

## BREAKING ADVANCES

- 4999** Highlights from Recent Cancer Literature

## REVIEWS

- 5001** p53: Protection against Tumor Growth beyond Effects on Cell Cycle and Apoptosis  
Xuyi Wang, Evan R. Simpson, and Kristy A. Brown
- 5008** Antibody-Dependent Phagocytosis of Tumor Cells by Macrophages: A Potent Effector Mechanism of Monoclonal Antibody Therapy of Cancer  
Nuray Gül and Marjolein van Egmond
- 5014** Mechanisms of Cancer Cell Dormancy—Another Hallmark of Cancer?  
Albert C. Yeh and Sridhar Ramaswamy

## PRIORITY REPORT

- 5023** Fluorophore-NanoLuc BRET Reporters Enable Sensitive *In Vivo* Optical Imaging and Flow Cytometry for Monitoring Tumorigenesis  
Franz X. Schaub, Md. Shamim Reza, Colin A. Flaveny, Weimin Li, Adele M. Musicant, Sany Hoxha, Min Guo, John L. Cleveland, and Antonio L. Amelio
- Précis:* This study describes an extremely bright luciferase reporter that can enable highly sensitive, yet inexpensive methods for *in vivo* monitoring of small numbers of tumor cells, such as found at early metastatic sites, with greatly reduced image acquisition times.

## MICROENVIRONMENT AND IMMUNOLOGY

- 5034** Chemotherapy Induces Programmed Cell Death-Ligand 1 Overexpression via the Nuclear Factor- $\kappa$ B to Foster an Immunosuppressive Tumor Microenvironment in Ovarian Cancer  
Jin Peng, Junzo Hamanishi, Noriomi Matsumura, Kaoru Abiko, Kumuruz Murat, Tsukasa Baba, Ken Yamaguchi, Naoki Horikawa, Yuko Hosoe, Susan K. Murphy, Ikuo Konishi, and Masaki Mandai
- Précis:* These findings that chemotherapeutic agents induce immunosuppression by activating NF- $\kappa$ B/PD-L1 signaling in ovarian cancer suggest that the antitumor response may be enhanced through combination strategies encompassing both chemotherapy and immunotherapy.

- 5046** Obesity Contributes to Ovarian Cancer Metastatic Success through Increased Lipogenesis, Enhanced Vascularity, and Decreased Infiltration of M1 Macrophages  
Yueying Liu, Matthew N. Metzinger, Kyle A. Lewellen, Stephanie N. Cripps, Kyle D. Carey, Elizabeth I. Harper, Zonggao Shi, Laura Tarwater, Annie Grisoli, Eric Lee, Ania Slusarz, Jing Yang, Elizabeth A. Loughran, Kaitlyn Conley, Jeff J. Johnson, Yuliya Klymenko, Lana Bruney, Zhong Liang, Norman J. Dovichi, Bentley Cheatham, W. Matthew Leevy, and M. Sharon Stack
- Précis:* These findings highlight the potential mechanisms by which obesity contributes to ovarian cancer metastatic success, with important implications for patient outcomes.

- 5058** Fibulin-5 Blocks Microenvironmental ROS in Pancreatic Cancer  
Miao Wang, Mary Topalovski, Jason E. Toombs, Christopher M. Wright, Zachary R. Moore, David A. Boothman, Hiromi Yanagisawa, Huamin Wang, Agnieszka Witkiewicz, Diego H. Castrillon, and Rolf A. Brekken
- Précis:* These findings reveal an integrin-based mechanism that attenuates ROS production and promotes cancer progression, with implications for a novel general strategy to reprogram the tumor microenvironment to improve therapeutic response.

- 5070** The CUL4B/AKT/ $\beta$ -Catenin Axis Restricts the Accumulation of Myeloid-Derived Suppressor Cells to Prohibit the Establishment of a Tumor-Permissive Microenvironment  
Yanyan Qian, Jupeng Yuan, Huili Hu, Qifeng Yang, Jisheng Li, Shuqian Zhang, Baichun Jiang, Changshun Shao, and Yaoqin Gong
- Précis:* These surprising findings describe a previously uncharacterized antitumorigenic role for CUL4B in the hematopoietic system, where it restricts the accumulation and activity of myeloid-derived suppressor cells to prevent the establishment of a tumor permissive microenvironment, underscoring mechanisms by which immunosurveillance may be compromised by certain therapeutic strategies.

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**5084** Serum Immunoregulatory Proteins as Predictors of Overall Survival of Metastatic Melanoma Patients Treated with Ipilimumab



Yoshinobu Koguchi, Helena M. Hoen, Shelly A. Bambina, Michael D. Rynning, Richard K. Fuerstenberg, Brendan D. Curti, Walter J. Urba, Christina Milburn, Frances Rena Bahjat, Alan J. Korman, and Keith S. Bahjat

*Précis:* These findings define the immunomodulatory factors CXCL11 and sMICA as predictive markers in melanoma patients least likely to benefit from treatment with the checkpoint inhibitor ipilimumab.

## MOLECULAR AND CELLULAR PATHOBIOLOGY

**5093** Checkpoint Kinase 2 Negatively Regulates Androgen Sensitivity and Prostate Cancer Cell Growth

Huy Q. Ta, Melissa L. Ivey, Henry F. Frierson Jr, Mark R. Conaway, Jaroslaw Dziegielewski, James M. Larner, and Daniel Gioeli

*Précis:* This study illuminates a DNA damage response pathway that intersects with the G<sub>2</sub>-M cell-cycle checkpoint to influence the development of castration-resistance prostate cancer, with potential implications for its treatment.

## THERAPEUTICS, TARGETS, AND CHEMICAL BIOLOGY

**5106** Generation of a Selective Small Molecule Inhibitor of the CBP/p300 Bromodomain for Leukemia Therapy



Sarah Picaud, Oleg Fedorov, Angeliki Thanasopoulou, Katharina Leonards, Katherine Jones, Julia Meier, Heidi Olzscha, Octovia Monteiro, Sarah Martin, Martin Philpott, Anthony Tumber, Panagis Filippakopoulos, Clarence Yapp, Christopher Wells, Ka Hing Che, Andrew Bannister, Samuel Robson, Umesh Kumar, Nigel Parr, Kevin Lee, Dave Lugo, Philip Jeffrey, Simon Taylor, Matteo L. Vecellio, Chas Bountra, Paul E. Brennan, Alison O'Mahony, Sharlene Velichko, Susanne Müller, Duncan Hay, Danette L. Daniels, Marjeta Urh, Nicholas B. La Thangue, Tony Kouzarides, Rab Prinjha, Jürg Schwaller, and Stefan Knapp

*Précis:* These findings highlight a mechanistically potent strategy to inhibit a histone acetyltransferase that impairs self-renewal of leukemic cells, with implications to improve current treatment approaches for aggressive leukemias.

**5120** Hyperthermia Selectively Targets Human Papillomavirus in Cervical Tumors via p53-Dependent Apoptosis

Arlene L. Oei, Caspar M. van Leeuwen, Rosemarie ten Cate, Hans M. Rodermond, Marrije R. Buist, Lukas J.A. Stalpers, Johannes Crezee, H. Petra Kok, Jan Paul Medema, and Nicolaas A.P. Franken

*Précis:* These findings reveal mechanistic insights underlying the response of HPV-positive cervical cancers to hyperthermia therapy, with immediate implications for patient outcomes.

**5130** Naturally Occurring Isothiocyanates Exert Anticancer Effects by Inhibiting Deubiquitinating Enzymes

Ann P. Lawson, Marcus J.C. Long, Rory T. Coffey, Yu Qian, Eranthie Weerapana, Farid El Oualid, and Lizbeth Hedstrom

*Précis:* This study offers a novel unifying mechanism to understand the cancer-fighting properties of a class of natural compounds found in broccoli and other cruciferous vegetables that might help fight a variety of diseases characterized by inflammatory pathology.

## TUMOR AND STEM CELL BIOLOGY

**5143** WDR5 Supports an N-Myc Transcriptional Complex That Drives a Protumorigenic Gene Expression Signature in Neuroblastoma

Yuting Sun, Jessica L. Bell, Daniel Carter, Samuele Gherardi, Rebecca C. Poulos, Giorgio Milazzo, Jason W.H. Wong, Rima Al-Awar, Andrew E. Tee, Pei Y. Liu, Bing Liu, Bernard Atmadibrata, Matthew Wong, Toby Trahair, Quan Zhao, Jason M. Shohet, Ygal Haupt, Johannes H. Schulte, Peter J. Brown, Cheryl H. Arrowsmith, Masoud Vedadi, Karen L. MacKenzie, Stefan Hüttelmaier, Giovanni Perini, Glenn M. Marshall, Antony Braithwaite, and Tao Liu

*Précis:* These results identify the histone methylation regulator WDR5 as a key cofactor for N-Myc-driven transcriptional activation and tumorigenesis, offering evidence of its candidacy as a novel therapeutic target for MYCN-amplified neuroblastomas.



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**5155** ATDC/TRIM29 Drives Invasive Bladder Cancer Formation through miRNA-Mediated and Epigenetic Mechanisms



Phillip L. Palmboos, Lidong Wang, Huibin Yang, Yin Wang, Jacob Leflein, McKenzie L. Ahmet, John E. Wilkinson, Chandan Kumar-Sinha, Gina M. Ney, Scott A. Tomlins, Stephanie Daignault, Lakshmi. P. Kunju, Xue-Ru Wu, Yair Lotan, Monica Liebert, Mats E. Ljungman, and Diane M. Simeone

*Précis: Identification of a novel oncogenic driver of bladder carcinogenesis introduces a candidate biomarker and therapeutic target in a setting that has not kept pace with progress made in other cancers.*

## CORRECTION

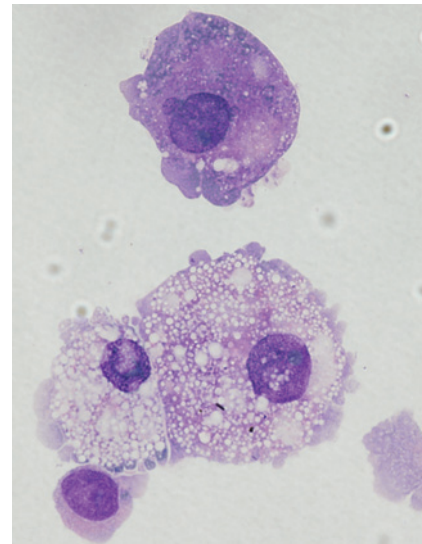
**5167** Correction: CD38 in Hairy Cell Leukemia Is a Marker of Poor Prognosis and a New Target for Therapy

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## ABOUT THE COVER

CBP/p300 is functionally implicated in the progression of multiple hematological malignancies. Picaud and colleagues developed a new selective and highly potent chemical probe I-CBP112 targeting the bromodomains of CBP/p300. Treatment of human acute myeloid leukemia (AML) cells growing in methylcellulose with 1, 3, and 5  $\mu\text{mol/L}$  of the compound reduced the clonogenic growth of the cells in a dose-dependent manner. Cytospin preparations of I-BP112-treated primary AML blasts showed morphologic signs of differentiation. For details, see article by Picaud and colleagues on page 5106.



# Cancer Research

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

## 75 (23)

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