### BREAKING ADVANCES

- **Highlights from Recent Cancer Literature**

### REVIEWS

- **Androgen Receptor on the Move: Boarding the Microtubule Expressway to the Nucleus**  
  Maria Thadani-Mulero, David M. Nanus, and Paraskevi Giannakakou

- **Role of the Human High-Affinity Copper Transporter in Copper Homeostasis Regulation and Cisplatin Sensitivity in Cancer Chemotherapy**  
  Macus Tien Kuo, Siqing Fu, Niramol Savaraj, and Helen H.W. Chen

### PRIORITY REPORT

- **Real-time Monitoring of In Vivo Acute Necrotic Cancer Cell Death Induced by Near Infrared Photodynamic Therapy Using Fluorescence Lifetime Imaging**  
  Takahito Nakajima, Kohei Sano, Makoto Mitsuhaga, Peter L. Choyke, and Hisataka Kobayashi

### MICROENVIRONMENT AND IMMUNOLOGY

- **Hypoxia-Inducible miR-210 Regulates the Susceptibility of Tumor Cells to Lysis by Cytotoxic T Cells**  
  Muhammad Zaeem Noman, Stéphanie Buart, Pedro Romero, Sami Ketari, Bassam Janji, Bernard Mari, Fatima Mami-Chouaib, and Salem Chouaib

### MOLECULAR AND CELLULAR PATHOBIOLOGY

- **Platelets and P-Selectin Control Tumor Cell Metastasis in an Organ-Specific Manner and Independently of NK Cells**  
  Lucy A. Coupland, Beng H. Chong, and Christopher R. Parish

- **Collaboration of Kras and Androgen Receptor Signaling Stimulates EZH2 Expression and Tumor-Propagating Cells in Prostate Cancer**  
  Houjian Cai, Sanaz Memarzadeh, Tanya Stoyanova, Zanna Beharry, Andrew S. Kraft, and Owen N. Witte

- **NFAT1 Supports Tumor-induced Anergy of CD4 T Cells**  
  Brian T. Abe, Daniel S. Shin, Enric Mocholi, and Fernando Macian

  **Précis:** Results directly implicate CD4 T-cell anergy in immune escape, opening the possibility of targeting a transcription factor known to induce T-cell anergy as a general strategy to improve any immunotherapy or immunochemotherapy for cancer treatment.

- **Activation of Robo1 Signaling of Breast Cancer Cells by Slit2 from Stromal Fibroblast Restrains Tumorigenesis via Blocking PI3K/Akt/β-Catenin Pathway**  

  **Précis:** Findings show how stromal fibroblasts can suppress the tumorigenicity of breast cancer cells, offering a potentially broadspectrum marker for clinical prognosis of breast cancers.

- **Précis:** Findings illustrate how a type of noninvasive fluorescence imaging can be used to monitor antitumor therapeutic effects at very early times before morphological changes become apparent.

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Ink4a/Arf Inactivation with Activation of the NF-κB/IL-6 Pathway Is Sufficient to Drive the Development and Growth of Angiosarcoma

Jinming Yang, Sara Kantrow, Jiqing Sai, Oriana E. Hawkins, Mark Boothby, Gregory D. Ayers, Eric D. Young, Elizabeth G. Demicco, Alexander J. Lazar, Dina Lev, and Ann Richmond

Précis: Results offer clinical implications for targeting the NF-κB/IL-6/STAT3 pathway to treat angiosarcoma, a rare but aggressive cancer of endothelial or lymph vessel cells that is poorly understood.

Ectopic ATP Synthase Blockade Suppresses Lung Adenocarcinoma Growth by Activating the Unfolded Protein Response

Hsin-Yi Chang, Hsuan-Cheng Huang, Tsui-Chin Huang, Pan-Chyr Yang, Yi-Ching Wang, and Hsueh-Fen Juan

Précis: Findings elucidate a feature of mitochondrial ATP synthase expressed at the plasma membrane in lung cancer cells that might be exploited therapeutically.

MicroRNA-21 Modulates the Levels of Reactive Oxygen Species by Targeting SOD3 and TNFα

Xiangming Zhang, Wooi-Loon Ng, Ping Wang, LinLin Tian, Erica Werner, Huichen Wang, Paul Doetsch, and Ya Wang

Précis: An oncogenic microRNA thought to promote cancer mainly by affecting expression of growth regulatory genes may actually do so by regulating genes that promote reactive oxygen species formation, a root driver of carcinogenesis.

Truncated DNMT3B Isoform DNMT3B7 Suppresses Growth, Induces Differentiation, and Alters DNA Methylation in Human Neuroblastoma

Kelly R. Ostler, Qiwei Yang, Timothy J. Looney, Li Zhang, Aparna Vasanthakumar, Yufeng Tian, Mashia Kocherginsky, Stacey L. Raimondi, Jessica G. DeMaio, Helen R. Salwen, Song Gu, Alexandre Chlenski, Arlene Naranjo, Amy Gill, Radhika Peddinti, Bruce T. Lahn, Susan L. Cohn, and Lucy A. Godley

Précis: This study provides insights into the mechanistic basis for epigenetic changes in neuroblastoma, acting at the level of DNA methylation, with the potential to leverage treatments that use all-trans retinoic acid in this disease.

Hematologic β-Tubulin VI Isoform Exhibits Genetic Variability That Influences Paclitaxel Toxicity

Luis J. Leandro-García, Susanna Leskelä, Lucía Ingлада-Pérez, Itigo Landa, Aguirre A. de Cubas, Agnieszka Maliszewska, Iñaki Comino-Méndez, Rocio Letón, Álvaro Gómez-Graña, Raúl Torres, Juan Carlos Ramírez, Sara Álvarez, José Rivera, Constantino Martínez, María Luisa Lozano, Alberto Cascón, Mercedes Robledo, and Cristina Rodríguez-Antona

Précis: A genetic variation found in a tubulin isoform expressed only in hematopoietic cells may explain the patient variation in myelosuppression that occurs after treatment with microtubule binding drugs.

Systemic Combination Virotherapy for Melanoma with Tumor Antigen-Expressing Vesicular Stomatitis Virus and Adoptive T-Cell Transfer

Diana M. Rommelfanger, Phonphimon Wongthida, Rosa M. Diaz, Karen M. Kaluz, Jill M. Thompson, Timothy J. Kotake, and Richard G. Vile

Précis: Combining adoptive T-cell therapy with the immune stimulating benefits of oncolytic virotherapy might generate a truly systemic protocol for treatment of metastatic cancers without the need of direct access to the tumor.
B-Raf Activation Cooperates with PTEN Loss to Drive c-Myc Expression in Advanced Prostate Cancer
Jingqiang Wang, Takashi Kobayashi, Nicolas Floch, Carolyn Waugh Kinkade, Alvaro Aytes, David Dankort, Celine Lefebvre, Antonina Mitrofanova, Robert D. Cardiff, Martin McMahon, Andrea Califano, Michael M. Shen, and Cory Abate-Shen

Effective Photothermal Chemotherapy Using Doxorubicin-Loaded Gold Nanospheres that Target EphB4 Receptors in Tumors
Jian You, Rui Zhang, Chiyi Xiong, Meng Zhong, Maritess Melancon, Sanjay Gupta, Alpa M. Nick, Anil K. Sood, and Chun Li

Oxidation-Mediated DNA Cross-Linking Contributes to the Toxicity of 6-Thioguanine in Human Cells
Reto Brem and Peter Karran

HER2 Overexpression Renders Human Breast Cancers Sensitive to PARP Inhibition Independently of Any Defect in Homologous Recombination DNA Repair
Somaira Nowsheen, Tiffiny Cooper, James A. Bonner, Albert F. LoBuglio, and Eddy S. Yang

Effective Combination Therapy for Malignant Glioma with TRAIL-Secreting Mesenchymal Stem Cells and Lipoxygenase Inhibitor MK886
Seong-Muk Kim, Ji Sun Woo, Chang Hyun Jeong, Chung Heon Ryu, Jung Yeon Lim, and Sin-Soo Jeun

CCN6 Modulates BMP Signaling via the Smad-Independent TAK1/p38 Pathway, Acting to Suppress Metastasis of Breast Cancer
Anupama Pal, Wei Huang, Xin Li, Kathy A. Toy, Zaneta Nikolovska-Coleska, and Celina G. Kleer

PCA-1/ALKBH3 Contributes to Pancreatic Cancer by Supporting Apoptotic Resistance and Angiogenesis
Ichiro Yamato, Masayuki Sho, Keiji Shimada, Kiyohiko Hotta, Yuko Ueda, Satoshi Yasuda, Naoko Shigi, Noboru Konishi, Kazutake Tsujikawa, and Yoshiyuki Nakajima

TGF-β and αvβ6 Integrin Act in a Common Pathway to Suppress Pancreatic Cancer Progression
Aram F. Hezel, Vikram Deshpande, Stephanie M. Zimmerman, Gianmarco Contino, Brinda Alagesan, Michael R. O’Dell, Lee B. Rivera, Jay Harper, Scott Lonning, Rolf A. Brekken, and Nabeel Bardeesy

The Antioxidant Tempol Reduces Carcinogenesis and Enhances Survival in Mice When Administered after Nonlethal Total Body Radiation
James B. Mitchell, Miriam R. Anver, Anastasia L. Sowers, Philip S. Rosenberg, Maria Figueroa, Angela Thetford, Murali C. Krishna, Paul S. Albert, and John A. Cook

TUMOR AND STEM CELL BIOLOGY
Candidate Pathways for Promoting Differentiation or Quiescence of Oligodendrocyte Progenitor-like Cells in Glioma
Joseph D. Dougherty, Elena I. Fomchenko, Afua A. Akuffo, Eric Schmidt, Karim Y. Helmy, Elena Bazzoli, Cameron W. Brennan, Eric C. Holland, and Ana Milosevic

Précis: Translational profiling of mouse and human glioblastomas identified several candidate pathways that promote quiescence or differentiation rather than proliferation in these tumors, suggesting new therapeutic targets for combination treatment.

Correction: Deletion of the Endothelial Bmx Tyrosine Kinase Decreases Tumor Angiogenesis and Growth

Correction: Prognostic PET 18F-FDG Uptake Imaging Features Are Associated with Major Oncogenomic Alterations in Patients with Resected Non–Small Cell Lung Cancer

ABOUT THE COVER

Complete tumor eradication by thermal ablation therapy alone is often difficult because of sub-lethal thermal dose in some areas of the tumor. For photothermal ablation therapy, it is highly desirable to selectively deliver combined thermal ablation therapy and other treatment modalities such as chemotherapy through a single nanodevice. Using doxorubicin-loaded hollow gold nanospheres conjugated with a high-affinity cyclic peptide recognizing EphB4 receptors, it was found that targeted nanoparticles displayed significantly higher tumor uptakes than nanoparticles without peptidyl homing ligands. Moreover, treatment with near-infrared laser led to synergistic antitumor effect without increased toxicities in a preclinical mouse model. For details, see article by You and colleagues on page 4777.


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