



# Cancer Research

The Official Organ of the American Association for Cancer Research, Inc.

Volume 35 / Number 12 / December 1975

## Contents

*Asterisks preceding page numbers refer to human studies.*

- \*3551 Cecil H. Fox, James K. Selkirk, Floyd M. Price, Robert G. Croy, Katherine K. Sanford, and Michele Cottler-Fox.** Metabolism of Benzo(a)pyrene by Human Epithelial Cells *in Vitro*.  
Liver and Chemically Induced Hepatomas.
- 3558 Luigi Varesio, Pietro Cappuccinelli, and Guido Forni.** Inhibition of Replication of Virus-transformed Fibroblasts by Antibodies to RNA.
- 3566 Tsu T. Chen, Emilio C. Mora, and John Mealey, Jr.** Cultivation of Medulloblastoma Cells Derived from Simian Adenovirus SA7-induced Hamster Brain Tumor.
- 3571 Malka Robert-Gero, Françoise Lawrence, and Philippe Vigier.** Inhibition by Methioninyl Adenylylate of Focus Formation by Rous Sarcoma Virus.
- \*3577 George E. Pierce and Bonita DeVald.** Microcytotoxicity Assays of Tumor Immunity in Patients with Bronchogenic Carcinoma Correlated with Clinical Status.
- 3585 Alain Declève, Marilyn Travis, Irving L. Weissman, Miriam Lieberman, and Henry S. Kaplan.** Focal Infection and Transformation *in Situ* of Thymus Cell Subclasses by a Thymotropic Murine Leukemia Virus.
- 3596 James Shaeffer, Anas M. El-Mahdi, and William C. Constable.** Survival of Mice with Metastatic Osteosarcoma Treated by Cyclophosphamide or Radiotherapy.
- 3599 G. T. Bowden, James E. Trosko, B. G. Shapas, and R. K. Boutwell.** Excision of Pyrimidine Dimers from Epidermal DNA and Nonsemiconservative Epidermal DNA Synthesis following Ultraviolet Irradiation of Mouse Skin.
- 3608 Charles L. Harris, Fred T. Kerns, and William St. Clair.** RNA Sulfurtransferase Activity in Rat
- 3611 Ching Yung Wang, Keiji Muraoka, and George T. Bryan.** Mutagenicity of Nitrofurans, Nitrothiophenes, Nitropyrroles, Nitroimidazole, Aminothiophenes and Aminothiazoles in *Salmonella typhimurium*.
- 3618 Shrago Don and Uriel Bachrach.** Polyamine Metabolism in Normal and in Virus-transformed Chick Embryo Fibroblasts.
- \*3623 Hans-Jochen Illiger, Christian Sauter, and Jean Lindenmann.** Replication of an Avian Myxovirus in Tumor Cell Cultures Obtained from Effusions of Mammary Carcinoma Patients.
- 3628 Clement A. Diglio, William C. D. Hare, David C. Dodd, Robert R. Marshak, and Jorge F. Ferrer.** Cytogenetic, Cytological, and Virological Characteristics of a Bovine Fibrosarcoma.
- 3636 Ugo Carpentieri and Louis A. Sordahl.** Functional Properties of Mitochondria Isolated from Murine L5178 Lymphoblasts Grown in Cell Culture.
- 3642 Shen K. Yang, James K. Selkirk, Elliot V. Plotkin, and Harry V. Gelboin.** Kinetic Analysis of the Metabolism of Benzo(a)pyrene to Phenols, Dihydrodiols, and Quinones by High-Pressure Liquid Chromatography Compared to Analysis by Aryl Hydrocarbon Hydroxylase Assay, and the Effect of Enzyme Induction.
- \*3651 James K. Selkirk, Robert G. Croy, James P. Whitlock, Jr., and Harry V. Gelboin.** *In Vitro* Metabolism of Benzo(a)pyrene by Human Liver Microsomes and Lymphocytes.
- \*3656 Annemarie Hekman and Maria H. G. Melis.** Increased Expression of a Normal Lymphocyte Membrane Antigen on Chronic Lymphatic Leukemia Cells.

- 3663 Hiroshi Hoshino and Hiroshi Tanooka.** Interval Effect of  $\beta$ -Irradiation and Subsequent 4-Nitroquinoline 1-Oxide Painting on Skin Tumor Induction in Mice.
- 3667 Paul Kleihues, Jennifer M. Margison, and Geoffrey P. Margison.** Dimethylnitrosamine-induced Inhibition of Hepatic Protein Synthesis *in Vitro* and the Effect of Pretreatment with Cystamine or Pregnenolone-16 $\alpha$ -carbonitrile.
- 3673 W. E. G. Müller, H. J. Rohde, R. Steffen, A. Maidhof, M. Lachmann, R. K. Zahn, and H. Umezawa.** Influence of Formycin B on Polyadenosine Diphosphoribose Synthesis *in Vitro* and *in Vivo*.
- 3682 Tomoyuki Kitagawa, George Michalopoulos, and Henry C. Pitot.** Unscheduled DNA Synthesis in Cells from *N*-2-Fluorenylacetamide-induced Hyperplastic Nodules of Rat Liver Maintained in a Primary Culture System.
- 3693 Bela Toth.** Synthetic and Naturally Occurring Hydrazines as Possible Cancer Causative Agents.
- 3698 Przemyslaw Janik, Per Briand, and Niels R. Hartmann.** The Effect of Estrone-Progesterone Treatment on Cell Proliferation Kinetics of Hormone-dependent GR Mouse Mammary Tumors.
- 3705 Takusaburo Ebina and Nakao Ishida.** Inhibition of Formation of Microtubular Paracrystals in HeLa-S3 Cells by Neocarzinostatin.
- \*3710 Christopher P. Holroyde, Thomas G. Gabuzda, Richard C. Putnam, Pavle Paul, and George A. Reichard.** Altered Glucose Metabolism in Metastatic Carcinoma.
- \*3715 Kenneth L. Sacks, Charles Olweny, Dean L. Mann, Richard Simon, Gloria E. Johnson, David G. Poplack, and Brigid G. Leventhal.** A Clinical Trial of Chemotherapy and RAJI Immunotherapy in Advanced Acute Lymphatic Leukemia.
- \*3721 Bijay Mukherji, Douglas Vassos, Arlene Flowers, Sheldon C. Binder, and Larry Nathanson.** Variables and Specificity of *in Vitro* Lymphocyte-mediated Cytotoxicity in Human Melanoma.
- 3731 Nathan H. Sloane.**  $\alpha$ -Naphthoflavone Activation of 6-Hydroxymethylbenzo( $\alpha$ )pyrene Synthetase.
- 3735 David Kessel and James G. Belton.** Effects of 4-Nitrobenzofurazans and their *N*-Oxides on Synthesis of Protein and Nucleic Acid by Murine Leukemia Cells.
- 3741 B. H. Toh and H. K. Muller.** Smooth Muscle-associated Antigen in Experimental Cutaneous Squamous Cell Carcinoma, Keratoacanthoma, and Papilloma.
- 3746 Clifford W. Welsch, Sally Horowitz, and Charles B. Huggins.** Influence of Prolactin on Carcinogen-induced Leukemogenesis in Long-Evans Rats.
- 3750 Stephen J. Mohr, Michael A. Chirigos, Frederick S. Fuhrman, and James W. Pryor.** Pyran Copolymer as an Effective Adjuvant to Chemotherapy against a Murine Leukemia and Solid Tumor.
- 3755 Peter J. Cox, Barry J. Phillips, and Peter Thomas.** The Enzymatic Basis of the Selective Action of Cyclophosphamide.
- 3762 Gordon C. Hard.** Autoradiographic Analysis of Proliferative Activity in Rat Kidney Epithelial and Mesenchymal Cell Subpopulations following a Carcinogenic Dose of Dimethylnitrosamine.
- 3774 Ronald W. Gillette and Charles W. Boone.** Changes in the Mitogen Response of Lymphoid Cells with Progressive Tumor Growth.
- 3780 O. G. Fahmy and Myrtle J. Fahmy.** Genetic Properties of *N*- $\alpha$ -Acetoxymethyl-*N*-methylnitrosamine in Relation to the Metabolic Activation of *N,N*-Dimethylnitrosamine.
- 3786 Keiji Toyoshima and Joseph Leighton.** Bladder Calculi and Urothelial Hyperplasia with Papillomatosis in the Rat following Insertion of Chalk Powder in the Bladder Cavity with Subsequent Trauma of the Bladder Wall.
- 3792 George G. Hatch, Bruce C. Casto, Kenneth J. McCormick, and John J. Trentin.** RNA Type C Virus Antigens in Hamster Cells Transformed by Carcinogenic DNA Viruses and Chemicals.
- 3798 Christopher Carruthers, Alverna Baumler, Ann Neilson, and David Pressman.** Binding of the Azocarcinogen 3'-Methyl-*p*-dimethylaminoazobenzene to Cellular Components of Normal Rat Liver and Azocarcinogen-induced Hepatomas.
- \*3807 Anthony Marchand, Cecilia M. Fenoglio, Robert Pascal, Ralph M. Richart, and Sidney Bennett.** Carcinoembryonic Antigen in Human Ovarian Neoplasms.
- 3811 David H. Swenson, James A. Miller, and Elizabeth C. Miller.** The Reactivity and Carcinogenicity of Aflatoxin B<sub>1</sub>-2,3-Dichloride, a Model for the Putative 2,3-Oxide Metabolite of Aflatoxin B<sub>1</sub>.
- 3824 Kazymir M. Pozharisski.** The Significance of Non-specific Injury for Colon Carcinogenesis in Rats.

**3831** Announcement from the Editor.  
**3832** Announcements.  
**3833** Erratum.  
**3834** Acknowledgment to Reviewers.

**3838** Author Index to Volume 35.  
**3863** Subject Index to Volume 35.  
**iii** Contents of Volume 35, 1975.  
**xvii** Cover Illustrations for 1975.

#### COVER LEGEND

CANCER RESEARCH for its cover theme this month in recognition of International Women's Year salutes the important contributions to cancer research made by eight senior women scientists, honored members of the American Association for Cancer Research (*clockwise from top left*):

Anna Goldfeder, of New York City, for her contributions to radiobiology and cancer research in mice (*e.g.*, *Cancer Res.*, *11*: 169, 1951).

Ragna Rask-Nielsen, of Denmark, for her studies on leukemia in mice and on biological effects of chemical carcinogens (*e.g.*, *J. Natl. Cancer Inst.*, *16*: 1129, 1956).

Katherine K. Sanford, of Bethesda, Maryland, for her contributions to tissue culture and carcinogenesis *in vitro* (*e.g.*, *J. Natl. Cancer Inst.*, *15*: 215, 1954).

Regina Schoental, of England, for her studies of chemical carcinogenesis, and the discovery of carcinogenic activity of pyrrolizidine alkaloids (*e.g.*, *Israel J. Med. Sci.*, *4*: 1133, 1968).

Helene Wallace Toolan, of Bennington, Vermont, for her contributions to experimental cancer biology, especially tumor heterotransplantation (*e.g.*, *Cancer Res.*, *14*: 660, 1954).

Jane C. Wright, of New York City, for her contributions to research in clinical cancer chemotherapy (*e.g.*, *Cancer*, *17*: 1045, 1964).

Rose Ruth Ellison, of Buffalo, New York, for her research in clinical cancer chemotherapy (*e.g.*, *Blood*, *32*: 507, 1968).

Elizabeth Fekete, of Bar Harbor, Maine, for her biological studies of cancer in mice, including effects of ova transfer (*e.g.*, *Cancer Res.*, *14*: 445, 1954).

M.B.S.

# Cancer Research

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

## 35 (12)

*Cancer Res* 1975;35:3551-3837.

**Updated version** Access the most recent version of this article at:  
<http://cancerres.aacrjournals.org/content/35/12.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/35/12.citation>. Click on "Request Permissions" which will take you to the Copyright Clearance Center's (CCC) Rightslink site.