



CONTENTS†

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

Perspectives in Cancer Research

- 5911 Genetic Convergence and Divergence in Tumor Progression. Sverre Heim, Nils Mandahl, and Felix Mitelman.

BASIC SCIENCES

- 5917 FSaII Mouse Tumor Metabolic Changes with Different Doses of Glucose Measured by ³¹P Nuclear Magnetic Resonance. Jason A. Koutcher, Mary P. Fellenz, Peter W. Vaupel, and Leo E. Gerweck.
- 5922 Cooperation between Early Acting Delayed-type Hypersensitivity T-Cells and Cultured Effector Cells in Tumor Rejection. JoAnn Trial.
- *5927 Genes Amplified and Overexpressed in Human Multidrug-resistant Cell Lines. A. M. Van der Blik, F. Baas, T. Van der Velde-Koerts, J. L. Biedler, M. B. Meyers, R. F. Ozols, T. C. Hamilton, H. Joenje, and P. Borst.
- 5933 Inhibitory Effect of Adenosine Dialdehyde on *in Situ* Murine Neuroblastoma Growth. Bruce Bostrom, Harry P. C. Hogenkamp, and Bernard L. Mirkin.
- 5937 Effect of Diallyl Sulfide on Rat Liver Microsomal Nitrosamine Metabolism and Other Monooxygenase Activities. John F. Brady, Dechun Li, Hiroyuki Ishizaki, and Chung S. Yang.
- 5941 Inhibitory Effect of Curcumin, Chlorogenic Acid, Caffeic Acid, and Ferulic Acid on Tumor Promotion in Mouse Skin by 12-*O*-Tetradecanoylphorbol-13-acetate. Mou-Tuan Huang, Robert C. Smart, Ching-Quo Wong, and Allan H. Conney.
- 5947 Metabolism of SR 4233 by Chinese Hamster Ovary Cells: Basis of Selective Hypoxic Cytotoxicity. Margaret A. Baker, Elaine M. Zeman, V. Kate Hirst, and J. Martin Brown.
- 5953 Assessment of Cell Cycle Duration on the Incidence of Sister Chromatid Exchanges in Somatic and Spermatogonial Cells of the Rat. Anil K. Sinha, V. Ann Linscombe, B. Bhaskar Gollapudi, John A. Zempel, and Philip G. Watanabe.
- *5956 Combined Modalities of Resistance in Etoposide-resistant Human KB Cell Lines. Peter J. Ferguson, Michael H. Fisher, John Stephenson, De-Hua Li, Bing-sen Zhou, and Yung-chi Cheng.
- *5965 Effects of Tiazofurin on Protooncogene Expression during HL-60 Cell Differentiation. Surender M. Kharbanda, Matthew L. Sherman, David R. Spriggs, and Donald W. Kufe.
- 5969 Spontaneous Formation of Foci of Morphologically Transformed Cells in Populations of C3H 10T $\frac{1}{2}$ (Clone 8) Cells. Joe W. Grisham, Gary J. Smith, Lester W. Lee, Karin S. Bentley, and Mohammed V. Fatteh.
- 5977 Induction of Foci of Morphologically Transformed Cells in Synchronized Populations of 10T $\frac{1}{2}$ Cells by *N*-Methyl-*N'*-nitro-*N*-nitrosoguanidine and the Effect of Spontaneous Transformation on Calculated Transformation Frequency. Joe W. Grisham, Gary J. Smith, Lester W. Lee, Karin S. Bentley, and Mohammed V. Fatteh.
- *5984 Mimicry of Bryostatins 1 Induced Phosphorylation Patterns in HL-60 Cells by High Phorbol Ester Concentrations. Barbour S. Warren, Yoshiaki Kamano, George R. Pettit, and Peter M. Blumberg.
- *5989 Changes Observed in the Growth Fraction, Labeling Index, Duration of S Phase, and Total Cell Cycle Times of HL-60 Cells as They Undergo Differentiation in Response to Retinoic Acid. Sefer Gezer, Zahida Yasin, Suzan Imren, James Freeman, Ann Black, and Azra Raza.
- 5995 Identification of the Bromosulphophthalein-sensitive Efflux Route for Methotrexate as the Site of Action of Vincristine in the Vincristine-dependent Enhancement of Methotrexate Uptake in L1210 Cells. Gary B. Henderson and Judy M. Tsuji.
- 6002 Influence of WR2721 on DNA Cross-Linking by Nitrogen Mustard in Normal Mouse Bone Marrow and Leukemia Cells *in Vivo*. Wilfried J. DeNeve, Carleen K. Everett, Jerry E. Suminski, and Frederick A. Valeriote.
- *6006 Correlation between the Anticellular and DNA Fragmenting Activities of Tumor Necrosis Factor. Berish Y. Rubin, Larry J. Smith, Gary R. Hellermann, Ruth M. Lunn, Norman K. Richardson, and Sylvia L. Anderson.
- *6011 Antitumor Effects of Recombinant Human Interleukin 1 α in RIF-1 and Panc02 Solid Tumors. Paul G. Braunschweiger, Candace S. Johnson, Nirmal Kumar, Virginia Ord, and Philip Furmanski.
- 6017 Quiescent LLC-PK₁ Cells as a Model for *cis*-Diamminedichloroplatinum(II) Nephrotoxicity and Modulation by Thiol Rescue Agents. Thomas J. Montine and Richard F. Borch.
- *6025 *myc* Family Gene Abnormality in Lung Cancers and Its Relation to Xenotransplantability. Akihiko Gemma, Takashi Nakajima, Masahiko Shirashi, Masayuki Noguchi, Masahiro Gotoh, Takao Sekiya, Hisanobu Niitani, and Yukio Shimosato.
- *6029 Antitumor Activity of Quinocarmycin (KW2152) against Various Cultured Leukemia and Lymphoma Cell Lines *in Vitro*. Satoshi Inaba and Masanori Shimoyama.
- *6033 Reduction of Epidermal Growth Factor Binding in Human Breast Cancer Cell Lines by an Alkyl-Lysophospholipid. Hiroshi Kosano and Osamu Takatani.
- *6037 Flow Cytometric Enumeration of Drug-resistant Tumor Cells. Anna deFazio, Elizabeth A. Musgrove, and Martin H. N. Tattersall.
- 6044 Activation of Mouse Macrophages by Alkylglycerols, Inflammation Products of Cancerous Tissues. Nobuto Yamamoto, Donald A. St. Claire, Jr., Sadamu Homma, and Benjamin Z. Ngwenya.
- 6050 Early Cell Motility Changes Associated with an Increase in Metastatic Ability in Rat Prostatic Cancer Cells Transfected with the *v-Harvey-ras* Oncogene. Alan W. Partin, John T. Isaacs, Brent Treiger, and Donald S. Coffey.
- *6054 Absence of Induction of Enhanced Reactivation of Herpes Simplex Virus in Cells from Xeroderma Pigmentosum Patients without Skin Cancer. Peter J. Abrahams, Arno A. M. van der Kleij, Ron Schouten, and Alex J. van der Eb.

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

- * 6058** Formation and Repair of Cisplatin-induced Adducts to DNA in Cultured Normal and Repair-deficient Human Fibroblasts. Fransje J. Dijt, Anne Marie J. Fichtinger-Schepman, Frits Berends, and Jan Reedijk.
- 6063** Rat Prostatic Weight Regression in Reaction to Ketoconazole, Cyproterone Acetate, and RU 23908 as Adjuncts to a Depot Formulation of Gonadotropin-releasing Hormone Analogue. Steven W. J. Lamberts, Piet Uitterlinden, and Frank H. de Jong.
- * 6069** *In Vitro* Generation and Antitumor Activity of Adherent Lymphokine-activated Killer Cells from the Blood of Patients with Brain Tumors. Theresa L. Whiteside, Yi Li Wang, Robert G. Selker, and Ronald B. Herberman.
- 6076** Comparison of Mouse *pro-1* and *pro-2* Transfectants for Responses to Tumor Promoters and Antipromoters. N. H. Colburn, B. M. Smith, E. J. Wendel, Y. Nakamura, and D. Winterstein.
- * 6081** *In Vivo* Effects of Recombinant Human Interleukin 2 on Antitumor and Antiviral Natural Immunity in Induced or Natural Murine Immunodeficiency States. L. D. Butler, C. P. Browne, N. K. Layman, P. Riedl, J. Tang, P. Marder, D. DeLong, J. Manetta, L. Bobbitt, J. Strnad, and R. Gadski.
- * 6090** Trichothiodystrophy, a Human DNA Repair Disorder with Heterogeneity in the Cellular Response to Ultraviolet Light. Alan R. Lehmann, Colin F. Arlett, Bernard C. Broughton, Susan A. Harcourt, Herdis Steingrimsdottir, Miria Stefanini, A. Malcolm R. Taylor, A. T. Natarajan, Stuart Green, Mary D. King, Rona M. MacKie, John B. P. Stephenson, and John L. Tolmie.
- * 6097** Superiority of an Acid-labile Daunorubicin-Monoclonal Antibody Immunoconjugate Compared to Free Drug. Robert O. Dillman, Duane E. Johnson, Daniel L. Shawler, and James A. Koziol.
- * 6103** Differentiation-associated Changes in the Expression of Chondroitin Sulfate Proteoglycan in Induced U-937 Cells. Svein O. Kolset, Irene Ivhed, Aud Øvervatn, and Kenneth Nilsson.
- 6109** Genetic Evidence for Progressive Selection and Overgrowth of Primary Tumors by Metastatic Cell Subpopulations. C. Waghorne, M. Thomas, A. Lagarde, R. S. Kerbel, and M. L. Breitman.
- 6115** Photodynamic Effect in an Experimental Bladder Tumor Treated with Intratumor Injection of Hematoporphyrin Derivative. Chi-Wei Lin, Toshiyasu Amano, Adrienne R. Rutledge, Janine R. Shulok, and George R. Prout, Jr.
- * 6121** Effects of the Pineal Hormone Melatonin on the Proliferation and Morphological Characteristics of Human Breast Cancer Cells (MCF-7) in Culture. Steven M. Hill and David E. Blask.
- * 6127** Characterization of a Human Endocrine Tissue and Tumor-associated Ewing's Sarcoma Antigen. Gerhard Hamilton, Erich J. Fellingner, Inge Schratter, and Arnulf Fritsch.
- * 6132** Immunocytochemical Study of Progesterone Receptors in Hyperplastic and Neoplastic Endometrial Tissues. Christine Bergeron, Alex Ferenczy, David O. Toft, and Gopalan Shyamala.
- * 6137** Establishment of a Human Megakaryoblastic Cell Line (T-33) from Chronic Myelogenous Leukemia in Megakaryoblastic Crisis. Tsuyoshi Tange, Kazuhiko Nakahara, Kinuko Mitani, Ieharu Yamasaki, Hideyuki Yasuda, Fumihiko Tanaka, Masaru Mizuguchi, Hideaki Oda, Yutaka Yatomi, Riichiro Takanashi, Seitoku Fujioka, Kazuyoshi Yamaguchi, and Yoshinori Urano.
- 6145** Biochemical Characteristics of Hyperplastic Rat Bile Ductular Epithelial Cells Cultured "on Top" and "Inside" Different Extracellular Matrix Substitutes. Georg A. Mathis, Sandra A. Walls, and Alphonse E. Sirica.
- 6154** Generation of Two Murine Monoclonal Antibodies That Can Discriminate *N*-Glycolyl and *N*-Acetyl Neuraminic Acid Residues of G_{M2} Gangliosides. Masayuki Miyake, Motohiko Ito, Shigeki Hitomi, Sadao Ikeda, Toshihiko Taki, Masahiko Kurata, Akihiro Hino, Naoko Miyake, and Reiji Kannagi.
- * 6161** Effect of Sodium Butyrate and Other Differentiation Inducers on Poorly Differentiated Human Ovarian Adenocarcinoma Cell Lines. Simon P. Langdon, Mary M. Hawkes, Frances G. Hay, Sandra S. Lawrie, Dick J. Schol, Jo Hilgers, Robert C. F. Leonard, and John F. Smyth.
- * 6166** Characterization and Properties of Nine Human Ovarian Adenocarcinoma Cell Lines. Simon P. Langdon, Sandra S. Lawrie, Frances G. Hay, Mary M. Hawkes, Amanda McDonald, Ian P. Hayward, Dick J. Schol, Jo Hilgers, Robert C. F. Leonard, and John F. Smyth.
- * 6173** Modulation of HT-29 Human Colonic Cancer Cell Differentiation with Calmidazolium and 12-*O*-Tetradecanoylphorbol-13-acetate. Cécile Rochette-Egly, Michèle Kedingler, and Katy Haffen.
- 6183** Specificity Study to Evaluate Induction of Aberrant Crypts in Murine Colons. Elizabeth A. McLellan and Ranjana P. Bird.
- 6187** Aberrant Crypts: Potential Preneoplastic Lesions in the Murine Colon. Elizabeth A. McLellan and Ranjana P. Bird.
- * 6193** Modulation of the Cytotoxic Effect of 5-Fluorouracil by *N*-Methylformamide on a Human Colon Carcinoma Cell Line. Gabriella Zupi, Maurizio Marangolo, Giuseppe Arancia, Claudia Greco, Nina Laudonio, Francesca Iosi, Giuseppe Formisano, and Walter Malorni.
- * 6201** Combined Ultrastructural and Biochemical Study of Cellular Processing of Vasoactive Intestinal Peptide and Its Receptors in Human Colonic Carcinoma Cells in Culture. Gilles Hejblum, Paule Gali, Claudine Boissard, Any Astesano, Jean-Claude Marie, Anny Anteunis, Danielle Hui Bon Hoa, and Gabriel Rosselin.
- * 6211** Development of a Dual Label Fluorescence Technique That Can Be Utilized to Elucidate the Mechanism of Action of Monoclonal Antibody-Drug Conjugates. James J. Starling, N. Ann Hinson, Philip Marder, Ronald S. Maciak, Bennett C. Laguzza, Jose R. F. Corvalan, and William Smith.

CLINICAL AND EPIDEMIOLOGICAL INVESTIGATIONS

- 6217** Reproductive Factors and Risk of Cancer of the Uterine Corpus: A Prospective Study. Gunnar Kvåle, Ivar Heuch, and Giske Ursin.
- 6222** Steroid Receptors in Epithelial Ovarian Carcinoma: Relation to Clinical Parameters and Survival. Adalgisa Bizzi, Anna Maria Codegani, Fabio Landoni, Guido Marelli, Silvia Marsoni, Anna Maria Spina, Walter Torri, and Costantino Mangioni.
- 6227** Stromal Fibronectin Staining Pattern and Metastasizing Ability of Human Breast Carcinoma. Lise Christensen, Maja Nielsen, Johan Andersen, and Inge Clemmensen.
- 6234** Ultrastructure of Myeloma Cells in Patients with Common Acute Lymphoblastic Leukemia Antigen (CALLA)-positive Myeloma. Hitoshi Kurabayashi, Kazuo Kubota, Hirokazu Murakami, Jun'ichi Tamura, Morio Sawamura, Eishi Nogiwa, Shougo Shinonome, Shuichi Miyawaki, Sadao Sato, Mitsuhiro Omine, Takuji Naruse, Takuo Shirakura, and Jun Tsuchiya.
- 6238** Cell Kinetics in Human Malignancies Studied with *in Vivo* Administration of Bromodeoxyuridine and Flow Cytometry. Alberto Riccardi, Marco Danova, George Wilson, Giovanni Ucci, Peter Dörmer, Giuliano Mazzini, Silvia Brugnattelli, Margherita Girino, Nicholas J. McNally, and Edoardo Ascari.

6246 Phase I-II Study of Epirubicin in Multiple Myeloma. Delvyn C. Case, Jr., Thomas J. Ervin, Richard Gams, Henry L. Sonneborn, Stephen D. Paul, and Fred B. Oldham.

* * *

Meeting Report

6249 U.S.—Japan Cooperative Cancer Research Program Conference. Henry C. Pitot and Kiyomi Sato.

6252 Announcements

Eightieth Annual Meeting of the AACR
AACR Special Conferences in Cancer Research
Future Annual Meetings of the AACR
Collected Perspectives in Cancer Research
Recent Deaths
Calendar of Events

6253 Erratum

T. Matsumoto *et al.*, 48: 3031–3034, 1988.

6254 Author Index

6255 Statement of Ownership, Management and Circulation

Applications for active and corresponding membership and for associate membership in the American Association for Cancer Research available in the back of this issue.

Cancer Research

VOLUME 48 • NUMBER 21

CONTENTS Arranged by Subject Category

Perspectives in Cancer Research

- 5911 Genetic Convergence and Divergence in Tumor Progression. Sverre Heim, Nils Mandahl, and Felix Mitelman.

BASIC SCIENCES

Biochemistry and Biophysics

- 5937 Effect of Diallyl Sulfide on Rat Liver Microsomal Nitrosamine Metabolism and Other Monooxygenase Activities. John F. Brady, Dechun Li, Hiroyuki Ishizaki, and Chung S. Yang.
- 6002 Influence of WR2721 on DNA Cross-Linking by Nitrogen Mustard in Normal Mouse Bone Marrow and Leukemia Cells *in Vivo*. Wilfried J. DeNeve, Carleen K. Everett, Jerry E. Suminski, and Frederick A. Valeriote.
- *6037 Flow Cytometric Enumeration of Drug-resistant Tumor Cells. Anna deFazio, Elizabeth A. Musgrove, and Martin H. N. Tattersall.
- *6058 Formation and Repair of Cisplatin-induced Adducts to DNA in Cultured Normal and Repair-deficient Human Fibroblasts. Fransje J. Dijt, Anne Marie J. Fichtinger-Schepman, Frits Berends, and Jan Reedijk.
- *6103 Differentiation-associated Changes in the Expression of Chondroitin Sulfate Proteoglycan in Induced U-937 Cells. Svein O. Kolset, Irene Ivhed, Aud Øvervatn, and Kenneth Nilsson.
- *6127 Characterization of a Human Endocrine Tissue and Tumor-associated Ewing's Sarcoma Antigen. Gerhard Hamilton, Erich J. Fellingner, Inge Schratte, and Arnulf Fritsch.

Carcinogenesis

- 5941 Inhibitory Effect of Curcumin, Chlorogenic Acid, Caffeic Acid, and Ferulic Acid on Tumor Promotion in Mouse Skin by 12-*O*-Tetradecanoylphorbol-13-acetate. Mou-Tuan Huang, Robert C. Smart, Ching-Quo Wong, and Allan H. Conney.
- 5969 Spontaneous Formation of Foci of Morphologically Transformed Cells in Populations of C3H 10T½ (Clone 8) Cells. Joe W. Grisham, Gary J. Smith, Lester W. Lee, Karin S. Bentley, and Mohammed V. Fatteh.
- 5977 Induction of Foci of Morphologically Transformed Cells in Synchronized Populations of 10T½ Cells by *N*-Methyl-*N'*-nitro-*N*-nitrosoguanidine and the Effect of Spontaneous Transformation on Calculated Transformation Frequency. Joe W. Grisham, Gary J. Smith, Lester W. Lee, Karin S. Bentley, and Mohammed V. Fatteh.
- *5984 Mimicry of Bryostatin 1 Induced Phosphorylation Patterns in HL-60 Cells by High Phorbol Ester Concentrations. Barbour S. Warren, Yoshiaki Kamano, George R. Pettit, and Peter M. Blumberg.
- *6090 Trichothiodystrophy, a Human DNA Repair Disorder with Heterogeneity in the Cellular Response to Ultraviolet Light. Alan R. Lehmann, Colin F. Arlett, Bernard C. Broughton, Susan A. Harcourt, Herdis Steingrimsdottir, Miria Stefanini, A. Malcolm R. Taylor, A. T. Natarajan, Stuart Green, Mary D. King, Rona M. MacKie, John B. P. Stephenson, and John L. Tolmie.
- 6183 Specificity Study to Evaluate Induction of Aberrant Crypts in Murine Colons. Elizabeth A. McLellan and Ranjana P. Bird.

- 6187 Aberrant Crypts: Potential Preneoplastic Lesions in the Murine Colon. Elizabeth A. McLellan and Ranjana P. Bird.

Endocrinology

- 6063 Rat Prostatic Weight Regression in Reaction to Ketoconazole, Cyproterone Acetate, and RU 23908 as Adjuncts to a Depot Formulation of Gonadotropin-releasing Hormone Analogue. Steven W. J. Lamberts, Piet Uitterlinden, and Frank H. de Jong.
- *6121 Effects of the Pineal Hormone Melatonin on the Proliferation and Morphological Characteristics of Human Breast Cancer Cells (MCF-7) in Culture. Steven M. Hill and David E. Blask.
- *6132 Immunocytochemical Study of Progesterone Receptors in Hyperplastic and Neoplastic Endometrial Tissues. Christine Bergeron, Alex Ferenczy, David O. Toft, and Gopalan Shyamala.
- *6201 Combined Ultrastructural and Biochemical Study of Cellular Processing of Vasoactive Intestinal Peptide and Its Receptors in Human Colonic Carcinoma Cells in Culture. Gilles Hejblum, Paule Gali, Claudine Boissard, Any Astesano, Jean-Claude Marie, Anny Anteunis, Danielle Hui Bon Hoa, and Gabriel Rosselin.

Immunology

- 5922 Cooperation between Early Acting Delayed-type Hypersensitivity T-Cells and Cultured Effector Cells in Tumor Rejection. JoAnn Trial.
- 6044 Activation of Mouse Macrophages by Alkylglycerols, Inflammation Products of Cancerous Tissues. Nobuto Yamamoto, Donald A. St. Claire, Jr., Sadamu Homma, and Benjamin Z. Ngwenya.
- *6069 *In Vitro* Generation and Antitumor Activity of Adherent Lymphokine-activated Killer Cells from the Blood of Patients with Brain Tumors. Theresa L. Whiteside, Yi Li Wang, Robert G. Selker, and Ronald B. Herberman.
- *6081 *In Vivo* Effects of Recombinant Human Interleukin 2 on Antitumor and Antiviral Natural Immunity in Induced or Natural Murine Immunodeficiency States. L. D. Butler, C. P. Browne, N. K. Layman, P. Riedl, J. Tang, P. Marder, D. DeLong, J. Manetta, L. Bobbitt, J. Strnad, and R. Gadski.
- *6097 Superiority of an Acid-labile Daunorubicin-Monoclonal Antibody Immunoconjugate Compared to Free Drug. Robert O. Dillman, Duane E. Johnson, Daniel L. Shawler, and James A. Koziol.
- 6154 Generation of Two Murine Monoclonal Antibodies That Can Discriminate *N*-Glycolyl and *N*-Acetyl Neuraminic Acid Residues of G_{M2} Gangliosides. Masayuki Miyake, Motohiko Ito, Shigeki Hitomi, Sadao Ikeda, Toshihiko Taki, Masahiko Kurata, Akihiro Hino, Naoko Miyake, and Reiji Kannagi.

Molecular Biology and Genetics

- *5927 Genes Amplified and Overexpressed in Human Multidrug-resistant Cell Lines. A. M. Van der Bliek, F. Baas, T. Van der Velde-Koerts, J. L. Biedler, M. B. Meyers, R. F. Ozols, T. C. Hamilton, H. Joenje, and P. Borst.
- 5953 Assessment of Cell Cycle Duration on the Incidence of Sister Chromatid Exchanges in Somatic and Spermatogonial Cells of the Rat. Anil K. Sinha, V. Ann Linscombe, B. Bhaskar Gollapudi, John A. Zempel, and Philip G. Watanabe.

* Indicates studies using human-derived material.

- *5965 **Effects of Tiazofurin on Protooncogene Expression during HL-60 Cell Differentiation.** Surender M. Kharbanda, Matthew L. Sherman, David R. Spriggs, and Donald W. Kufe.
- *6054 **Absence of Induction of Enhanced Reactivation of Herpes Simplex Virus in Cells from Xeroderma Pigmentosum Patients without Skin Cancer.** Peter J. Abrahams, Arno A. M. van der Kleij, Ron Schouten, and Alex J. van der Eb.
- 6076 **Comparison of Mouse *pro-1* and *pro-2* Transfectants for Responses to Tumor Promoters and Antipromoters.** N. H. Colburn, B. M. Smith, E. J. Wendel, Y. Nakamura, and D. Winterstein.
- 6109 **Genetic Evidence for Progressive Selection and Overgrowth of Primary Tumors by Metastatic Cell Subpopulations.** C. Waghorne, M. Thomas, A. Lagarde, R. S. Kerbel, and M. L. Breitman.

Preclinical Pharmacology and Experimental Therapeutics

- 5933 **Inhibitory Effect of Adenosine Dialdehyde on *in Situ* Murine Neuroblastoma Growth.** Bruce Bostrom, Harry P. C. Hogenkamp, and Bernard L. Mirkin.
- 5947 **Metabolism of SR 4233 by Chinese Hamster Ovary Cells: Basis of Selective Hypoxic Cytotoxicity.** Margaret A. Baker, Elaine M. Zeman, V. Kate Hirst, and J. Martin Brown.
- *5956 **Combined Modalities of Resistance in Etoposide-resistant Human KB Cell Lines.** Peter J. Ferguson, Michael H. Fisher, John Stephenson, De-hua Li, Bing-sen Zhou, and Yung-chi Cheng.
- 5995 **Identification of the Bromosulphophthalein-sensitive Efflux Route for Methotrexate as the Site of Action of Vincristine in the Vincristine-dependent Enhancement of Methotrexate Uptake in L1210 Cells.** Gary B. Henderson and Judy M. Tsuji.
- *6006 **Correlation between the Anticellular and DNA Fragmenting Activities of Tumor Necrosis Factor.** Berish Y. Rubin, Larry J. Smith, Gary R. Hellermann, Ruth M. Lunn, Norman K. Richardson, and Sylvia L. Anderson.
- *6011 **Antitumor Effects of Recombinant Human Interleukin 1 α in RIF-1 and Panc02 Solid Tumors.** Paul G. Braunschweiger, Candace S. Johnson, Nirmal Kumar, Virginia Ord, and Philip Furmanski.
- 6017 **Quiescent LLC-PK₁ Cells as a Model for *cis*-Diamminedichloroplatinum(II) Nephrotoxicity and Modulation by Thiol Rescue Agents.** Thomas J. Montine and Richard F. Borch.
- *6029 **Antitumor Activity of Quinocarmycin (KW2152) against Various Cultured Leukemia and Lymphoma Cell Lines *in Vitro*.** Satoshi Inaba and Masanori Shimoyama.
- *6033 **Reduction of Epidermal Growth Factor Binding in Human Breast Cancer Cell Lines by an Alkyl-Lysophospholipid.** Hiroshi Kosano and Osamu Takatani.
- 6115 **Photodynamic Effect in an Experimental Bladder Tumor Treated with Intratumor Injection of Hematoporphyrin Derivative.** Chi-Wei Lin, Toshiyasu Amano, Adrienne R. Rutledge, Janine R. Shulok, and George R. Prout, Jr.
- *6193 **Modulation of the Cytotoxic Effect of 5-Fluorouracil by *N*-Methylformamide on a Human Colon Carcinoma Cell Line.** Gabriella Zupi, Maurizio Marangolo, Giuseppe Arancia, Claudia Greco, Nina Laudonio, Francesca Iosi, Giuseppe Formisano, and Walter Malorni.
- *6211 **Development of a Dual Label Fluorescence Technique That Can Be Utilized to Elucidate the Mechanism of Action of Monoclonal Antibody-Drug Conjugates.** James J. Starling, N. Ann Hinson, Philip Marder, Ronald S. Maciak, Bennett C. Laguzza, Jose R. F. Corvalan, and William Smith.

Tumor Biology

- 5917 **FSaII Mouse Tumor Metabolic Changes with Different Doses of Glucose Measured by ³¹P Nuclear Magnetic Resonance.** Jason A. Koutcher, Mary P. Fellenz, Peter W. Vaupel, and Leo E. Gerweck.
- *5989 **Changes Observed in the Growth Fraction, Labeling Index, Duration of S Phase, and Total Cell Cycle Times of HL-60 Cells as They Undergo Differentiation in Response to Retinoic Acid.** Sefer Gezer, Zahida Yasin, Suzan Imren, James Freeman, Ann Black, and Azra Raza.
- *6025 ***myc* Family Gene Abnormality in Lung Cancers and Its Relation to Xenotransplantability.** Akihiko Gemma, Takashi Nakajima, Masahiko Shiraishi, Masayuki Noguchi, Masahiro Gotoh, Takao Sekiya, Hisanobu Niitani, and Yukio Shimosato.
- 6050 **Early Cell Motility Changes Associated with an Increase in Metastatic Ability in Rat Prostatic Cancer Cells Transfected with the *v-Harvey-ras*-Oncogene.** Alan W. Partin, John T. Isaacs, Brent Treiger, and Donald S. Coffey.
- *6137 **Establishment of a Human Megakaryoblastic Cell Line (T-33) from Chronic Myelogenous Leukemia in Megakaryoblastic Crisis.** Tsuyoshi Tange, Kazuhiko Nakahara, Kinuko Mitani, Ieharu Yamasaki, Hideyuki Yasuda, Fumihiko Tanaka, Masaru Mizuguchi, Hideaki Oda, Yutaka Yatomi, Riichiro Takanashi, Seitoku Fujioka, Kazuyoshi Yamaguchi, and Yoshinori Urano.
- 6145 **Biochemical Characteristics of Hyperplastic Rat Bile Ductular Epithelial Cells Cultured "on Top" and "Inside" Different Extracellular Matrix Substitutes.** Georg A. Mathis, Sandra A. Walls, and Alphonse E. Sirica.
- *6161 **Effect of Sodium Butyrate and Other Differentiation Inducers on Poorly Differentiated Human Ovarian Adenocarcinoma Cell Lines.** Simon P. Langdon, Mary M. Hawkes, Frances G. Hay, Sandra S. Lawrie, Dick J. Schol, Jo Hilgers, Robert C. F. Leonard, and John F. Smyth.
- *6166 **Characterization and Properties of Nine Human Ovarian Adenocarcinoma Cell Lines.** Simon P. Langdon, Sandra S. Lawrie, Frances G. Hay, Mary M. Hawkes, Amanda McDonald, Ian P. Hayward, Dick J. Schol, Jo Hilgers, Robert C. F. Leonard, and John F. Smyth.
- *6173 **Modulation of HT-29 Human Colonic Cancer Cell Differentiation with Calmidazolium and 12-*O*-Tetradecanoylphorbol-13-acetate.** Cécile Rochette-Egly, Michèle Kedingler, and Katy Haffen.

CLINICAL AND EPIDEMIOLOGICAL INVESTIGATIONS

Clinical

- 6222 **Steroid Receptors in Epithelial Ovarian Carcinoma: Relation to Clinical Parameters and Survival.** Adalgisa Bizzi, Anna Maria Codegioni, Fabio Landoni, Guido Marelli, Silvia Marsoni, Anna Maria Spina, Walter Torri, and Costantino Mangioni.
- 6227 **Stromal Fibronectin Staining Pattern and Metastasizing Ability of Human Breast Carcinoma.** Lise Christensen, Maja Nielsen, Johan Andersen, and Inge Clemmensen.
- 6234 **Ultrastructure of Myeloma Cells in Patients with Common Acute Lymphoblastic Leukemia Antigen (CALLA)-positive Myeloma.** Hitoshi Kurabayashi, Kazuo Kubota, Hirokazu Murakami, Jun'ichi Tamura, Morio Sawamura, Eishi Nogiwa, Shougo Shinonome, Shuichi Miyawaki, Sadao Sato, Mitsuhiro Omine, Takuji Naruse, Takuo Shirakura, and Jun Tsuchiya.
- 6238 **Cell Kinetics in Human Malignancies Studied with *in Vivo* Administration of Bromodeoxyuridine and Flow Cytometry.** Alberto Riccardi, Marco Danova, George Wilson, Giovanni Ucci, Peter Dörmer, Giuliano Mazzini, Silvia Brugnattelli, Margherita Girino, Nicholas J. McNally, and Edoardo Ascari.

6246 Phase I–II Study of Epirubicin in Multiple Myeloma. Delvyn C. Case, Jr., Thomas J. Ervin, Richard Gams, Henry L. Sonneborn, Stephen D. Paul, and Fred B. Oldham.

Epidemiological

6217 Reproductive Factors and Risk of Cancer of the Uterine Corpus: A Prospective Study. Gunnar Kvåle, Ivar Heuch, and Giske Ursin.

* * *

Meeting Report

6249 U.S.—Japan Cooperative Cancer Research Program Conference. Henry C. Pitot and Kiyomi Sato.

6252 Announcements

Eightieth Annual Meeting of the AACR
AACR Special Conferences in Cancer Research
Future Annual Meetings of the AACR
Collected Perspectives in Cancer Research
Recent Deaths
Calendar of Events

6253 Erratum

T. Matsumoto *et al.*, 48: 3031–3034, 1988.

6254 Author Index

6255 Statement of Ownership, Management and Circulation

Applications for active and corresponding membership and for associate membership in the American Association for Cancer Research available in the back of this issue.

Cancer Research

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

48 (21)

Cancer Res 1988;48:5911-6253.

Updated version Access the most recent version of this article at:
<http://cancerres.aacrjournals.org/content/48/21.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, contact the AACR Publications Department at permissions@aacr.org.