

## BREAKING INSIGHTS

- 6711** Highlights from Recent Cancer Literature


## REVIEWS

- 6713** Replication Stress: An Achilles' Heel of Glioma Cancer Stem-like Cells  
Meredith A. Morgan and Christine E. Canman
- 6717** Development of PARP and Immune-Checkpoint Inhibitor Combinations  
Ross A Stewart, Patrick G Pilié, and Timothy A Yap



## CANCER RESEARCH HIGHLIGHTS

- 6726** Towards Greater Inclusion in Cancer Genomics Studies  
Franklin W. Huang  
*See related article, p. 6736*


## PRIORITY REPORT

- 6728** The EGFR T790M Mutation Is Acquired through AICDA-Mediated Deamination of 5-Methylcytosine following TKI Treatment in Lung Cancer  
  
Najwa El Kadi, Luo Wang, April Davis, Hasan Korkaya, Alexander Cooke, Varun Vadnala, Noah A. Brown, Bryan L. Betz, Marilia Cascalho, Gregory P. Kalemkerian, and Khaled A. Hassan  
*Significance: These findings identify the mechanism behind acquisition of a common resistance mutation to TKI treatment in lung cancer.*

## GENOME AND EPIGENOME

- 6736** Whole-Genome Sequencing Reveals Elevated Tumor Mutational Burden and Initiating Driver Mutations in African Men with Treatment-Naïve, High-Risk Prostate Cancer  
  
  
Weerachai Jaratlerdsiri, Eva K.F. Chan, Tingting Gong, Desiree C. Petersen, Anton M.F. Kalsbeek, Philip A. Venter, Phillip D. Stricker, M.S. Riana Bornman, and Vanessa M. Hayes  
*Significance: The first whole-genome sequencing study for high-risk prostate cancer in African men allows a simultaneous comparison of ethnic differences relative to European populations and of the influences of the environment relative to African-American men.*  
*See related commentary, p. 6726*

## METABOLISM AND CHEMICAL BIOLOGY

- 6747** CAMKK2 Promotes Prostate Cancer Independently of AMPK via Increased Lipogenesis  
  
Lucy Penfold, Angela Woods, Phillip Muckett, Alexander Yu. Nikitin, Tera R. Kent, Shuai Zhang, Rebecca Graham, Alice Pollard, and David Carling  
*Significance: These findings show that CAMKK2 and its downstream target AMPK have opposing effects on prostate cancer development and raise the possibility of a new combined therapeutic approach that inhibits CAMKK2 and activates AMPK.*

## MOLECULAR CELL BIOLOGY

- 6762** A Novel Germline Variant in CSF3R Reduces N-Glycosylation and Exerts Potent Oncogenic Effects in Leukemia  
David R. Spiciarich, Stephen T. Oh, Amy Foley, Seamus B. Hughes, Michael J. Mauro, Omar Abdel-Wahab, Richard D. Press, Rosa Viner, Sarah L. Thompson, Qiushi Chen, Parastoo Azadi, Carolyn R. Bertozzi, and Julia E. Maxson  
*Significance: This study reveals the critical importance of membrane-proximal N-linked glycosylation of CSF3R for the maintenance of ligand dependency in leukemia.*


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- 6771** The E2F1–miR-520/372/373–SPOP Axis Modulates Progression of Renal Carcinoma  
Meng Ding, Xiaolan Lu, Cheng Wang, Quan Zhao, Jingping Ge, Qiuyuan Xia, Junjun Wang, Ke Zen, Chen-Yu Zhang, and Chunni Zhang  
*Significance:* These findings show that the E2F1–miR-520/372/373 family-SPOP axis promotes RCC progression, thereby contributing to our understanding of RCC pathogenesis and unveiling new avenues for more effective targeted therapies.

## TUMOR BIOLOGY AND IMMUNOLOGY


- 6785** EGFR Cooperates with EGFRvIII to Recruit Macrophages in Glioblastoma  
Zhenyi An, Christiane B. Knobbe-Thomsen, Xiaohua Wan, Qi Wen Fan, Guido Reifenberger, and William A. Weiss  
*Significance:* Full-length EGFR and truncated EGFRvIII work through KRAS to upregulate the chemokine CCL2 and drive macrophage infiltration in glioblastoma.
- 6795** Loss of TRIM29 Alters Keratin Distribution to Promote Cell Invasion in Squamous Cell Carcinoma  
Teruki Yanagi, Masashi Watanabe, Hiroo Hata, Shinya Kitamura, Keisuke Imafuku, Hiroko Yanagi, Akihiro Homma, Lei Wang, Hidehisa Takahashi, Hiroshi Shimizu, and Shigetsugu Hatakeyama  
*Significance:* These findings identify TRIM29 as a novel diagnostic and prognostic marker in stratified epithelial tissues.

## TRANSLATIONAL SCIENCE

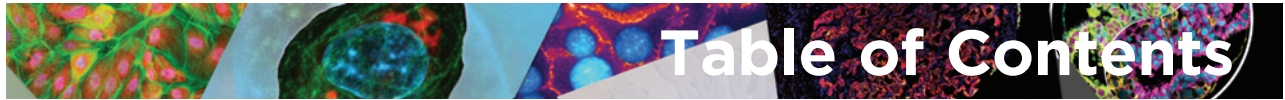
- 6807** The NCI Transcriptional Pharmacodynamics Workbench: A Tool to Examine Dynamic Expression Profiling of Therapeutic Response in the NCI-60 Cell Line Panel  
  
Anne Monks, Yingdong Zhao, Curtis Hose, Hossein Hamed, Julia Krushkal, Jianwen Fang, Dmitriy Sonkin, Alida Palmisano, Eric C. Polley, Laura K. Fogli, Mariam M. Konaté, Sarah B. Miller, Melanie A. Simpson, Andrea Regier Voth, Ming-Chung Li, Erik Harris, Xiaolin Wu, John W. Connelly, Annamaria Rapisarda, Beverly A. Teicher, Richard Simon, and James H. Doroshow  
*Significance:* The NCI Transcriptional Pharmacodynamics Workbench represents the most extensive compilation to date of directly measured longitudinal transcriptional responses to anticancer agents across a thoroughly characterized ensemble of cancer cell lines.

- 6818** Targeting PARP1 in XRCC1-Deficient Sporadic Invasive Breast Cancer or Preinvasive Ductal Carcinoma *In Situ* Induces Synthetic Lethality and Chemoprevention  
Reem Ali, Abdulbaqi Al-Kawaz, Michael S. Toss, Andrew R. Green, Islam M. Miligy, Katia A. Mesquita, Claire Seedhouse, Sameer Mirza, Vimla Band, Emad A Rakha, and Srinivasan Madhusudan  
*Significance:* These findings show that loss of XRCC1, which is associated with more malignant DCIS, can be exploited by PARP inhibition, suggesting its application as a promising therapeutic and chemoprevention strategy in XRCC1-deficient tumors.

- 6828** A Multimodal Molecular Imaging Study Evaluates Pharmacological Alteration of the Tumor Microenvironment to Improve Radiation Response  
Yoichi Takakusagi, Sarwat Naz, Kaori Takakusagi, Masahiro Ishima, Hiroshi Murata, Keisuke Ohta, Masahiko Miura, Fumio Sugawara, Kengo Sakaguchi, Shun Kishimoto, Jeeva P. Munasinghe, James B. Mitchell, and Murali C. Krishna  
*Significance:* A multimodal molecular imaging study evaluates pharmacological alteration of the tumor microenvironment to improve radiation response.

- 6838** Pharmacologic Ascorbate Reduces Radiation-Induced Normal Tissue Toxicity and Enhances Tumor Radiosensitization in Pancreatic Cancer  
  
Matthew S. Alexander, Justin G. Wilkes, Samuel R. Schroeder, Garry R. Buettner, Brett A. Wagner, Juan Du, Katherine Gibson-Corley, Brianne R. O'Leary, Douglas R. Spitz, John M. Buatti, Daniel J. Berg, Kellie L. Bodeker, Sandy Vollstedt, Heather A. Brown, Bryan G. Allen, and Joseph J. Cullen  
*Significance:* These findings demonstrate that pharmacological ascorbate enhances pancreatic tumor cell radiation cytotoxicity in addition to offering potential protection from radiation damage in normal surrounding tissue, making it an optimal agent for improving treatment of locally advanced pancreatic adenocarcinoma.

- 6852** An Oncolytic Virus Expressing a T-cell Engager Simultaneously Targets Cancer and Immunosuppressive Stromal Cells  
Joshua D. Freedman, Margaret R. Duffy, Janet Lei-Rossmann, Alice Muntzer, Eleanor M. Scott, Joachim Hagel, Leticia Campo, Richard J. Bryant, Clare Verrill, Adam Lambert, Paul Miller, Brian R. Champion, Leonard W. Seymour, and Kerry D. Fisher  
*Significance:* An engineered oncolytic adenovirus that encodes a bispecific antibody combines direct virolysis with endogenous T-cell activation to attack stromal fibroblasts, providing a multimodal treatment strategy within a single therapeutic agent.



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- 6866** **Lorlatinib Treatment Elicits Multiple On- and Off-Target Mechanisms of Resistance in ALK-Driven Cancer**  
Sara Redaelli, Monica Ceccon, Marina Zappa, Geeta G. Sharma, Cristina Mastini, Mario Mauri, Marion Nigoghossian, Luca Massimino, Nicoletta Cordani, Francesca Farina, Rocco Piazza, Carlo Gambacorti-Passerini, and Luca Mologni  
*Significance: High-throughput genomic, transcriptomic, and proteomic profiling reveals various mechanisms by which multiple tumor types acquire resistance to the third generation ALK inhibitor lorlatinib.*

## CONVERGENCE AND TECHNOLOGIES

- 6881** **3D Deep Learning from CT Scans Predicts Tumor Invasiveness of Subcentimeter Pulmonary Adenocarcinomas**  
Wei Zhao, Jiancheng Yang, Yingli Sun, Cheng Li, Weilan Wu, Liang Jin, Zhiming Yang, Bingbing Ni, Pan Gao, Peijun Wang, Yanqing Hua, and Ming Li  
*Significance: Machine learning tools are beginning to be implemented for clinical applications. This study represents an important milestone for this emerging technology, which could improve therapy selection for patients with lung cancer.*
- 6890** **Polymer Thin Film–Induced Tumor Spheroids Acquire Cancer Stem Cell–like Properties**  
Minsuk Choi, Seung J. Yu, Yoonjung Choi, Hak R. Lee, Eunbeol Lee, Eunjung Lee, Yumi Lee, Junhyuk Song, Jin G. Son, Tae G. Lee, Jin Y. Kim, Sukmo Kang, Jieung Baek, Daeyoung Lee, Sung G. Im, and Sangyong Jon  
*Significance: A new cell culture technology enables highly tumorigenic 3D spheroids to be easily generated from various cancer cell sources in the common laboratory.*

## CORRECTIONS

- 6903** **Correction: Molecular Chaperone HSP90 Is Necessary to Prevent Cellular Senescence via Lysosomal Degradation of p14ARF**  
Su Yeon Han, Aram Ko, Haruhisa Kitano, Chel Hun Choi, Min-Sik Lee, Jinho Seo, Junya Fukuoka, Soo-Youl Kim, Stephen M. Hewitt, Joon-Yong Chung, and Jaewhan Song
- 6904** **Correction: Effective Targeting of the Survivin Dimerization Interface with Small-Molecule Inhibitors**  
Jing Qi, Zizheng Dong, Jianguo Liu, Robert C. Peery, Shaobo Zhang, Jing-Yuan Liu, and Jian-Ting Zhang

## RETRACTIONS

- 6905** **Retraction: High-Mobility Group A1 Proteins Regulate p53-Mediated Transcription of *Bcl-2* Gene**  
Francesco Esposito, Mara Tomincasa, Paolo Chieffi, Ivana De Martino, Giovanna Maria Pierantoni, and Alfredo Fusco
- 6906** **Retraction: HMGA Proteins Up-regulate *CCNB2* Gene in Mouse and Human Pituitary Adenomas**  
Ivana De Martino, Rosa Visone, Anne Wierinckx, Dario Palmieri, Angelo Ferraro, Paolo Cappabianca, Gennaro Chiappetta, Floriana Forzati, Gaetano Lombardi, Annamaria Colao, Jacqueline Trouillas, Monica Fedele, and Alfredo Fusco
- 6907** **Retraction: The Receptor-Type Protein Tyrosine Phosphatase J Antagonizes the Biochemical and Biological Effects of RET-Derived Oncoproteins**  
Angela Iervolino, Rodolfo Iuliano, Francesco Trapasso, Giuseppe Viglietto, Rosa Marina Melillo, Francesca Carlomagno, Massimo Santoro, and Alfredo Fusco
- 6908** **Retraction: Haploinsufficiency of the *Hmga1* Gene Causes Cardiac Hypertrophy and Myelo-Lymphoproliferative Disorders in Mice**  
Monica Fedele, Vincenzo Fidanza, Sabrina Battista, Francesca Pentimalli, Andres J.P. Klein-Szanto, Rosa Visone, Ivana De Martino, Antonio Curcio, Carmine Morisco, Luigi Del Vecchio, Gustavo Baldassarre, Claudio Arra, Giuseppe Viglietto, Ciro Indolfi, Carlo M. Croce, and Alfredo Fusco
- 6909** **Retraction: Suppression of HMGA2 Protein Synthesis Could Be a Tool for the Therapy of Well Differentiated Liposarcomas Overexpressing *HMGA2***  
Francesca Pentimalli, Monica Dentice, Monica Fedele, Giovanna Maria Pierantoni, Letizia Cito, Pierlorenzo Pallante, Massimo Santoro, Giuseppe Viglietto, Paola Dal Cin, and Alfredo Fusco
- 6910** **Retraction: Overexpression of Proteins HMGA1 Induces Cell Cycle Deregulation and Apoptosis in Normal Rat Thyroid Cells**  
Monica Fedele, Giovanna Maria Pierantoni, Maria Teresa Berlingieri, Sabrina Battista, Gustavo Baldassarre, Nikhil Munshi, Monica Dentice, Dimitris Thanos, Massimo Santoro, Giuseppe Viglietto, and Alfredo Fusco

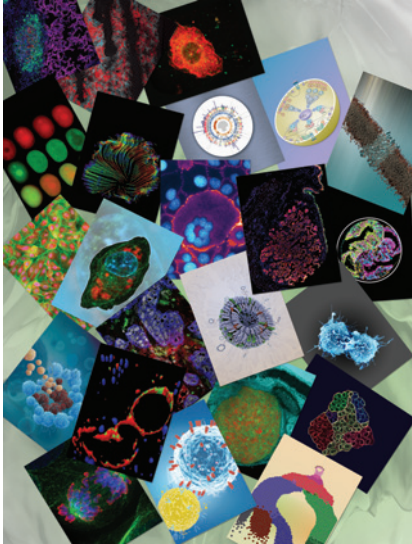
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# Cancer Research

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

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