta Dejana.
- 4776** DNA Synthesis by L929 Cells following Doxorubicin Exposure. Karl W. Lanks and John M. Lehman.

- *4779 **EJ/*ras* Neoplastic Transformation of Simian Virus 40-immortalized Human Uroepithelial Cells: A Rare Event.** Brian J. Christian, Chinghai Kao, Shi-Qi Wu, Lorraine F. Meisner, and Catherine A. Reznikoff.
- 4787 **Multifocal Vascular Tumors in Fowl Induced by a Newly Isolated Retrovirus.** Dov Soffer, Nitzan Resnick-Roguel, Amiram Eldor, and Moshe Kotler.
- 4794 **Development of an *in Vitro* Analogue of Initiated Mouse Epidermis to Study Tumor Promoters and Antipromoters.** Henry Hennings, Victor A. Robinson, Delores M. Michael, George R. Pettit, Reinhard Jung, and Stuart H. Yuspa.
- *4801 **Analysis of Human Tumor Associated Thomsen-Friedenreich Antigen.** John Samuel, Antoine A. Noujaim, Grant D. MacLean, Mavanur R. Suresh, and B. Michael Longenecker.
- 4809 **Expression of Hepatocyte and Oval Cell Antigens in Hepatocellular Carcinomas Produced by Oncogene-transfected Liver Epithelial Cells.** Michele Goyette, Ronald Faris, Lundy Braun, Douglas Hixson, and Nelson Fausto.
- 4818 **Activation of *K-ras* by Codon 13 Mutations in C57BL/6 × C3H F₁ Mouse Tumors Induced by Exposure to 1,3-Butadiene.** Tamra Goodrow, Steven Reynolds, Robert Maronpot, and Marshall Anderson.
-
- 4824 **Announcements**
AACR Special Conferences in Cancer Research
Future Annual Meetings of the AACR
American Cancer Society Research Grants in Primary Prevention and Detection
Calendar of Events
- 4825 **Erratum**
R. S. Morrison *et al.*, 50: 2524–2529, 1990.
- 4826 **Author Index**

NOTE: AACR forms available in the back of this issue--

- Application for Active and Corresponding Membership
- Application for Associate Membership

Cancer Research

VOLUME 50 • NUMBER 15

CONTENTS Arranged by Subject Category

BASIC SCIENCES

Biochemistry and Biophysics

- *4485 **Monoclonal Antibody and Synthetic Peptide Inhibitors of Human Tumor Cell Migration.** Kenneth M. Yamada, Dorothy W. Kennedy, Susan S. Yamada, Harvey Gralnick, Wen-Tien Chen, and Steven K. Akiyama.
- *4515 **Thermal Response of Oncogene-transfected Rat Cells.** Gloria C. Li, C. Clifton Ling, Brian Endlich, and Johnson Y. Mak.
- *4522 **Potent Growth Inhibition of Human Tumor Cells in Culture by Arginine Deiminase Purified from a Culture Medium of a *Mycoplasma*-infected Cell Line.** Kaoru Miyazaki, Haruo Takaku, Makoto Umeda, Tuyosi Fujita, Weida Huang, Takashi Kimura, Jinpei Yamashita, and Takekazu Horio.
- *4557 **Biosynthesis, Glycosylation and Intracellular Processing of the Neuroglandular Antigen, a Human Melanoma-associated Antigen.** Walter T. Dixon, Douglas J. Demetrick, Kunio Ohyama, Lydia K. J. Sikora, and L. Martin Jerry.
- *4604 **Phosphorylation of Pyruvate Kinase Type K in Human Gliomas by a Cyclic Adenosine 5'-Monophosphate-independent Protein Kinase.** Paschal A. Oude Weernink, Gert Rijksen, Margreet C. M. van der Heijden, and Gerard E. J. Staal.
- *4619 **Oxidative Stress Induces DNA Damage and Inhibits the Repair of DNA Lesions Induced by *N*-Acetoxy-2-acetylaminofluorene in Human Peripheral Mononuclear Leukocytes.** Ronald W. Pero, Marshall W. Anderson, Geraldine A. Doyle, Colleen H. Anna, Felix Romagna, Melvin Markowitz, and Carl Bryngelsson.
- 4650 **Mechanism of 12-*O*-Tetradecanoylphorbol-13-acetate Enhanced Metabolism of Arachidonic Acid in Dog Urothelial Cells.** Terry V. Zenser, Thomas E. Eling, Zofia M. Duniec, Yun-Hua Huang Wong, and Bernard B. Davis.
- *4656 **Biosynthesis and Glycosylation of the Carcinoma-associated Antigen Recognized by Monoclonal Antibody KS1/4.** Philip D. Fernsten, Katherine W. Pekny, Ralph A. Reisfeld, and Leslie E. Walker.
- 4692 **Decreased NADPH:Cytochrome P-450 Reductase Activity and Impaired Drug Activation in a Mammalian Cell Line Resistant to Mitomycin C under Aerobic but not Hypoxic Conditions.** Paul R. Hoban, Michael I. Walton, Craig N. Robson, Judith Godden, Ian J. Stratford, Paul Workman, Adrian L. Harris, and Ian D. Hickson.
- 4755 **Identification and Characterization of a Rat Hepatic Oncofetal Membrane Glycoprotein.** Ronald A. Faris, Kerry D. McEntire, Nancy L. Thompson, and Douglas C. Hixson.

Carcinogenesis

- *4611 **Molecular Dosimetry of Polycyclic Aromatic Hydrocarbon Epoxides and Diol Epoxides via Hemoglobin Adducts.** Billy W. Day, Stephen Naylor, Liang-Shang Gan, Yousif Sahali, Thanh T. Nguyen, Paul L. Skipper, John S. Wishnok, and Steven R. Tannenbaum.
- *4635 **Effect of Acrolein on Phosphoramidate Mustard-induced Sister Chromatid Exchanges in Cultured Human Lymphocytes.** James L. Wilmer, Gregory L. Erexson, and Andrew D. Kligerman.

- 4685 **Comparative Metabolism of *N*'-Nitrosornicotine and 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone by Cultured F344 Rat Oral Tissue and Esophagus.** Sharon E. Murphy, Rachel Heiblum, and Neil Trushin.
- *4724 **Neoplastic Transformation of a Human Colonic Epithelial Cell Line: *In Vitro* Evidence for the Adenoma to Carcinoma Sequence.** Ann C. Williams, Sara J. Harper, and Christos Paraskeva.
- 4741 **Identification of Epidermal Cell Subpopulations with Increased Ornithine Decarboxylase Activity following Treatment of Murine Epidermis with 12-*O*-Tetradecanoylphorbol-13-acetate.** Fredika M. Robertson, Susan K. Gilmour, Alan H. Conney, Mon-Tuan Huang, Andrew J. Beavis, Jeffrey D. Laskin, Oili A. Hietala, and Thomas G. O'Brien.
- *4779 ***EJ/ras* Neoplastic Transformation of Simian Virus 40-immortalized Human Uroepithelial Cells: A Rare Event.** Brian J. Christian, Chinghai Kao, Shi-Qi Wu, Lorraine F. Meisner, and Catherine A. Reznikoff.
- 4787 **Multifocal Vascular Tumors in Fowl Induced by a Newly Isolated Retrovirus.** Dov Soffer, Nitzan Resnick-Roguel, Amiram Eldor, and Moshe Kotler.
- 4794 **Development of an *in Vitro* Analogue of Initiated Mouse Epidermis to Study Tumor Promoters and Antipromoters.** Henry Hennings, Victor A. Robinson, Delores M. Michael, George R. Pettit, Reinhard Jung, and Stuart H. Yuspa.
- 4818 **Activation of *K-ras* by Codon 13 Mutations in C57BL/6 × C3H F₁ Mouse Tumors Induced by Exposure to 1,3-Butadiene.** Tamra Goodrow, Steven Reynolds, Robert Maronpot, and Marshall Anderson.

Endocrinology

- *4709 **Potentiation of Interleukin 1 α Mediated Antitumor Effects by Ketoconazole.** Paul G. Braunschweiger, Nirmal Kumar, Ioannis Constantinidis, Janna P. Wehrle, Jerry D. Glickson, Candace S. Johnson, and Philip Furmanski.

Immunology

- 4510 **Effects of Three Irreversible Inhibitors of Ornithine Decarboxylase on Macrophage-mediated Tumoricidal Activity and Antitumor Activity in B16F1 Tumor-bearing Mice.** Terry L. Bowlin, Brenda J. Hoepfer, Andrea L. Rosenberger, Gregory F. Davis, and Prasad S. Sunkara.
- 4578 **Characterization of Tumor Binding by the IC-21 Macrophage Cell Line.** Eric K. Crawford, Patricia S. Latham, Eliza M. Shah, and Jeffrey D. Hasday.
- *4801 **Analysis of Human Tumor Associated Thomsen-Friedenreich Antigen.** John Samuel, Antoine A. Noujaim, Grant D. MacLean, Mavanur R. Suresh, and B. Michael Longenecker.

Molecular Biology and Genetics

- *4504 **Inverse Relationship of Epidermal Growth Factor Receptor and *HER2/neu* Gene Expression in Human Renal Cell Carcinoma.** Uwe Weidner, Stephan Peter, Torsten Strohmeyer, Rolf Hussnätter, Rolf Ackermann, and Helmut Sies.

* Indicates studies using human-derived material.

- *4566 Mutations Induced at the Hypoxanthine-Guanine Phosphoribosyltransferase Locus of Human T-Lymphoblasts by Perturbations of Purine Deoxyribonucleoside Triphosphate Pools. Susan S. Mattano, Thomas D. Palella, and Beverly S. Mitchell.
- *4584 Molecular Nature of *in Vivo* Mutations in Human Cells at the Autosomal HLA-A Locus. Alexander A. Morley, Scott A. Grist, David R. Turner, Alexander Kutlaca, and Greg Bennett.

Preclinical Pharmacology and Experimental Therapeutics

- *4453 Flow Cytometric Analysis of DNA Damage and Repair in the Cells Resistant to Alkylating Agents. Oskar S. Frankfurt, Daniel Seckinger, and Everett V. Sugarbaker.
- 4458 Inhibition of Growth Factor-dependent Inositol Phosphate Ca²⁺ Signaling by Antitumor Ether Lipid Analogues. Markus J. Seewald, Richard A. Olsen, Inder Sehgal, Deborah C. Melder, Edward J. Modest, and Garth Powis.
- *4468 Development of Drug Resistance to Gallium Nitrate through Modulation of Cellular Iron Uptake. Christopher R. Chitambar, Zorica Zivkovic-Gilgenbach, Jana Narasimhan, and William E. Antholine.
- 4473 Dependence of Indomethacin-induced Potentiation of Murine Tumor Radioresponse on Tumor Host Immunocompetence. Luka Milas, Yuichi Furuta, Nancy Hunter, Iku Nishiguchi, and Sanyukta Runkel.
- 4533 Effect of Sulfonation on the Cell and Tissue Distribution of the Photosensitizer Aluminum Phthalocyanine. Wai-Shun Chan, John F. Marshall, Russel Svensen, Joanne Bedwell, and Ian R. Hart.
- 4539 *In Vitro* Biotransformations of Tetrachloro(d,l-*trans*)-1,2-diaminocyclohexaneplatinum(IV) (Tetraplatin) in Rat Plasma. Stephen G. Chaney, Steven Wyrick, and Gail Kaun Till.
- *4546 Radioimmunotherapy of Human Colorectal Carcinoma Xenografts Using ⁹⁰Y-labeled Monoclonal Antibody CO17-1A Prepared by Two Bifunctional Chelate Techniques. Yu-Chen C. Lee, Lee C. Washburn, Tan Tan H. Sun, Bill L. Byrd, James E. Crook, E. C. Holloway, and Zenon Stepiewski.
- 4552 5-Hexyl-2'-deoxyuridine Blocks the Cytotoxic Effects of 5-Fluorodeoxyuridine or Deoxyadenosine in Leukemia L1210 Cells in Culture. Joseph G. Cory, Mary C. Halley, Andras Jeney, and Karoly Lapis.
- *4572 Synergistic Cytotoxicity Using 2'-Deoxy-5-azacytidine and Cisplatin or 4-Hydroperoxycyclophosphamide with Human Tumor Cells. Philip Frost, James L. Abbruzzese, Barbara Hunt, Dorellyn Lee, and Martha Ellis.
- 4630 Mechanism of Tumorcidal Activity of OK-432-specific L3T4⁺ Lyt2⁻ T-Cells. Shoichi Ozaki, Toshihiko Sugino, Takeshi Watanabe, and Hiroshi Obayashi.
- 4639 Differing Specificities for 4-Aminofolate Analogues of Folylpolylglutamyl Synthetase from Tumors and Proliferative Intestinal Epithelium of the Mouse with Significance for Selective Antitumor Action. B. G. Rumberger, J. R. Barrueco, and F. M. Sirotnak.
- *4644 *In Vivo* Inhibition of the Pyrimidine *de Novo* Enzyme Dihydroorotic Acid Dehydrogenase by Brequinar Sodium (DUP-785; NSC 368390) in Mice and Patients. G. J. Peters, G. Schwartzmann, J. C. Nadal, E. J. Laurensse, C. J. van Groeningen, W. J. F. van der Vijgh, and H. M. Pinedo.
- *4698 3'-Deamino-3'-morpholino-13-deoxy-10-hydroxycarminomycin Conquers Multidrug Resistance by Rapid Influx following Higher Frequency of Formation of DNA Single- and Double-Strand Breaks. Naoya Horichi, Haim Tapiero, Yoshikazu Sugimoto, Masami Bungo, Masahiko Nishiyama, Alain Fourcade, Theodore J. Lampidis, Kazuo Kasahara, Yasutsuna Sasaki, Terumi Takahashi, and Nagahiro Saijo.

- *4704 Effect of Osmotic Pressure on Uptake of Chemotherapeutic Agents by Carcinoma Cells. Robert L. Stephen, Jeanne M. Novak, Elizabeth M. Jensen, Carl Kablitz, and Sandra S. Buys.
- *4718 Pharmacokinetics, Tissue Distribution, and Cell Localization of [³⁵S]Methionine-labeled Recombinant Human and Murine α Interferons in Mice. Terrance G. Johns, Julie A. Kerry, Barry A. J. Veitch, Ian R. Mackay, Peter J. Tutton, Martin J. Tymms, Brian F. Cheetham, Paul J. Hertzog, and Anthony W. Linnane.

Tumor Biology

- 4478 Interstitial Pressure Gradients in Tissue-isolated and Subcutaneous Tumors: Implications for Therapy. Yves Boucher, Laurence T. Baxter, and Rakesh K. Jain.
- 4528 Anticachectic Activity of 5'-Deoxy-5-fluorouridine in a Murine Tumor Cachexia Model, Colon 26 Adenocarcinoma. Yutaka Tanaka, Hiroyuki Eda, Kaori Fujimoto, Takashi Tanaka, Tohru Ishikawa, and Hideo Ishitsuka.
- *4676 Inhibition of Cancer Cell Urokinase Plasminogen Activator by Its Specific Inhibitor PAI-2 and Subsequent Effects on Extracellular Matrix Degradation. Mark S. Baker, Pamela Bleakley, Graeme C. Woodrow, and William F. Doe.
- *4747 Influence of Male Genital Tract Mesenchymes on Differentiation of Dunning Prostatic Adenocarcinoma. Norio Hayashi, Gerald R. Cunha, and Y. C. Wong.
- 4764 Immune Abnormalities in Avian Erythroblastosis Virus-infected Chickens. Arundhati Rao, Kimberly Kline, and Bob G. Sanders.
- *4771 Interleukin 1-induced Augmentation of Experimental Metastases from a Human Melanoma in Nude Mice. Raffaella Giavazzi, Angela Garofalo, Maria Rosa Bani, Mauro Abbate, Pietro Ghezzi, Diana Boraschi, Alberto Mantovani, and Elisabetta Dejana.
- 4776 DNA Synthesis by L929 Cells following Doxorubicin Exposure. Karl W. Lanks and John M. Lehman.
- 4809 Expression of Hepatocyte and Oval Cell Antigens in Hepatocellular Carcinomas Produced by Oncogene-transfected Liver Epithelial Cells. Michele Goyette, Ronald Faris, Lundy Braun, Douglas Hixson, and Nelson Fausto.

CLINICAL AND EPIDEMIOLOGICAL INVESTIGATIONS

Clinical

- 4464 Pediatric Phase I Trial and Pharmacokinetic Study of Piritrexim Administered Orally on a Five-Day Schedule. Peter C. Adamson, Frank M. Balis, James Miser, Robert J. Wells, W. Archie Bleyer, Thomas E. Williams, Andrea Gillespie, John S. Penta, Neil J. Clendeninn, and David G. Poplack.
- 4501 Photodynamic Therapy by Topical meso-Tetraphenylporphinesulfonate Tetrasodium Salt Administration in Superficial Basal Cell Carcinomas. Olivia Santoro, Gaetano Bandieramonte, Elsa Melloni, Renato Marchesini, Franco Zunino, Paolo Lepera, and Giuseppe De Palo.
- 4588 Biological and Clinical Effects of the Combination of β - and γ -Interferons Administered as a 5-Day Continuous Infusion. Joan H. Schiller, Barry Storer, Patricia L. Witt, Beth Nelson, Raymond R. Brown, Michel Horisberger, Sidney Grossberg, and Ernest C. Borden.
- 4595 Phase I and Pharmacokinetic Study of Brequinar Sodium (NSC 368390). Dennis A. Noe, Eric K. Rowinsky, Huey-Shin L. Shen, Barbara V. Clarke, Louise B. Grochow, William B. McGuire, Alexander Hantel, David B. Adams, Martin D. Abeloff, David S. Ettinger, and Ross C. Donehower.

4626 Comparison of the Predictive Power of Different Prognostic Indices for Overall Survival in Patients with Advanced Ovarian Carcinoma. Birthe Lund, Paula Williamson, Hans C. van Houwelingen, and Jean P. Neijt.

Epidemiological

4497 Dietary Indicators of Laryngeal Cancer Risk. Carlo La Vecchia, Eva Negri, Barbara D'Avanzo, Silvia Franceschi, Adriano Decarli, and Peter Boyle.

4600 Exposure to Barbiturates *in Utero* and during Childhood and Risk of Intracranial and Spinal Cord Tumors. Marilyn K. Goldhaber, Joseph V. Selby, Robert A. Hiatt, and Charles P. Quesenberry.

4664 Classifying Clinical Severity to Help Solve Problems of Stage Migration in Nonconcurrent Comparisons of Lung Cancer Therapy. David G. Pfister, Carolyn K. Wells, Charles K. Chan, and Alvan R. Feinstein.

4670 Oral Contraceptive Use, Human Papillomavirus Infection, and Risk of Early Cytological Abnormalities of the Cervix. Bryan P. Negrini, Mark H. Schiffman, Robert J. Kurman, Willard Barnes, Linda Lannom, Karen Malley, Louise A. Brinton, Gregorio Delgado, Sidney Jones, Jean-Gilles Tchabo, and Wayne D. Lancaster.

4702 Plasma α -L-Fucosidase Activity and the Risk of Borderline Epithelial Ovarian Tumors. Bernard L. Harlow, Noel S. Weiss, and Eric H. Holmes.

4731 Gastric Precancerous Process in a High Risk Population: Cross-sectional Studies. Pelayo Correa, William Haenszel, Carlos Cuello, Diego Zavala, Elizabeth Fontham, Guillermo Zarama, Steven Tannenbaum, Tito Collazos, and Bernardo Ruiz.

4737 Gastric Precancerous Process in a High Risk Population: Cohort Follow-up. Pelayo Correa, William Haenszel, Carlos Cuello, Diego Zavala, Elizabeth Fontham, Guillermo Zarama, Steven Tannenbaum, Tito Collazos, and Bernardo Ruiz.

4824 Announcements

AACR Special Conferences in Cancer Research
Future Annual Meetings of the AACR
American Cancer Society Research Grants in Primary
Prevention and Detection
Calendar of Events

4825 Erratum

R. S. Morrison *et al.*, 50: 2524–2529, 1990.

4826 Author Index

NOTE: AACR forms available in the back of this issue--

- Application for Active and Corresponding Membership
- Application for Associate Membership

Cancer Research

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

50 (15)

Cancer Res 1990;50:4453-4825.

Updated version Access the most recent version of this article at:
<http://cancerres.aacrjournals.org/content/50/15.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/50/15.citation>. Click on "Request Permissions" which will take you to the Copyright Clearance Center's (CCC) Rightslink site.