

# Cancer Epidemiology & Prevention

## Biomarkers

An Official Journal of the American Association for Cancer Research ■ Cosponsored by the American Society of Preventive Oncology

**American Association for  
Cancer Research, Inc.**  
**Executive Director and  
Director of Publications**  
Margaret Foti

*Publications Staff*

**Associate Director  
of Publications**  
Mary Anne Mennite

**Manager, Editorial Services**  
Heide M. Pusztay

**Senior Staff Editor**  
Lisa A. Chippendale

**Staff Editors**  
Pamela M. Grebow  
Michael J. Beveridge  
Kathleen C. Assenmacher  
Pamela R. Arnold  
Laurie B. Baker

**Staff Assistant**  
Mary Ellen Pirring

**Administrative Coordinator**  
Holly M. Haskins

**Senior Editorial Assistant**  
Theresa A. Griffith

**Editorial Assistants**  
Valerie L. Samuel  
Andrea Conrad  
Katherine V. Pawlowski  
Bethann Massarella

*Administrative Staff*

**Director of Administration**  
Adam D. Blistein

**Controller**  
Joan D. Brokenshire

**Coordinator, Financial Operations**  
George L. Moore

**Manager, Meetings and Exhibits**  
Jeffrey M. Ruben

**Meeting Planner**  
Carole L. Kanoff

**Public Information Coordinator**  
Jenny Anne Horst-Martz

**Assistant to the Executive Director**  
Ruth E. Fortson

**Membership Development Coordinator**  
Robin E. Felder

**Administrative Assistant**  
Margaret A. Pickels

**Systems Specialist**  
Lydia I. Rodriguez

**Secretary**  
Malika L. Wright

**Editorial Assistant**  
Diana F. Certo

**Office Clerk**  
James J. Waters

**Data Entry Clerk**  
Robert A. Simms II

*Office of the Editor-in-Chief*

**Editorial Assistant**  
Cheryl C. Carter

**Editor-in-Chief**  
Pelayo Correa

**Associate Editors**

W. Robert Bruce  
Webster K. Cavenee  
Joseph F. Fraumeni, Jr.  
Ellen R. Gritz  
Curtis C. Harris  
Stephen S. Hecht  
Barbara S. Hulka  
Fred F. Kadlubar  
Laurence N. Kolonel  
Frederick P. Li  
W. Thomas London  
Thomas E. Moon  
Abraham M. Y. Nomura  
John D. Potter  
James A. Swenberg  
Steven R. Tannenbaum  
Alice S. Whittamore  
Chung S. Yang  
Mimi C. Yu

**Assistant Editor**

Elizabeth T. H. Fontham

**Editorial Advisory Board**

Hans-Olov Adami  
Bruce K. Armstrong  
Helmut Bartsch  
Valerie Beral  
Leslie Bernstein  
John S. Bertram  
Joan R. Bloom  
William J. Blot  
John D. Boice, Jr.  
George E. Bonney  
Roberd M. Bostick  
Ricardo R. Brentani  
Eva Buiatti  
Neil E. Caporaso

Wong-Ho Chow  
Philip Cole  
K. Michael Cummings  
Susan J. Curry  
Janet Daling  
Mary Daly  
Eduardo DeStefani  
Paul F. Engstrom  
Virginia L. Ernster  
Michael Fiore  
David Forman  
Eduardo L. Franco  
Yu-Tang Gao  
E. Robert Greenberg  
Raymond S. Greenberg  
Peter Greenwald  
F. Peter Guengerich  
Rodrigo Guerrero  
Clark W. Heath, Jr.  
Kathy J. Helzlsouer  
Elizabeth A. Holly  
Waun Ki Hong  
Geoffrey R. Howe  
Mary Claire King  
Leo J. Kinlen  
Paul Kleihues  
Alfred G. Knudson, Jr.  
Bernard Levin  
Lance A. Liotta  
Martin Lipkin  
Richard R. Love  
Thomas Mack  
Frank L. Meyskens, Jr.  
Christopher J. Michajda  
Rodney F. Minchin  
John D. Minna  
Ruggero Montesano  
John J. Mulvihill  
Alvaro Muñoz  
Nubia Muñoz

Alfred I. Neugut  
Gilbert S. Omenn  
C. Tracy Orleans  
David L. Page  
Frederica Perera  
Nicholas L. Petrakis  
John P. Pierce  
Miriam C. Poirier  
Bruce A. J. Ponder  
Ross Prentice  
Barbara Rimer  
Nathaniel Rothman  
George C. Roush  
Jose Russo  
Jonathan M. Samet  
Arthur Schatzkin  
Mark H. Schiffman  
David Schottenfeld  
Paul A. Schulte  
Peter Shields  
Roy E. Shore  
Margaret R. Spitz  
Louise C. Strong  
Takashi Sugimura  
G. Marie Swanson  
Eiichi Tahara  
Bruce Trock  
Sally Vernon  
Michael J. Wargovich  
Lee W. Wattenberg  
I. Bernard Weinstein  
John H. Weisburger  
Noel S. Weiss  
Ansley Weston  
Walter C. Willett  
Rodger J. Winn  
Gerald N. Wogan  
Sandra R. Wolman  
Ernst L. Wynder  
Regina Ziegler

*Cancer Epidemiology, Biomarkers & Prevention* is published monthly, one volume annually, by the American Association for Cancer Research, Inc. Except for members of the American Association for Cancer Research, all subscriptions are payable in advance to *Cancer Epidemiology, Biomarkers & Prevention*, P. O. Box 3000, Denville, NJ 07834 [Telephone: (800) 875-2997 or (201) 627-2427; FAX: (201) 627-5872], to which all business communications, remittances (in United States currency or its equivalent), and subscription orders should be sent. In Japan, send orders and inquiries to (sole agent): USACO Corporation, Tsutsumi Bldg., 13-12, Shimbashi 1-chome, Minato-ku, Tokyo 105, Japan; Tel. (03) 502-6471. Nonmembers of the American Association for Cancer Research within the United States may subscribe to Volume 5 (1996) of *Cancer Epidemiology, Biomarkers & Prevention* at the rate of \$85 (individual nonmembers) or \$215 (institutional nonmembers), including postage. Institutional and individual nonmembers outside of the United States should add \$40 to their respective rates to offset periodicals postage costs. Canadian subscribers should add 7% GST. Changes of address notification should be sent 60 days in advance and include both old and new addresses. Member subscribers should send address changes to: Member Services, American Association for Cancer Research, Inc., Public Ledger Bldg., Suite 816, 150 South Independence Mall West, Philadelphia, PA 19106-3483. Nonmember subscribers should send changes of address to: *Cancer Epidemiology, Biomarkers & Prevention*, P. O. Box 3000, Denville, NJ 07834. Copies of the journal which are undeliverable because of address changes will be destroyed. Accelerated mailing of all AACR journals to AACR members in Japan is fully supported by a generous grant from the Banyu Pharmaceutical Company, Tsukuba, Japan.