

## REVIEW

**1 Toxic Phytochemicals and Their Potential Risks for Human Cancer**

Ann M. Bode and Zigang Dong

## PERSPECTIVE

**9 The Rise of HPV-Positive Oropharyngeal Cancers in the United States**

Carole Fakhry and Ezra Cohen

*See related article, p. 12*

## RESEARCH ARTICLES

**12 Emergence of HPV16-Positive Oropharyngeal Cancer in Black Patients Over Time: University of Maryland 1992–2007**

Dan P. Zandberg, Sandy Liu, Olga G. Goloubeva, Lisa M. Schumaker, and Kevin J. Cullen

*See related perspective, p. 9***20 Evidence Supporting Product Standards for Carcinogens in Smokeless Tobacco Products**

Dorothy K. Hatsukami, Irina Stepanov, Herb Severson, Joni A. Jensen, Bruce R. Lindgren, Kimberly Horn, Samir S. Khariwala, Julia Martin, Steven G. Carmella, Sharon E. Murphy, and Stephen S. Hecht

**27 Prevention of Skin Carcinogenesis by the  $\beta$ -Blocker Carvedilol**

Andy Chang, Steven Yeung, Arvind Thakkar, Kevin M. Huang, Mandy M. Liu, Rhye-Samuel Kanassatega, Cyrus Parsa, Robert Orlando, Edwin K. Jackson, Bradley T. Andresen, and Ying Huang

**37 A Multiplexable, Microfluidic Platform for the Rapid Quantitation of a Biomarker Panel for Early Ovarian Cancer Detection at the Point-of-Care**

Basil H. Shadfan, Archana R. Simmons, Glennon W. Simmons, Andy Ho, Jorge Wong, Karen H. Lu, Robert C. Bast Jr, and John T. McDevitt

**49  Pap Test Use and Cervical Cancer Incidence in First Nations Women Living in Manitoba**

Kathleen M. Decker, Alain A. Demers, Erich V. Kliever, Natalie Biswanger, Grace Musto, Brenda Elias, Jane Griffith, and Donna Turner

**56 Beta-Endorphin Cell Therapy for Cancer Prevention**

Changqing Zhang, Sengottuvelan Murugan, Nadka Boyadjieva, Shaima Jabbar, Pallavi Shrivastava, and Dipak K. Sarkar

**68 A Novel Preclinical Method to Quantitatively Evaluate Early-Stage Metastatic Events at the Murine Blood–Brain Barrier**

Chris E. Adkins, Mohamed I. Nounou, Rajendar K. Mittapalli, Tori B. Terrell-Hall, Afroz S. Mohammad, Rajaganapathi Jagannathan, and Paul R. Lockman

**77 Dietary Diindolylmethane Suppresses Inflammation-Driven Lung Squamous Cell Carcinoma in Mice**

Jung Min Song, Xuemin Qian, Fitsum Teferi, Jing Pan, Yian Wang, and Fekadu Kassie

**86 Plasma Metabolomic Profiles of Breast Cancer Patients after Short-term Limonene Intervention**

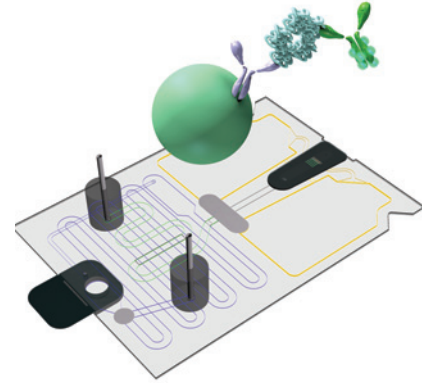
Jessica A. Miller, Kirk Pappan, Patricia A. Thompson, Elizabeth J. Want, Alexandros P. Siskos, Hector C. Keun, Jacob Wulff, Chengcheng Hu, Julie E. Lang, and H.-H. Sherry Chow

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# Table of Contents

## ABOUT THE COVER

Point-of-care (POC) diagnostic platforms have the potential to enable low-cost, large-scale screening. As no single biomarker is shed by all ovarian cancers, multiplexed biomarker panels promise improved sensitivity and specificity to address the unmet need for early detection of ovarian cancer. A programmable bio-nano-chip (p-BNC)—a multiplexable, microfluidic, modular platform—was configured to quantify a novel multimarker panel. The p-BNC assay card (shown) is a lab-on-a-chip platform that features a bead-based sensor core and a fully integrated microfluidic network that facilitates on-card sample preparation and metering, reagent storage, mixing, bubble and debris removal, and secure waste containment. By design, the p-BNC assay card minimizes benchtop sample and reagent preparation steps and associated laboratory tools and infrastructure, which is critical for POC analysis. In a 31-patient cohort encompassing early- and late-stage ovarian cancers along with benign and healthy controls, the multiplexed p-BNC panel was able to distinguish cases from controls with 68.7% sensitivity at 80% specificity. Taken together, the p-BNC shows strong promise as a diagnostic tool for large-scale screening that takes advantage of faster results and lower costs while leveraging possible improvement in sensitivity and specificity from biomarker panels. See article by Shadfan et al. (beginning on page 37) for more information.



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8 (1)

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