


BREAKING ADVANCES

- 4007 **Highlights from Recent Cancer Literature**

OBITUARY

- 4009 **Donald Lee Morton: In Memoriam (1934–2014)**
 Dave S.B. Hoon

REVIEWS


- 4011 **Role of the Neural Niche in Brain Metastatic Cancer**
 John Termini, Josh Neman, and Rahul Jandial
- 4016 **Enhancing Reproducibility in Cancer Drug Screening: How Do We Move Forward?**
 Christos Hatzis, Philippe L. Bedard, Nicolai J. Birkbak, Andrew H. Beck, Hugo J.W.L. Aerts, David F. Stern, Leming Shi, Robert Clarke, John Quackenbush, and Benjamin Haibe-Kains

PERSPECTIVE

- 4024 **The Increasing Urgency for Standards in Basic Biologic Research**
 Leonard P. Freedman and James Inglese

MICROENVIRONMENT AND IMMUNOLOGY

- 4030 **Microbiota Modulate Tumoral Immune Surveillance in Lung through a $\gamma\delta$ T17 Immune Cell-Dependent Mechanism**
 Min Cheng, Liting Qian, Guodong Shen, Geng Bian, Tingjuan Xu, Weiping Xu, Gan Shen, and Shilian Hu
Précis: These findings demonstrate the importance of commensal bacteria in supporting the host immune response against cancer in mucosal tissues and also suggest deleterious effects of antibiotic treatment on cancer susceptibility and progression.

- 4042 **Preclinical Evidence That PD1 Blockade Cooperates with Cancer Vaccine TEGVAX to Elicit Regression of Established Tumors**


Juan Fu, Ian-James Malm, Deepak K. Kadayakkara, Hy Levitsky, Drew Pardoll, and Young J. Kim

Précis: This study offers a preclinical rationale for coadministering immune checkpoint therapies with cancer vaccines to vastly empower their efficacy, with major implications for the broader and more effective application of active immunotherapy in treating malignancy.

MOLECULAR AND CELLULAR PATHOBIOLOGY

- 4053 **GP130 Mediates Activation of HIF1 α /VEGF Signaling by Estrogens**

Ernestina Marianna De Francesco, Michele Pellegrino, Maria Francesca Santolla, Rosamaria Lappano, Emilia Ricchio, Sergio Abonante, and Marcello Maggiolini

Précis: These findings offer important new insights into how estrogens promote angiogenesis and progression in breast cancer.

PREVENTION AND EPIDEMIOLOGY

- 4055 **Recent Prediagnostic Aspirin Use, Lymph Node Involvement, and 5-Year Mortality in Women with Stage I–III Breast Cancer: A Nationwide Population-Based Cohort Study**

Thomas I. Barron, Evelyn M. Flahavan, Linda Sharp, Kathleen Bennett, and Kala Visvanathan

Précis: Aspirin use may protect against lymph node involvement in breast cancer, making a diagnosis of early-stage curable disease more likely even in the absence of general chemopreventive effects.

- 4078 **Recent Oral Contraceptive Use by Formulation and Breast Cancer Risk among Women 20 to 49 Years of Age**

Elisabeth F. Beaber, Diana S.M. Buist, William E. Barlow, Kathleen E. Malone, Susan D. Reed, and Christopher I. Li

Précis: Breast cancer risk appears to be increased by recent use of contemporary oral contraceptives, with some variation in this risk possibly associated with different formulations.

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4090 **Telomere Length in White Blood Cell DNA and Lung Cancer: A Pooled Analysis of Three Prospective Cohorts**

Wei Jie Seow, Richard M. Cawthon, Mark P. Purdue, Wei Hu, Yu-Tang Gao, Wen-Yi Huang, Stephanie J. Weinstein, Bu-Tian Ji, Jarmo Virtamo, H. Dean Hosgood III, Bryan A. Bassig, Xiao-Ou Shu, Qiuyin Cai, Yong-Bing Xiang, Shen Min, Wong-Ho Chow, Sonja I. Berndt, Christopher Kim, Unhee Lim, Demetrius Albanes, Neil E. Caporaso, Stephen Chanock, Wei Zheng, Nathaniel Rothman, and Qing Lan

Précis: Positive associations between telomere length in white blood cells and risk of lung cancer open an interesting new perspective on how immune cell alterations may affect susceptibility to this type of cancer.

THERAPEUTICS, TARGETS, AND CHEMICAL BIOLOGY

4099 **Circadian and Melatonin Disruption by Exposure to Light at Night Drives Intrinsic Resistance to Tamoxifen Therapy in Breast Cancer**

Robert T. Dauchy, Shulin Xiang, Lulu Mao, Samantha Brimer, Melissa A. Wren, Lin Yuan, Muralidharan Anbalagan, Adam Hauch, Tripp Frasnch, Brian G. Rowan, David E. Blask, and Steven M. Hill

Précis: Striking demonstrations in a preclinical model of estrogen-dependent breast cancer show how disrupting normal circadian patterns of melatonin production by exposure to light at night can cause resistance to tamoxifen therapy.

4111 **Molecular Imaging with Bioluminescence and PET Reveals Viral Oncolysis Kinetics and Tumor Viability**

Darshini Kuruppu, Anna-Liisa Brownell, Khalid Shah, Umar Mahmood, and Kenneth K. Tanabe

Précis: Methods to image the replication cycles of oncolytic viruses noninvasively in vivo will assist the clinical development of this class of experimental therapeutics by helping identify virus expansion during dose escalation studies.

4122 **Function-Blocking ERBB3 Antibody Inhibits the Adaptive Response to RAF Inhibitor**

Curtis H. Kugel III, Edward J. Hartsough, Michael A. Davies, Yulius Y. Setiady, and Andrew E. Aplin

Précis: This study provides a preclinical rationale to combine a RAF inhibitor with an ERBB3/HER3-neutralizing antibody to improve durable therapeutic responses in melanomas harboring BRAF V600E mutations.

4133 **Engineered Fusokine GIFT4 Licenses the Ability of B Cells to Trigger a Tumoricidal T-cell Response**

Jiusheng Deng, Shala Yuan, Andrea Pennati, Jordan Murphy, Jian Hui Wu, David Lawson, and Jacques Galipeau

Précis: This preclinical study introduces a chimeric cytokine composed of GM-CSF and IL4 that is a powerful inducer of melanoma-eradicating B cells, suggesting its candidacy as a novel immunotherapeutic tool and revealing a previously unrecognized potential for B cells in melanoma immunotherapy.

TUMOR AND STEM CELL BIOLOGY

4145 **miR-155 Drives Telomere Fragility in Human Breast Cancer by Targeting TRF1**

Roberto Dinami, Cristiana Ercolani, Eleonora Petti, Silvano Piazza, Yari Ciani, Rosanna Sestito, Andrea Sacconi, Francesca Biagioni, Carlos le Sage, Reuven Agami, Roberta Benetti, Marcella Mottolese, Claudio Schneider, Giovanni Blandino, and Stefan Schoefner

Précis: These findings highlight an miRNA-mediated mechanism for controlling telomere function, suggesting the existence of a class of "telo-miRNAs" with an impact on cancer and aging.

4157 **An Inducible Hepatocellular Carcinoma Model for Preclinical Evaluation of Antiangiogenic Therapy in Adult Mice**

Anja Runge, Junhao Hu, Matthias Wieland, Jan-Philip Bergeest, Carolin Mogler, André Neumann, Cyrill Géraud, Bernd Arnold, Karl Rohr, Dorde Komljenovic, Peter Schirmacher, Sergij Goerd, and Hellmut G. Augustin

Précis: This study validates a versatile inducible model of hepatocellular carcinoma (HCC) in adult mice for the study of multinodular HCC tumorigenesis and response to therapy during tumor progression.

4170 **Hippo Coactivator YAP1 Upregulates SOX9 and Endows Esophageal Cancer Cells with Stem-like Properties**

Shumei Song, Jaffer A. Ajani, Soichiro Honjo, Dipen M. Maru, Qiongrong Chen, Ailing W. Scott, Todd R. Heallen, Lianchun Xiao, Wayne L. Hofstetter, Brian Weston, Jeffrey H. Lee, Roopma Wadhwa, Kazuki Sudo, John R. Stroehlein, James F. Martin, Mien-Chie Hung, and Randy L. Johnson

Précis: The findings of this study identify YAP1-driven SOX9 expression as a critical event in acquisition of CSC properties in nontransformed cells and esophageal cancer cells and suggest that pharmacologic inhibition of YAP1 may be an effective means of targeting the CSC population.

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4183 **miRNA-128 Suppresses Prostate Cancer by Inhibiting BMI-1 to Inhibit Tumor-Initiating Cells**



Min Jin, Tao Zhang, Can Liu, Mark A. Badaeux, Bigang Liu, Ruifang Liu, Collene Jeter, Xin Chen, Alexander V. Vlassov, and Dean G. Tang

***Précis:** These results define a tumor suppressor function for an miRNA that limits prostate cancer by blocking the properties of cancer stem-like cells in that setting, with potential implications to improve the treatment of recurrent disease driven by these cells.*

4196 **ABCB5 Maintains Melanoma-Initiating Cells through a Proinflammatory Cytokine Signaling Circuit**

Brian J. Wilson, Karim R. Saab, Jie Ma, Tobias Schatton, Pablo Pütz, Qian Zhan, George F. Murphy, Martin Gasser, Ana Maria Waaga-Gasser, Natasha Y. Frank, and Markus H. Frank

***Précis:** These findings define a novel function for a drug efflux transporter molecule in cancer stem-like cell maintenance, possibly explaining its broad overexpression in many types of human cancer.*

CORRECTION

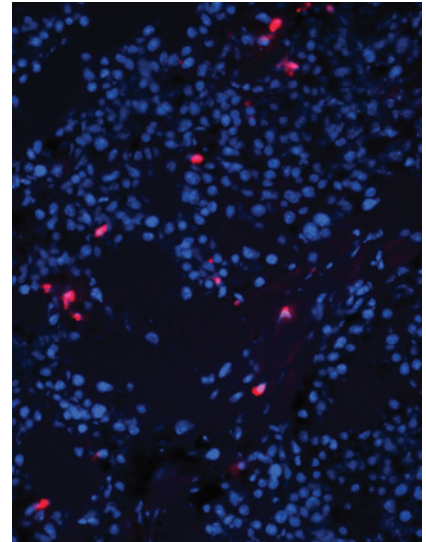
4208 **Correction: Potentiation of the Novel Topoisomerase I Inhibitor Indenoisoquinoline LMP-400 by the Cell Checkpoint and Chk1-Chk2 Inhibitor AZD7762**

 AC icon indicates Author Choice

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ABOUT THE COVER

Induced PDL1 expression in the tumor microenvironment can be abrogated with neutralizing antibodies against IFN γ . In the B16 model, TLR4/7/8 agonists-formulated tumor vaccine increased antitumor CTL response that correlated with increased tumor infiltrating T cells and increased PDL1 expression in the tumor microenvironment. This induction of PDL1 was found to be IFN γ dependent as shown. When combining PDL1-inducing vaccine with PD1 blocking antibody, regression of established tumors was found. For details, see article by Fu and colleagues on page 4042.



Cancer Research

The Journal of Cancer Research (1916–1930) | The American Journal of Cancer (1931–1940)

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