## Table of Contents

### Commentaries

- **503** Toward a Modern Science of Obesity at Washington University: How We Do It and What is the Payoff?
  Graham A. Colditz, Sarah Gehlert, Deborah J. Bowen, Kenneth Carson, Peter S. Hovmand, Jung Ae Lee, and Kelle H. Moley

- **509** All Things in Moderation: Prevention of Intestinal Adenomas by DNA Hypomethylation
  Kwang-Ho Lee and Peter W. Laird
  See related article, p. 534

- **512** Surrogate Markers: Lessons from the Next Gen?
  Brian J. Reid
  See related article, p. 528

### Review: Molecular Pathogenesis of Premalignancy Series

- **518** Early Events in the Molecular Pathogenesis of Lung Cancer
  Humam Kadara, Paul Scheet, Ignacio I. Wistuba, and Avrum E. Spira

### Research Articles

- **528** Clinical Study of Ursodeoxycholic Acid in Barrett’s Esophagus Patients
  Bhaskar Banerjee, Nicholas J. Shaheen, Jessica A. Martinez, Blake A. Gibson, Gary Della’Zanna, Ellen Richmond, and H-H. Sherry Chow
  See related article, p. 512

- **534** DNA Hypomethylation Contributes to Genomic Instability and Intestinal Cancer Initiation
  Karyn L. Sheaffer, Ellen N. Elliott, and Klaus H. Kaestner
  See related article, p. 509

- **547** Prevention of Carcinogen-Induced Oral Cancer by Sulforaphane
  Julie E. Bauman, Yan Zang, Malabika Sen, Changyou Li, Lin Wang, Patricia A. Egner, Jed W. Fahey, Daniel P. Normolle, Jennifer R. Grandis, Thomas W. Kensler, and Daniel E. Johnson

- **558** The Discovery and Validation of Biomarkers for the Diagnosis of Esophageal Dysplasia and Squamous Cell Carcinoma
  George Couch, James E. Redman, Lorenz Wernisch, Richard Newton, Shalini Malhotra, Sanford M. Dawsey, Pierre Lao-Sirieix, and Rebecca C. Fitzgerald

- **567** Isorhapontigenin (ISO) Inhibits Invasive Bladder Cancer Formation In Vivo and Human Bladder Cancer Invasion In Vitro by Targeting STAT1/FOXO1 Axis
  Guosong Jiang, Amy D. Wu, Chao Huang, Jiayan Gu, Liping Zhang, Haishan Huang, Xin Liao, Jingshi Li, Dongyun Zhang, Xinguo Zeng, Honglei Jin, Haojie Huang, and Chuanshu Huang

- **581** The Dose–Response Effects of Aerobic Exercise on Body Composition and Breast Tissue among Women at High Risk for Breast Cancer: A Randomized Trial
  Justin C. Brown, Despina Kontos, Mitchell D. Schnall, Shandong Wu, and Kathryn H. Schmitz

- **589** Association between Circulating Vitamin D Metabolites and Fecal Bile Acid Concentrations
  Elizabeth T. Jacobs, Mark R. Haussler, David S. Alberts, Lindsay N. Kohler, Peter Lance, María Elena Martínez, Denise J. Roe, and Peter W. Jurutka

- **598** 2-Phenethyl Isothiocyanate, Glutathione S-transferase M1 and T1 Polymorphisms, and Detoxification of Volatile Organic Carcinogens and Toxicants in Tobacco Smoke
  Jian-Min Yuan, Sharon E. Murphy, Irina Stepanov, Renwei Wang, Steven G. Carmella, Heather H. Nelson, Dorothy Hsukami, and Stephen S. Hecht

- **607** Diallyl Disulfide (DADS), a Constituent of Garlic, Inactivates NF-κB and Prevents Colitis-Induced Colorectal Cancer by Inhibiting GSK-3ß
  Shakir M. Saud, Weidong Li, Zane Gray, Mathias S. Matter, Nancy H. Colburn, Matthew R. Young, and Young S. Kim
5MeCDDO Blocks Metabolic Activation but not Progression of Breast, Intestine, and Tongue Cancers. Is Antioxidant Response Element a Prevention Target?
Ronald A. Lubet, Reid Townsend, Margie L. Clapper, M. Margaret Juliana, Vernon E. Steele, David L. McCormick, and Clinton J. Grubbs

Phospho-Aspirin (MDC-22) Prevents Pancreatic Carcinogenesis in Mice
George Mattheolabakis, Ioannis Papayannis, Jennifer Yang, Brandon M. Vaeth, Ruixue Wang, Jela Bandovic, Nengtai Ouyang, Basil Rigas, and Gerardo G. Mackenzie

ABOUT THE COVER
It has been long known that garlic has medicinal properties and may even reduce the risk of developing certain cancers including those of the gastrointestinal tract. The chemopreventive effects of garlic may be attributed to the anti-inflammatory properties of garlic’s sulfur-containing constituents which include diallyl disulfide (DADS). When colorectal cancer cells were treated with DADS, NFκB nuclear localization and activity were diminished. Interestingly, this effect of DADS on NFκB suppression was found to be dependent on DADS inhibition of GSK-3β, a positive regulator of NFκB. The figure shown on the cover is the soft agar plate (100 mm) in which SW480 colon cancer cells were pre-treated with DADS (5 µM) plus GSK-3β activator LY294002 (10 µM) for 24 hrs. This simultaneous treatment with DADS (5 µM) and LY294002 (10 µM) abolished anti-tumorigenic effects of DADS, which suggests that this garlic component inactivates NFκB by largely inhibiting GSK-3β. See article by Saud and colleagues (beginning on page 607) for more information.