

CANCER RESEARCH

TABLE OF CONTENTS

OBITUARY

- 2755** **V. Craig Jordan, PhD, DSc, FAACR: In Memoriam (1947–2024)**
Monica Morrow

IN THE SPOTLIGHT

- 2756** **Clocking Cancer Immunotherapy Responses**
Catherine L. Wang, Xue Zhang, and Chi V. Dang
- 2759** **Dotting Out AML by Targeting Fibrillarin**
Hanzhi Luo and Michael G. Kharas

CANCER BIOLOGY

- 2761** **Obesity Induces Temporally Regulated Alterations in the Extracellular Matrix That Drive Breast Tumor Invasion and Metastasis**
Sydney J. Conner, Hannah B. Borges, Justinne R. Guarin, Thomas J. Gerton, Anna Yui, Kenneth J. Salhany Jr, Diamond N. Mensah, Grace A. Hamilton, Giang H. Le, Katherine C. Lew, Crystal Zhang, and Madeleine J. Oudin
Organ-specific extracellular matrix changes in the primary tumor and metastatic microenvironment are mechanisms by which obesity contributes to breast cancer progression.
- 2776** **WNK1 Interaction with KEAP1 Promotes NRF2 Stabilization to Enhance the Oxidative Stress Response in Hepatocellular Carcinoma**
Li Li, Dacheng Xie, Shijun Yu, Muyuan Ma, Kailing Fan, Jingde Chen, Mengxi Xiu, Keping Xie, Yandong Li, and Yong Gao
Inhibiting WNK1 induces NRF2 degradation and reduces the oxidative stress response to suppress hepatocellular carcinoma growth, indicating that targeting the WNK1-KEAP1-NRF2 axis is a potential strategy to treat liver cancer.

CANCER IMMUNOLOGY

- 2792** **ARID1A-Deficient Tumors Acquire Immunogenic Neoantigens during the Development of Resistance to Targeted Therapy**
Masahiro Okada, Satoru Yamasaki, Hiroshi Nakazato, Yuhya Hirahara, Takuya Ishibashi, Masami Kawamura, Kanako Shimizu, and Shin-ichiro Fujii
Chemotherapy resistance promotes the acquisition of immunogenic neoantigens in ARID1A-deficient tumors that confer sensitivity to immune checkpoint blockade and can be utilized for developing antitumor vaccines, providing strategies to improve immunotherapy efficacy.

- 2806** **Targeting the TRIM14/USP14 Axis Enhances Immunotherapy Efficacy by Inducing Autophagic Degradation of PD-L1**

Di Liu, Mengqiu Li, Zhiyao Zhao, Liang Zhou, Feng Zhi, Zhiyong Guo, and Jun Cui

IFN α -induced TRIM14 transcription suppresses antitumor immunity by recruiting USP14 to inhibit autophagic degradation of PD-L1, indicating that targeting this axis could be an effective immunotherapeutic approach for treating cancer.

CANCER METABOLISM AND MOLECULAR MECHANISMS

- 2820** **E-Cadherin Induces Serine Synthesis to Support Progression and Metastasis of Breast Cancer**
Geonhui Lee, Claudia Wong, Anna Cho, Junior J. West, Ashleigh J. Crawford, Gabriella C. Russo, Bishwa R. Si, Jungwoo Kim, Lauren Hoffner, Cholsoon Jang, Moonjung Jung, Robert D. Leone, Konstantinos Konstantopoulos, Andrew J. Ewald, Denis Wirtz, and Sangmoo Jeong
E-Cadherin promotes the progression and metastasis of breast cancer by upregulating the *de novo* serine synthesis pathway, offering promising targets for inhibiting tumor growth and metastasis in E-cadherin-expressing tumors.
- 2836** **Ku70 Binding to YAP Alters PARP1 Ubiquitination to Regulate Genome Stability and Tumorigenesis**
Yinyin Shu, Xiaoni Jin, Mintao Ji, Zhisen Zhang, Xiuxiu Wang, Haisheng Liang, Shuangshuang Lu, Shuai Dong, Yiping Lin, Yuhan Guo, Qiuyu Zhuang, Yuhong Wang, Zhe Lei, Lingchuan Guo, Xuanyu Meng, Guangming Zhou, Wensheng Zhang, and Lei Chang
Increased yes-associated protein transcriptional activity stimulated by loss of Ku70 induces PARP1 degradation by upregulating SMURF2 to inhibit DNA damage, driving genome instability and tumorigenesis.

TABLE OF CONTENTS

TRANSLATIONAL CANCER BIOLOGY

- 2856** **RUVBL1/2 Blockade Targets YTHDF1 Activity to Suppress m⁶A-Dependent Oncogenic Translation and Colorectal Tumorigenesis**
Danyu Chen, Fenfen Ji, Qiming Zhou, Henley Cheung, Yasi Pan, Harry C.-H. Lau, Cong Liang, Zhenjie Yang, Pingmei Huang, Qinyao Wei, Alvin H.-K. Cheung, Wei Kang, Huarong Chen, Jun Yu, and Chi Chun Wong
RUVBL1/2 inhibition is a therapeutic strategy to abrogate YTHDF1-driven oncogenic translation and overcome m⁶A dysregulation in colorectal cancer.
- 2873** **PRKDC Induces Chemoresistance in Osteosarcoma by Recruiting GDE2 to Stabilize GNAS and Activate AKT**
Wenchao Zhang, Wei Li, Chi Yin, Chengyao Feng, Binfeng Liu, Haodong Xu, Xin Jin, Chao Tu, and Zhihong Li
Targeting PRKDC suppresses AKT activation and increases sensitivity to doxorubicin in osteosarcoma, which provides a therapeutic strategy for overcoming chemoresistance.

CANCER LANDSCAPES

- 2888** **Comprehensive Proteogenomic Profiling Reveals the Molecular Characteristics of Colorectal Cancer at Distinct Stages of Progression**
Lingling Li, Dongxian Jiang, Hui Liu, Chunmei Guo, Qiao Zhang, Xuedong Li, Xiaojian Chen, Zheqi Chen, Jinwen Feng, Subei Tan, Wen Huang, Jie Huang, Chen Xu, Chen-Ying Liu, Wei Yu, Yingyong Hou, and Chen Ding
Characterization of the proteogenomic landscape of colorectal cancer during progression provides a multiomic map detailing the alterations in each stage of carcinogenesis and suggesting potential diagnostic and therapeutic approaches for patients.

COMPUTATIONAL CANCER BIOLOGY AND TECHNOLOGY

- 2911** **Multistate Gene Cluster Switches Determine the Adaptive Mitochondrial and Metabolic Landscape of Breast Cancer**
Michela Menegollo, Robert B. Bentham, Tiago Henriques, Seow Q. Ng, Ziyu Ren, Clarinde Esculier, Sia Agarwal, Emily T.Y. Tong, Clement Lo, Sanjana Ilangovan, Zorka Szabadkai, Matteo Suman, Neill Patani, Avinash Ghanate, Kevin Bryson, Robert C. Stein, Mariia Yuneva, and Gyorgy Szabadkai
A method for identifying the transcriptomic signatures of metabolic switches underlying divergent routes of cellular transformation stratifies breast cancer into metabolic subtypes, predicting their biology, architecture, and clinical outcome.

RETRACTIONS

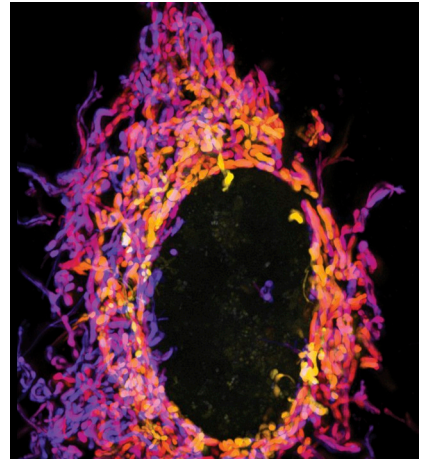
- 2926** **Retraction: PHGDH Expression Is Required for Mitochondrial Redox Homeostasis, Breast Cancer Stem Cell Maintenance, and Lung Metastasis**
Debangshu Samanta, Youngrok Park, Shaida A. Andrabi, Laura M. Shelton, Daniele M. Gilkes, and Gregg L. Semenza
- 2927** **Retraction: Collagen Prolyl Hydroxylases Are Essential for Breast Cancer Metastasis**
Daniele M. Gilkes, Pallavi Chaturvedi, Saumendra Bajpai, Carmen C. Wong, Hong Wei, Stephen Pitcairn, Maimon E. Hubbi, Denis Wirtz, and Gregg L. Semenza

TABLE OF CONTENTS

ABOUT THE COVER

Metabolic adaptation accompanies cellular state conversions during cancer evolution. MCbiclust is a method for identifying interspersed gene sets by massive correlated biclustering that was employed to investigate whether metabolic switches associated with specific metabolic states can be recognized by locating large alternating gene expression patterns. MCbiclust uncovered gene sets with switch-like behavior that could be used to predict mitochondrial content, metabolic activity, and central carbon flux in tumors. High-resolution image analysis of mitochondria across cancer cell populations confirmed the mitochondrial abundance and function predicted by gene expression profiling using MCbiclust. For details, see article by Menegollo and colleagues on page 2911.

doi: 10.1158/0008-5472.CAN-84-17-CVR



NOTICE: This notice serves to inform the reader that, in 2023, AACR received a donation by Pfizer of the rights to royalties from the sale within the United States of Bavencio® (avelumab), a pharmaceutical owned by Merck. If any resulting funds are received, they would not be used to directly support any specific publication or author. If an individual article is published that deals with this particular drug, such article will include standard financial disclosures per AACR journal policy. For more detail regarding AACR's established policies for authors, please go to <https://aacrjournals.org/pages/editorial-policies#coi>.