COMMENTARY

253  Gastric Cancer Prevention by Demethylation
Barbara G. Schneider and Richard M. Peek, Jr.
See article, p. 263

PERSPECTIVE

257  Ginger: Is it Ready for Prime Time?
Gary D. Stoner
See article, p. 271

RESEARCH ARTICLES

263  Prevention of Helicobacter pylori–Induced Gastric Cancers in Gerbils by a DNA Demethylating Agent
Tohru Niwa, Takeshi Toyoda, Tetsuya Tsukamoto, Akiko Mori, Masae Tatematsu, and Toshikazu Ushijima
See commentary, p. 253

271  Effects of Ginger Supplementation on Cell-Cycle Biomarkers in the Normal-Appearing Colonic Mucosa of Patients at Increased Risk for Colorectal Cancer: Results from a Pilot, Randomized, and Controlled Trial
See commentary, p. 257

282  Caloric Restriction Reverses Obesity-Induced Mammary Gland Inflammation in Mice
Priya Bhardwaj, Baoheng Du, Xi Kathy Zhou, Erika Sue, Michael D. Harbus, Domenick J. Falcone, Dilip Giri, Clifford A. Hudis, Levy Kopelovich, Kotha Subbaramaiah, and Andrew J. Dannenberg

290  Defining the Role of Histone Deacetylases in the Inhibition of Mammary Carcinogenesis by Dietary Energy Restriction (DER): Effects of Suberoylanilide Hydroxamic Acid (SAHA) and DER in a Rat Model
Zongjian Zhu, Weiqin Jiang, John N. McGinley, and Henry J. Thompson

299  Bexarotene Induces Cellular Senescence in MMTV-Neu Mouse Model of Mammary Carcinogenesis
Anne Shilkaitis, Laura Bratescu, Albert Green, Tohru Yamada, and Konstantin Christov

309  β-Cryptoxanthin Restores Nicotine-Reduced Lung SIRT1 to Normal Levels and Inhibits Nicotine-Promoted Lung Tumorigenesis and Emphysema in A/J Mice
Anita R. Iskandar, Chun Liu, Donald E. Smith, Kang-Quan Hu, Sang-Woon Choi, Lynne M. Ausman, and Xiang-Dong Wang

321  Lipid Metabolism Genes in Contralateral Unaffected Breast and Estrogen Receptor Status of Breast Cancer
Jun Wang, Denise Scholtsens, Michelle Holko, David Ivancic, Oukseub Lee, Hong Hu, Robert T. Chatterton Jr., Megan E. Sullivan, Nora Hansen, Kevin Bethke, Carola M. Zalles, and Seema A. Khan

331  Combined Serum CA19-9 and miR-27a-3p in Peripheral Blood Mononuclear Cells to Diagnose Pancreatic Cancer
Wan-Sheng Wang, Ling-Xiao Liu, Guo-Ping Li, Yi Chen, Chang-Yu Li, Da-Yong Jin, and Xiao-Lin Wang

339  The Role of Estrogen Receptor β in Transplacental Cancer Prevention by Indole-3-Carbinol
Abby D. Benninghoff and David E. Williams

349  Inhibition of 15-Hydroxyprostaglandin Dehydrogenase by Helicobacter pylori in Human Gastric Carcinogenesis
Yeon-Mi Ryu, Seung-Jae Myung, Young Soo Park, Dong-Hoon Yang, Ho June Song, Jin-Yong Jeong, Sun Mi Lee, Miyeoun Song, Do Hoon Kim, Hyo-Geong Lee, Soo-Kyung Park, Stephen P. Fink, Sandy D. Markowitz, Kee Wook Jung, Kyung-Jo Kim, Byong Duk Ye, Jeong-Sik Byeon, Hwoon-Yong Jung, Suk-Kyun Yang, and Jin-Ho Kim
Suppression of aberrant DNA methylation is a novel approach to cancer prevention, but so far the efficacy of the strategy has not been evaluated in cancers associated with chronic inflammation. Gastric cancers (GCs) induced by Helicobacter pylori (HP) infection are known to involve aberrant DNA methylation and are associated with severe chronic inflammation in their early stages. Using the DNA demethylating agent 5-aza-2’-deoxycytidine (5-aza-dC), suppression of aberrant DNA methylation to prevent HP-induced GCs was investigated using a Mongolian gerbil model. The incidence of GCs induced by HP infection and N-methyl-N-nitrosourea (MNU) treatment as well as global DNA methylation levels were significantly decreased in gerbils treated with 5-aza-dC (50–55 weeks) compared to vehicle. Extra-gastric tissues were tested to assess adverse effects of 5-aza-dC, which included testicular atrophy. The cover micrograph shows a magnified view of tissue sections of nonatrophied testes in vehicle-treated gerbils. These results show that 5-aza-dC treatment can prevent HP-induced GCs and suggest that removal of induced DNA methylation and/or suppression of DNA methylation induction can become a target for prevention of chronic inflammation-associated cancers. See article by Niwa and colleagues (beginning on page 263) for more information.