CONTENTS

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


*5 Activation of the gadd153 Promoter by Genotoxic Agents: A Rapid and Specific Response to DNA Damage. Jennifer D. Luetthy and Nikki J. Holbrook.

*11 Abundance of the Primary Transcript and Its Processed Product of Growth-related Genes in Normal and Leukemic Cells during Proliferation and Differentiation. Sergio Ferrari, Enrico Tagliafeco, Rossella Manfredini, Alexis Grande, Elena Rossi, Patrizia Zucchini, Giuseppe Torelli, and Umberto Torelli.


*36 Intracellular Metabolism of 5-Formyl Tetrahydrofolate in Human Breast and Colon Cell Lines. Donna M. Boarman and Carmen J. Allegra.


*58 Nitroreductases and Glutathione Transferases That Act on 4-Nitroquinoline 1-Oxide and Their Differential Induction by Butylated Hydroxyanisole in Mice. J. Steven Stanley, J. Lyndal York, and Ann M. Benson.

*64 Use of Adaptive Control with Feedback to Individualize Suramin Dosing. Howard I. Scher, Duncan I. Jodrell, Jacqueline M. Iversen, Tracy Curley, William Tong, Merrill J. Egorin, and Alan Forrest.


*101 Preclinical Evaluation of Bryostatin as an Anticancer Agent against Several Murine Tumor Cell Lines: In Vitro versus In Vivo Activity. Ronald L. Hornung, John W. Pearson, Margaret Beckwith, and Dan L. Longo.


*121 Immunotherapy of Human Glioma Xenografts with Unlabeled, 111In-, or 125I-labeled Monoclonal Antibody 425 to Epidermal Growth Factor Receptor. Hans Bender, Hiroshi Takahashi, Koji Adachi, Paul Belser, Shaohong Liang, Marie Prewett, Martin Schrappe, Arne Sutter, Ulrich Rodeck, and Dorothée Herlyn.


*138 Melphalan Penetration of the Blood-Brain Barrier via the Neutral Amino Acid Transporter in Tumor-bearing Brain. Eain M. Cornford, Deborah Young, James W. Paxton, Graeme J. Finlay, William R. Wilson, and William M. Pardridge.

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


Effect of w3 and w6 Fatty Acids on Transformation of Cultured Cells by Irradiation and Transfection. Mareyuki Takahashi, Marek Przetakiewicz, Augustine Ong, Carmia Borek, and John M. Lowenstein.


Morphological Reversion of sis-transformed NIH3T3 Cells by Trichostatin A. Kenji Sugita, Kenzo Koizumi, and Hiroshi Yoshida.


Increased Sensitivity of Human Keratinocytes Immortalized by Human Papillomavirus Type 16 DNA to Growth Control by Retinoids. Lucia Pirisi, Ayse Batova, G. Ronald Jenkins, John R. Hodam, and Kim E. Creek.


Specific Binding to Protein Kinase C by Ingenol and Its Induction of Biological Responses. Clare M. Hasler, Geza Acs, and Peter M. Blumberg.

Relative Activity of Structural Analogues of AMSACRINE against Human Leukemia Cell Lines Containing AMSACRINE-sensitive or -resistant Forms of Topoisomerase II: Use of Computer Simulations in New Drug Development. Leonard A. Zelliing, Michael J. Mitchell, Patricia Satitpunwaycha, Janice Mayes, Elizabeth Altschuler, Michael Hinds, and Bruce C. Baguley.

Advances in Brief


Suppression of Acute Lymphoblastic Leukemia by the Human Wild-Type p53 Gene. Jien Cheng, Jiing-Kuan Yee, Jo Yeargin, Theodore Friedmann, and Martin Haas.


Role of Tamoxifen in the Induction of Hormone-independent Rat Mammary Tumors. Karin C. Fendl and Stephen J. Zimniski.

Announcements

Eighty-Third Annual Meeting of the AACR
AACR Special Conferences in Cancer Research
Future Annual Meetings of the AACR
Calendar of Events

Instructions for Authors

Author Index

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

- Employment Register Forms and Instructions
- Application for Active and Corresponding Membership
- Application for Associate Membership
- Advance Registration Form for the 83rd Annual Meeting

Also available in the back of this issue—
GUIDELINES FOR SUBMITTING DISKS TO AACR PUBLICATIONS
Cancer Research
VOLUME 52 • NUMBER 1
CONTENTS Arranged by Subject Category

Advances in Brief

*218 Altered p53 Gene Structure and Expression in Human Epithelial Cells after Exposure to Nickel. L. Mahle, R. A. Metcalf, D. Ryberg, W. P. Bennett, C. C. Harris, and A. Haugen.


BASIC SCIENCES

Biochemistry and Biophysics


58 Nitroreductases and Glutathione Transferases That Act on 4-Nitroquinoline 1-Oxide and Their Differential Induction by Butylated Hydroxyanisole in Mice. J. Steven Stanley, J. Lyndal York, and Ann M. Benson.


95 Identification of the Major Protein Components in Breast Secretions from Women with Benign and Malignant Breast Diseases. Luis M. Sánchez, Francisco Vizoso, Irene Díez-Itza, and Carlos López-Otin.


154 Effect of ω3 and ω6 Fatty Acids on Transformation of Cultured Cells by Irradiation and Transfection. Mareyuki Takahashi, Marek Przetakiewicz, Augustine Ong, Carmia Borek, and John M. Lowenstein.

Carcinogenesis


202 Specific Binding to Protein Kinase C by Ingenol and Its Induction of Biological Responses. Clare M. Hasler, Geza Acs, and Peter M. Blumberg.

Endocrinology


Immunology

*121 Immunotherapy of Human Gloma Xenografts with Unlabeled, 125I- or 131I-labeled Monoclonal Antibody 425 to Epidermal Growth Factor Receptor. Hans Bender, Hiroshi Takahashi, Koji Adachi, Paul Belser, Shaochong Liang, Marie Prewett, Martin Schrappe, Arne Sutter, Ulrich Rodeck, and Dorothee Herlyn.


Molecular Biology and Genetics

*5 Activation of the gadd153 Promoter by Genotoxic Agents: A Rapid and Specific Response to DNA Damage. Jennifer D. Luethy and Nikki J. Holbrook.

11 Abundance of the Primary Transcript and Its Processed Product of Growth-related Genes in Normal and Leukemic Cells during Proliferation and Differentiation. Sergio Ferrari, Enrico Tagliafico, Rossella Manfredini, Alexis Grande, Elena Rossi, Patrizia Zucchini, Giuseppe Torelli, and Umberto Torelli.

Preclinical Pharmacology and Experimental Therapeutics


* Indicates studies using human-derived material.
* 101 Preclinical Evaluation of Bryostatin as an Anticancer Agent against Several Murine Tumor Cell Lines: In Vitro versus In Vivo Activity. Ronald L. Hornung, John W. Pearson, Margaret Beckwith, and Dan L. Longo.


138 Melphalan Penetration of the Blood-Brain Barrier via the Neutral Amino Acid Transporter in Tumor-bearing Brain. Eain M. Cornford, Deborah Young, James W. Paxton, Graeme J. Finlay, William R. Wilson, and William M. Partridge.


* 209 Relative Activity of Structural Analogues of Amsacrine against Human Leukemia Cell Lines Containing Amsacrine-sensitive or -resistant Forms of Topoisomerase II: Use of Computer Simulations in New Drug Development. Leonard A. Zwelling, Michael J. Mitchell, Patricia Satitpunwachya, Janice Mayes, Elizabeth Altschuler, Michael Hinds, and Bruce C. Baguley.

Tumor Biology

* 24 Neuropeptide Signal Transduction in Lung Cancer: Clinical Implications of Bradykinin Sensitivity and Overall Heterogeneity. Paul A. Bunn, Jr., Daniel Chan, David G. Dienhart, Russell Tolley, Maureen Tagawa, and Philip J. Hewett.


168 Morphological Reversion of sis-transformed NIH3T3 Cells by Trichostatin A. Kenji Sugita, Kenzo Koizumi, and Hiroshi Yoshida.

MOLECULAR ONCOLOGY AS A BASIS FOR NEW STRATEGIES IN CANCER THERAPY

Second Joint Conference of the American Association for Cancer Research and the Japanese Cancer Association
Sheraton Waikiki Hotel, Honolulu, HI
February 10-14, 1992

SCIENTIFIC PROGRAM COMMITTEE

AACR
I. BERNARD WEINSTEIN / New York
Co-Chairperson
BRUCE A. CHABNER / Bethesda
YUNG-CHI CHENG / New Haven
HAROLD L. MOSES / Nashville
ANNA MARIE SKALKA / Philadelphia

JCA
SUSUMU NISHIMURA / Tokyo
Co-Chairperson
YOSHIYUKI HASHIMOTO / Tohoku
TADAO KAKIZOE / Tokyo
HIROSHI KOBAYASHI / Sapporo
TOSHIKAZU NAKAMURA / Kyushu
TAKAO SEKIYA / Tokyo

Keynote Addresses

TAKASHI SUGIMURA / Tokyo
BRUCE A. CHABNER / Bethesda

Oncogenes and Tumor Suppressor Genes

ANNA MARIE SKALKA / Philadelphia
KUMAO TOYOSHIMA / Osaka
CURTIS C. HARRIS / Bethesda
HIROTO OKAYAMA / Osaka
EDWARD HARLOW / Charlestown
TADASHI YAMAMOTO / Tokyo
SUSUMU NISHIMURA / Tokyo
JACKSON B. GIBBS / West Point
YUSUKE NAKAMURA / Tokyo

Growth Factors, Cytokines, and Receptors

YOJI IKAWA / Tsukuba
HAROLD L. MOSES / Nashville
MASAAKI TERADA / Tokyo
STUART A. AARONSON / Bethesda
TOSHI KURASUGI / Osaka
JOSEPH SCHLESSINGER / New York
TOSHIKAZU NAKAMURA / Fukuoka

The Cell Surface, Signal Transduction, and Chemoprevention

ELLEN S. VITETTA / Dallas
TOSHI KURIHARA / Tokyo
I. BERNARD WEINSTEIN / New York
KATSUHIKO MIKOSHIBA / Osaka
MINAKI NAGAO / Tokyo
SHOICHIRO TSUKITA / Okasaki
WAUN KI HONG / Houston

Recent Advances in Chemotherapy and Drug Resistance

ENRICO MIHICH / Buffalo
MESANORI SHIMOYAMA / Tokyo
KURT W. KOHN / Bethesda
JUDAH M. FOLKMAN / Boston
MICHAEL M. GOTTESMAN / Bethesda
TAKASHI TSURUO / Tokyo
SUSAN BAND HORWITZ / New York
HIROSHI MAEDA / Kumamoto

Molecular Targeting Approaches

V. CRAIG JORDAN / Madison
YOHSHU HISHIMOTO / Tohoku
TERUHIKO BEPPU / Tokyo
SHIN YONEHARA / Tokyo
PAUL S. MILLER / Baltimore
JOSEPH R. BERTINO / New York
TOSHI KURASUGI / Tokyo

Molecular Genetics, Models, and Strategies

MICHAEL B. BLAESER / Bethesda
FUMIMARU TAKAKU / Tokyo
YOSHIHIKI HAYASHI / Osaka
KUNITADA SHIMOTOHNO / Tokyo
TAKAO SEKIYA / Tokyo
MOTOYA KATSUKI / Ishihara
ARGYRIS ESTRATEGIADI / New York

Overview and Summary

YUNG-CHI CHENG / New Haven

Scientists are encouraged to submit abstracts of papers for consideration for poster sessions. Persons in the Americas and countries other than Japan may obtain additional information from the AACR Office.

American Association for Cancer Research
Public Ledger Building
620 Chestnut Street, Suite 816
Philadelphia, PA 19106-3483 USA
Telephone: (215) 440-9300
FAX: (215) 440-9313

Japanese Cancer Association
National Cancer Center
5-1-1 Tsukiji, Chuo-ku
Tokyo, 104 JAPAN
The Princess Takamatsu Symposia have achieved worldwide renown for both the quality of the scientific presentations and the stature of the participating scientists. The ambience of the Symposia is unique, combining a mixture of Japanese traditional customs and Western-style open discussion. The Symposia proceedings are published annually and are important additions to the cancer research literature. Social and cultural highlights of the Symposia are the formal openings, presided over by Princess Takamatsu, and the closing evening receptions at the residence of the Princess. That a member of the Royal Family has so totally engaged herself in the public and humanitarian cause of support for cancer research is a tribute to the Princess and to the Royal Family.

The picture in the lower right-hand corner of this page is of Her Imperial Highness in November 1990 in the Imperial court costume worn on the occasion of the Emperor’s enthronement. The costume, derived from the 8th century style, was the principal garment of nobility and is known as the “hirosode” (broad sleeves).

The cancer research community, as a beneficiary of her patronage and of the sponsorship of the Princess Takamatsu Cancer Research Fund, is deeply appreciative of Her Imperial Highness for supporting and sustaining the Fund through her dedication, perseverance, and commitment to the eradication of cancer. The Princess Takamatsu Cancer Research Fund Symposia, while continuously maintaining a high quality of scientific content, have been graced by Her Imperial Highness and by the knowledge of her devotion to their purpose.

We thank Her Imperial Highness for helping to nurture interest in the quest for knowledge on the nature of cancer. Ultimately, her dedication will ensure that Princess Takamatsu is honored and respected both as Princess of the Royal House of Japan and as a great lady of the world.

H. V. Gelboin
T. Kakefuda

It is a great pleasure to pay tribute on this issue’s cover to Her Imperial Highness, Princess Takamatsu, of the Royal Family of Japan. Princess Takamatsu has devoted much of her life’s work to alleviating the scourge of cancer, and towards this noble goal the Princess Takamatsu Cancer Research Fund was established in 1968. It evolved from the Nadeshiko-kai, founded by Princess Takamatsu and her classmates at Joshi Gakushuin School for Girls in 1933 shortly after cancer took the life of her mother. At that time, the Princess became the patron of many charitable causes in support of cancer research. Through her efforts, there has been a large increase in public awareness and concern for the elimination of cancer through the support of cancer research.

Since its inception, the Princess Takamatsu Cancer Research Fund has sponsored twenty-one annual International Symposia related to cancer research; established the IBM-Princess Takamatsu Cancer Research Fund Lectureship to bring internationally renowned cancer researchers to Japan; provided grants for the support of cancer research and travel for Japanese scientists; and awarded prizes to Japanese scientists for accomplishments of major distinction. Recently, the Nakahara Memorial Senior Fellowship Program for retired scientists was launched to provide these investigators with opportunities to continue to actively contribute in various fields of cancer research.

The Foundation has benefited from the key contributions of advisory panels of expert scientists. The domestic and international activities of the Foundation have been a strong and positive force for the promotion of cancer research in Japan and were particularly helpful during the difficult period of recovery following World War II. The late Waro Nakahara deserves mention for organizing the First International Symposium in 1970.

The Princess Takamatsu Symposia have achieved worldwide renown for both the quality of the scientific presentations and the stature of the participating scientists. The ambience of the Symposia is unique, combining a mixture of Japanese traditional customs and Western-style open discussion. The Symposia proceedings are published annually and are important additions to the cancer research literature. Social and cultural highlights of the Symposia are the formal openings, presided over by Princess Takamatsu, and the closing evening receptions at the residence of the Princess. That a member of the Royal Family has so totally engaged herself in the public and humanitarian cause of support for cancer research is a tribute to the Princess and to the Royal Family.

The picture in the lower right-hand corner of this page is of Her Imperial Highness in November 1990 in the Imperial court costume worn on the occasion of the Emperor’s enthronement. The costume, derived from the 8th century style, was the principal garment of nobility and is known as the “hirosode” (broad sleeves).

The cancer research community, as a beneficiary of her patronage and of the sponsorship of the Princess Takamatsu Cancer Research Fund, is deeply appreciative of Her Imperial Highness for supporting and sustaining the Fund through her dedication, perseverance, and commitment to the eradication of cancer. The Princess Takamatsu Cancer Research Fund Symposia, while continuously maintaining a high quality of scientific content, have been graced by Her Imperial Highness and by the knowledge of her devotion to their purpose.

We thank Her Imperial Highness for helping to nurture interest in the quest for knowledge on the nature of cancer. Ultimately, her dedication will ensure that Princess Takamatsu is honored and respected both as Princess of the Royal House of Japan and as a great lady of the world.

H. V. Gelboin
T. Kakefuda

It is a great pleasure to pay tribute on this issue’s cover to Her Imperial Highness, Princess Takamatsu, of the Royal Family of Japan. Princess Takamatsu has devoted much of her life’s work to alleviating the scourge of cancer, and towards this noble goal the Princess Takamatsu Cancer Research Fund was established in 1968. It evolved from the Nadeshiko-kai, founded by Princess Takamatsu and her classmates at Joshi Gakushuin School for Girls in 1933 shortly after cancer took the life of her mother. At that time, the Princess became the patron of many charitable causes in support of cancer research. Through her efforts, there has been a large increase in public awareness and concern for the elimination of cancer through the support of cancer research.

Since its inception, the Princess Takamatsu Cancer Research Fund has sponsored twenty-one annual International Symposia related to cancer research; established the IBM-Princess Takamatsu Cancer Research Fund Lectureship to bring internationally renowned cancer researchers to Japan; provided grants for the support of cancer research and travel for Japanese scientists; and awarded prizes to Japanese scientists for accomplishments of major distinction. Recently, the Nakahara Memorial Senior Fellowship Program for retired scientists was launched to provide these investigators with opportunities to continue to actively contribute in various fields of cancer research.

The Foundation has benefited from the key contributions of advisory panels of expert scientists. The domestic and international activities of the Foundation have been a strong and positive force for the promotion of cancer research in Japan and were particularly helpful during the difficult period of recovery following World War II. The late Waro Nakahara deserves mention for organizing the First International Symposium in 1970.