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ARKANSAS TOXICOLOGY SYMPOSIUM

Presented by the University of Arkansas for Medical Sciences
in collaboration with the National Center for Toxicological Research

The DoubleTree Hotel Little Rock, Arkansas

October 9-11, 1996

Understanding the Causes of

Aging & Cancer

Sponsored by the Dorothy Snider Foundation

Honoring

Bruce N. Ames, Ph.D.

Professor, Division of Biochemistry and Molecular Biology
University of California-Berkeley

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Oxidation and Aging

Earl R. Stadtman, Ph.D.
National Heart, Lung and Blood Institute
Lester Packer, Ph.D.
University of California-Berkeley
Irwin Fridovich, Ph.D.
Duke University Medical Center

Mutagenesis

Lawrence A. Loeb, M.D., Ph.D.
University of Washington
Stuart M. Linn, Ph.D.
University of California-Berkeley
John A. Heddle, Ph.D.
York University, Toronto

The Cause & Prevention of Cancer

Lois Swirsky Gold, Ph.D.
Lawrence Berkeley Laboratory
Samuel M. Cohen, M.D., Ph.D.
University of Nebraska Medical Center
Takashi Sugimura, M.D.
National Cancer Center, Japan
President, Toho University, Tokyo
Brian Henderson, M.D.
University of Southern California

A M E S

CARCINOGENESIS FROM ENVIRONMENTAL POLLUTION: ASSESSMENT OF HUMAN RISK AND STRATEGIES FOR PREVENTION

Joint Meeting Organized by the
American Association for Cancer Research (AACR)
and the International Agency for Research on Cancer (IARC)

With the Collaboration of the Hungarian Cancer Society



October 6-9, 1996
Hotel Gellért
Budapest, Hungary



CONFERENCE CHAIRPERSONS

Frederica Perera / New York, USA
Paul Kleihues / Lyon, France

PROGRAM COMMITTEE

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J. Carl Barrett / Research Triangle Park, USA
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Kenneth Olden / Research Triangle Park, USA
Alán Pintér / Budapest, Hungary
Manfred F. Rajewsky / Essen, Germany
David Zaridze / Moscow, Russia

SCIENTIFIC PROGRAM

Keynote Address

Curtis C. Harris / Bethesda, USA

Cancer Incidence and Etiology

Witold A. Zatoński / Warsaw, Poland
Frederica Perera / New York, USA
J. Carl Barrett / Research Triangle Park, USA
Helmut Bartsch / Heidelberg, Germany

Air, Water, Food, and Soil Contamination

Radim J. Šrám / Prague, Czech Republic
Joellen Lewtas / Research Triangle Park, USA
Wiesław Jedrychowski / Cracow, Poland
Olav Axelson / Linköping, Sweden

Ambient, Environmental, and Occupation Exposure and Cancer Risk

Mieczysław R. Chorąży / Gliwice, Poland
Alán Pintér / Budapest, Hungary
Kimmo Peltonen / Helsinki, Finland
Monica C. Hollstein / Heidelberg, Germany
Kari Hemminki / Stockholm, Sweden

Tobacco

Ivan Plesko / Bratislava, Slovakia
Barbara S. Hulka / Chapel Hill, USA
Paolo L. Vineis / Turin, Italy
Stephen S. Hecht / Valhalla, USA
Krystyna Frenkel / New York, USA
Bernadette Schoket / Budapest, Hungary

Strategies for Prevention

Waun Ki Hong / Houston, USA
I. Bernard Weinstein / New York, USA
Anna Tompa / Budapest, Hungary

Roundtable Discussion

Paul Kleihues / Lyon, France
Hans-Olov Adami / Uppsala, Sweden
Paolo Boffetta / Lyon, France
Edward Bresnick / Worcester, USA
Andrew E. Czeizel / Budapest, Hungary
Terri Damstra / Research Triangle Park, USA
Edith Olah / Budapest, Hungary
Kenneth Olden / Research Triangle Park, USA
Manfred F. Rajewsky / Essen, Germany
William A. Suk / Research Triangle Park, USA
David Zaridze / Moscow, Russia

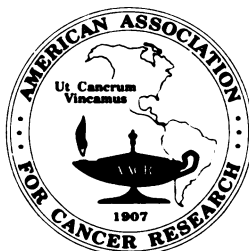
Applicants are encouraged to submit abstracts for poster presentation.

Information and Application Forms

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Public Ledger Building, Suite 816
150 S. Independence Mall West
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AACR SPECIAL CONFERENCE IN CANCER RESEARCH

Programmed Cell Death



October 19-23, 1996
The Sagamore, Bolton Landing (Lake George), New York

CONFERENCE CHAIRPERSONS

Stanley J. Korsmeyer / St. Louis, MO
Shigekazu Nagata / Osaka, Japan
Andrew H. Wyllie / Edinburgh, Scotland

SCIENTIFIC PROGRAM

Keynote Address

Martin C. Raff / London, England

Development

H. Robert Horvitz / Cambridge, MA
Hermann Steller / Cambridge, MA
Stanley J. Korsmeyer / St. Louis, MO

Oncogenesis

Douglas Hanahan / San Francisco, CA
Mina J. Bissell / Berkeley, CA
Eileen P. White / Piscataway, NJ
Gerard I. Evan / London, England

Death Antagonists

Suzanne Cory / Melbourne, Australia
Craig B. Thompson / Chicago, IL
Lois K. Miller / Athens, GA

Death Signals

Shigekazu Nagata / Osaka, Japan
Peter Kramer / Heidelberg, Germany
David V. Goeddel / S. San Francisco, CA
George D. Yancopoulos / Tarrytown, NY

Death Effectors

Junying Yuan / Charlestown, MA
Donald W. Nicholson / Pointe-Claire-Dorval, Quebec, Canada
Vishva Dixit / Ann Arbor, MI
Arnold H. Greenberg / Winnipeg, Manitoba, Canada

Survival Signals

Andrew H. Wyllie / Edinburgh, Scotland
Tadatsugu Taniguchi / Tokyo, Japan
Ken-ichi Arai / Tokyo, Japan

Resistance and Therapeutics

Michael B. Kastan / Baltimore, MD
Richard N. Kolesnick / New York, NY

Additional Speakers to be Announced

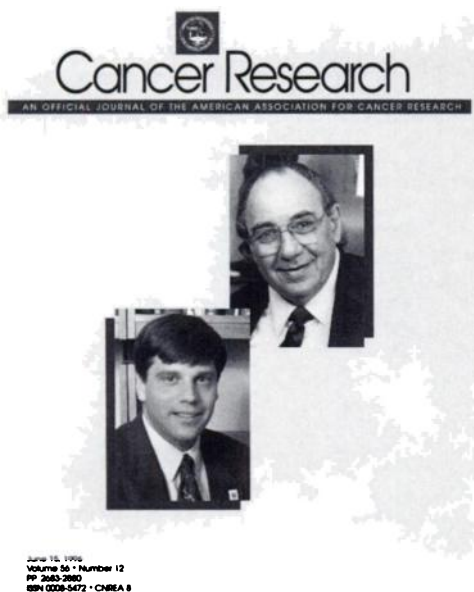
Applicants are encouraged to submit abstracts for poster presentation.

Application deadline: August 2, 1996

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COVER LEGEND



Donald S. Coffey and Kenneth J. Pienta, both prostate cancer researchers, have contributed significantly to the understanding of cell structure, and they have also translated their knowledge of cell structure and the cell transformation pathway into new therapies for prostate cancer. Regardless of the initiating event in cancer, the earliest and most consistent change is in cell structure and shape. The highly motile yet structured cell may be viewed as a chemo-mechanical engine in which structure and function are intimately related. Cell structure is controlled by the tissue matrix system, a dynamic interlocking network composed of the nuclear matrix, cytoskeleton, and extracellular matrix. These matrix systems are involved in cell transformation, which is a multistep process involving genomic and cellular changes that alter a normal cell into a highly motile malignant cancer with the ability to metastasize. Understanding this carcinogenic process requires a more complete knowledge not only of the genomic events but also of the interactive matrix systems that extend from the extracellular matrix to the DNA, contributing to the control of cell shape and function.

Donald S. Coffey (*upper right*) received his B.S. from East Tennessee State University in 1957 and his Ph.D. in Biochemistry from the Johns Hopkins University School of Medicine in 1964. He is currently Professor of Urology, Oncology, and Pharmacology and Molecular Sciences at the Johns Hopkins School of Medicine and is Director of Research for the Brady Urologic Institute. In 1974, Drs. Coffey and R. Berezney discovered the nuclear matrix, the dynamic skeleton of the nucleus which directs the three-dimensional organization of DNA into loop domains and provides the structural organization for nuclear function (*Biochem. Biophys. Res. Commun.*, 60: 1410–1417, 1974). Over the next decade, Dr. Coffey and his co-investigators made several seminal contributions to the nuclear matrix field, including the involvement of the nuclear matrix in nuclear morphology (*J. Cell*

Biol., 73: 616–637, 1977), DNA replication (*Science*, 189: 291–293, 1975), DNA topology (*Cell*, 22: 79–85, 1980), and steroid binding (*J. Biol. Chem.*, 255: 7265–7275, 1980). Drs. Coffey, W. G. Nelson, and L. F. Liu discovered that topoisomerase II is associated with the nuclear matrix and newly replicated DNA in the wake of the replicating fork (*Nature*, 322: 187–189, 1986). These studies and a multitude of others demonstrated the central importance of the nuclear matrix in the control of cell structure and function. Dr. Coffey and colleagues first reported that alterations of nuclear shape could be utilized as a prognostic factor for prostate cancer (*J. Urol.*, 128: 729–734, 1982), and he along with Dr. A. W. Partin and their co-investigators correlated cell motility with metastatic potential (*Proc. Natl. Acad. Sci. USA*, 86: 1254–1258, 1989). Dr. Coffey continues to study the importance of alterations of the dynamic tissue matrix in understanding the etiology as well as the prognosis of the carcinogenic process. He has devoted a large part of his career to the education of young investigators in the field of prostate cancer, and many consider him to be the father of prostate cancer biology.

Kenneth J. Pienta (*lower left*) received his B.A. in 1983 and his M.D. in 1986 from Johns Hopkins University. He is currently Associate Professor of Medicine and Surgery at the University of Michigan School of Medicine and is Director of the Urologic Oncology Program of the University of Michigan Comprehensive Cancer Center and Scientific Director of the Michigan Prostate Institute. Over the last ten years, Drs. Pienta and Coffey have investigated the concept of cancer as a disease of the dynamic tissue matrix system and the role of cell structure as a target for cancer therapy (*Cancer Res.*, 49: 2525–2532, 1989). Drs. Pienta, Coffey, and R. H. Getzenberg demonstrated that alterations of the extracellular matrix caused alterations in the composition of the nuclear matrix (*Biochem. Biophys. Res. Commun.*, 179: 333–339, 1991) and that the protein composition of the nuclear matrix was altered between normal and cancerous prostate cells (*Cancer Res.*, 51: 6514–6520, 1991). Utilizing these alterations in cell structure with transformation as a starting point, Dr. Pienta and colleagues have studied the effects of multiple agents on cell structure (*J. Cell. Biochem.*, 48: 373–384, 1992), angiogenesis (*Cancer Res.*, 53: 224–226, 1993), and metastasis (*J. Natl. Cancer Inst.*, 87: 348–353, 1995). Dr. Pienta, drawing on his experience and studies with Dr. Coffey, discovered that two drugs with minimal single agent activity in prostate cancer, estramustine and etoposide, interact at the level of the nuclear matrix and topoisomerase II to inhibit prostate cancer growth in preclinical models (*J. Urol.*, 149: 1622–1625, 1993). He then translated this knowledge to the bedside by directing a clinical trial demonstrating the potent activity of these agents in the treatment of patients with hormone refractory, metastatic prostate cancer (*J. Clin. Oncol.*, 12: 2005–2012, 1994). Dr. Pienta continues to investigate novel translational approaches to the treatment of prostate cancer.

Drs. Coffey and Pienta are both active members of the American Association for Cancer Research (AACR). Dr. Coffey, a long-standing supporter of AACR activities, recently became President-Elect (1996–97). A special cover feature on Dr. Coffey will be printed during his year as AACR President, which will begin in April 1997.

Sidney Weinhouse