LETTER FROM THE EDITOR

Catalyzing Cancer Prevention Research
CaPR: A New Year/New Opportunities
Scott M. Lippman

SPECIAL REPORT

Transforming Cancer Prevention through Precision Medicine and Immune-oncology
Thomas W. Kensler, Avrum Spira, Judy E. Garber, Eva Szabo, J. Jack Lee, Zigang Dong, Andrew J. Dannenberg, William N. Hait, Elizabeth Blackburn, Nancy E. Davidson, Margaret Foti, and Scott M. Lippman

EDITORIAL

Risk Factor Models and Personalized Health: Opportunities and Challenges for Asymptomatic Individuals
Frank L. Meyskens Jr
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Risk Prediction Models for Colorectal Cancer: A Systematic Review
Juliet A. Usher-Smith, Fiona M. Walter, Jon D. Emery, Aung K. Win, and Simon J. Griffin
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RESEARCH ARTICLES

Plasma Inflammatory Markers and Risk of Advanced Colorectal Adenoma in Women
Mingyang Song, Raaj S. Mehta, Kana Wu, Charles S. Fuchs, Shuji Ogino, Edward L. Giovannucci, and Andrew T. Chan

Methylseleninic Acid Superactivates p53-Senescence Cancer Progression Barrier in Prostate Lesions of Pten-Knockout Mouse
Lei Wang, Xiaolan Guo, Ji Wang, Cheng Jiang, Maarten C. Bosland, Junxuan Lu, and Yibin Deng

Cancer-Specific Production of N-Acetylaspartate via NAT8L Overexpression in Non–Small Cell Lung Cancer and Its Potential as a Circulating Biomarker
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Targeting mTOR and p53 Signaling Inhibits Muscle Invasive Bladder Cancer In Vivo
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Preclinical In Vitro, In Vivo, and Pharmacokinetic Evaluations of FLLL12 for the Prevention and Treatment of Head and Neck Cancers
Abu Syed Md Anisuzzaman, Abedul Haque, Mohammad Aminur Rahman, Dongsheng Wang, James R. Fuchs, Selwyn Hurwitz, Yuan Liu, Gabriel Sica, Fadilo R. Khuri, Zhuo (Georgia) Chen, Dong M. Shin, and A.R.M. Ruhal Amin

Anticancer and Cancer Prevention Effects of Piperine-Free Piper nigrum Extract on N-nitrosomethylurea-Induced Mammary Tumorigenesis in Rats
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Uninterrupted Sedentary Behavior Downregulates BRCA1 Gene Expression
Rachael Pettapiece-Phillips, Max Kolyvar, Rania Chehade, Leonarda Salmena, Steven A. Narod, Mohammad Akbari, Igor Jurisica, and Joanne Kotsopoulos

A Presurgical Study of Oral Silybin-Phosphatidylcholine in Patients with Early Breast Cancer
Matteo Lazzeroni, Aliana Guerrieri-Gonzaga, Sara Gandini, Harriet Johansson, Davide Serrano, Massimiliano Cazzaniga, Valentina Aristarco, Antonella Puccio, Serena Mora, Pietro Caldarella, Gianmatteo Pagani, Giancarlo Pruneri, Antonella Riva, Giovanna Petrangolini, Paolo Morazzoni, Andrea DeCensi, and Bernardo Bonanni
About the Cover

The molecular alterations associated with early pathological steps preceding the development of invasive carcinoma have not been well characterized. A Premalignant Cancer Genome Atlas (PCGA) is needed to both support the collection and molecular profiling (circus plot) of premalignant lesions (purple cells) to identify the sequence of initial driver events that cause normal cells (orange cells) to acquire cancer hallmarks that enable lesions (purple cells) to progress to fully invasive carcinoma, including the critical "additional genomic events" (e.g., checkpoint/tumor suppressor loss or other co-activating event) that transform premalignancy (purple cells in the fourth circle to the right) to cancer (far right). In addition to defining the sequence of site-specific genomic driving events, characterizing the premalignant inflammatory microenvironment, including the contribution of the stroma and immune cell (blue) regulation, will provide a better understanding of the selective forces that drive premalignant lesions to become invasive cancer. This figure appears in the Special Report by Kensler and colleagues (beginning on page 2), which sets out a brief agenda for the immediate future of cancer prevention, involving the inter-related fields of precision medicine and immunoprevention, driven by transformative approaches like PCGA, pivotal elements in a broader domain of personalized public health.