

CANCER PREVENTION RESEARCH

TABLE OF CONTENTS

HIGHLIGHTS FROM THE LITERATURE

- 203** **Editors' Selections from Relevant Scientific Publications**

SPOTLIGHT

- 205** **The Importance of Drug Concentration at the Site of Action: Celecoxib and Colon Polyp Prevention as a Case Study**
Patricia A. Thompson and Jessica A. Martinez
See related article, p. 217
- 209** **Anti-Inflammatory Drugs Decrease the PD-L1 Expression and Increase the CD8⁺ T-Cell Infiltration**
Chinthalapally V. Rao
See related article, p. 225
- 213** **Role of Aspirin in Gastric Cancer Prevention**
Asad Umar and Holli A. Loomans-Kropp
See related article, p. 265

RESEARCH BRIEFS

- 217** **Celecoxib Colorectal Bioavailability and Chemopreventive Response in Patients with Familial Adenomatous Polyposis**
Peiyang Yang, Xiangsheng Zuo, Shailesh Advani, Bo Wei, Jessica Malek, Rena Sue Day, and Imad Shureiqi
This study evaluated potential predictive biomarkers for celecoxib chemopreventive activity in patients with FAP. Our findings demonstrated the differential bioavailability of celecoxib between normal and polyp tissues and its potential effects on clinical chemopreventive response in patients with FAP.
See related Spotlight, p. 205
- 225** **COX-2 Inhibitors Decrease Expression of PD-L1 in Colon Tumors and Increase the Influx of Type I Tumor-infiltrating Lymphocytes**
Denise L. Cecil, Ekram A. Gad, Lauren R. Corulli, Nicholas Drovetto, Ronald A. Lubet, and Mary L. Disis
Nonsteroidal anti-inflammatories (NSAID) are an essential component of any combination chemoprevention of colon cancer. We show NSAID treatment reduces PD-L1 expression on intestinal tumor cells. NSAID regulation of PD-L1 is dependent on COX-2 expression. These data underscore an important immunologic mechanism of action for NSAID in colon cancer prevention.
See related Spotlight, p. 209

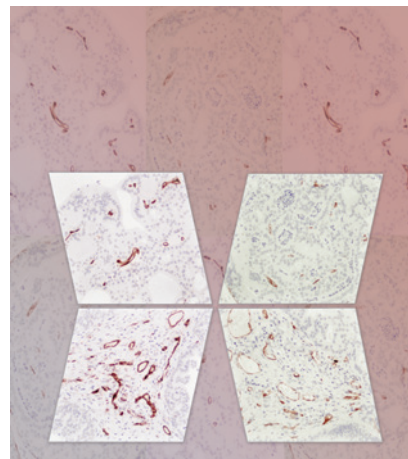
RESEARCH ARTICLES

- 233** **δ -Tocotrienol is the Most Potent Vitamin E Form in Inhibiting Prostate Cancer Cell Growth and Inhibits Prostate Carcinogenesis in Pten^{P-/-} Mice**
Hong Wang, William Yan, Yuhai Sun, and Chung S. Yang
We demonstrated that δ -tocotrienol is the most active vitamin E form in inhibiting the growth of several prostate cancer cell lines. In transgenic Pten^{P-/-} mice, δ -tocotrienol inhibited the formation of prostate cancer. This result would encourage and help design clinical studies for the application of δ -tocotrienol for prostate cancer prevention.
- 247** **Genetically Predicted Circulating Levels of Antioxidants and Risk of Breast and Ovarian Cancer**
Huanling Zhao, Jiahao Zhu, Lap Ah TSE, Sanjay Kinra, and Yingjun Li
Although this study does not find that circulating antioxidants are protective against breast and ovarian cancer, it is still possible that a high intake of antioxidant-rich foods containing other potentially beneficial components could be cancer preventative.
- 255** **The Association of Predicted Resting Energy Expenditure with Risk of Breast Cancer among Postmenopausal Women in the Women's Health Initiative Cohort**
Rhonda S. Arthur, Yasmin Mossavar-Rahmani, Ross L. Prentice, Aladdin H. Shadyab, Juhua Luo, Maryam Sattari, Xiaonan Xue, Victor Kamensky, Guo-Chong Chen, Qibin Qi, Garnet L. Anderson, Sylvia Wassertheil-Smoller, Marian L. Neuhouser, and Thomas E. Rohan
This study showed that higher resting energy expenditure (REE) was associated with higher postmenopausal breast cancer risk. REE provides energy to support cancer-associated disorders such as obesity and inflammation. Thus, studies on its association with breast cancer can help to improve our understanding of the pathophysiology of breast cancer.
- 265** **Association Between Aspirin Use and Gastric Adenocarcinoma: A Prospective Cohort Study**
Sohee Kwon, Wenjie Ma, David A. Drew, Samuel J. Klemperer, Brianna M. Leonardo, Jacqueline J. Flynn, Yin Cao, Edward L. Giovannucci, Ying Bao, Charles S. Fuchs, Mingyang Song, and Andrew T. Chan
Novel prevention is urgently needed to reduce incidence and mortality of gastric cancer. We found that regular aspirin use was associated with lower risk of gastric adenocarcinoma among women, but not men. The benefit appeared after at least 10 years of use and was maximized at higher doses among women.
See related Spotlight, p. 213

TABLE OF CONTENTS

ABOUT THE COVER

Prostate cancer is the most common cancer among men in the United States. It has a long latent period for precancerous lesions to develop into carcinomas, thus providing opportunities for prevention. Although the most commonly used form of vitamin E, α -tocopherol, was not shown to prevent prostate cancer, other vitamin E forms (γ - and δ -forms of tocopherols and tocotrienols) have shown anti-cancer activities in lab studies. In the article starting on page 233, Wang and colleagues compared the inhibitory activities of the α -, γ - and δ -forms of tocopherols and tocotrienols against six prostate cancer cell lines and found that δ -tocotrienol (δ -T3) had the highest activities. δ -T3 (0.05% in the diet) also impeded the formation of prostate adenocarcinoma in prostate specific Pten knockout mice. Proposed mechanisms include the inhibition of cell proliferation and angiogenesis and promotion of apoptosis. δ -T3 is found in rice oil, palm oil, other dietary sources and annatto, a topical plant. The cover image shows the inhibition of angiogenesis in the lesioned gland of the dorsal-lateral-central lobes as determined by C31/Pecam 1 immunochemical staining in mice in the control group (upper left) versus those treated with δ -T3 (upper right). The bottom panels show the blood vessel-rich stroma from mice in the control group (lower left) and the δ -T3-treated group (lower right).



doi: 10.1158/1940-6207.CAPR-15-4-CVR