### BREAKING ADVANCES

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<td>Maria Thadani-Mulero, David M. Nanus, and Paraskevi Giannakakou</td>
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### REVIEWS

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### PRIORITY REPORT

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### MICROENVIRONMENT AND IMMUNOLOGY

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<td>Muhammad Zaeem Noman, Stéphanie Buart, Pedro Romero, Sami Ketari, Bassam Janji, Bernard Mari, Fathia Mami-Chouaib, and Salem Chouaib</td>
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### NFAT1 Supports Tumor-induced Anergy of CD4⁺ T Cells

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<td>4642</td>
<td>NFAT1 Supports Tumor-induced Anergy of CD4⁺ T Cells</td>
<td>Brian T. Abe, Daniel S. Shin, Enric Mocholi, and Fernando Macian</td>
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### Activation of Robo1 Signaling of Breast Cancer Cells by Slit2 from Stromal Fibroblast Restrains Tumorigenesis via Blocking PI3K/Akt/β-Catenin Pathway

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### MOLECULAR AND CELLULAR PATHOBIOLOGY

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

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### Collaboration of Kras and Androgen Receptor Signaling Stimulates EZH2 Expression and Tumor-Propagating Cells in Prostate Cancer

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### Hypoxia-Inducible miR-210 Regulates the Susceptibility of Tumor Cells to Lysis by Cytotoxic T Cells

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### Précis: This seminal study defines a microRNA whose induction links hypoxia to immune escape, providing a new mechanistic understanding of how immunosuppression arises in oxygen-deprived regions of tumors where the most aggressive behaviors evolve.

### Collaboration of Kras and Androgen Receptor Signaling Stimulates EZH2 Expression and Tumor-Propagating Cells in Prostate Cancer

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### Précis: This study offers mechanistic insights into how prostate cancer progresses to its deadly final stage when metastatic capabilities emerge, revealing how upregulation of a key transcriptional regulator is linked to the generation of cancer progenitor cells that may be crucial at this stage.
### Prevention and Epidemiology

- **Markers of B-Cell Activation in Relation to Risk of Non-Hodgkin Lymphoma**
  - Anneclaire J. De Roos, Dana K. Mirick, Kerstin L. Edlefsen, Andrea Z. LaCroix, Kenneth J. Kopecky, Margaret M. Madeleine, Larry Magpantay, and Otoniel Martínez-Maza
  - **Précis:** Evidence from a study of postmenopausal women suggests that B-cell activation plays a prominent role in the pathogenesis of non-Hodgkin lymphomas, pointing toward avenues for development of early diagnostic tests for this disease.

### Therapeutics, Targets, and Chemical Biology

- **Hematologic β-Tubulin VI Isoform Exhibits Genetic Variability That Influences Paclitaxel Toxicity**
  - Luis J. Leandro-García, Susanna Leskela, Lucía Inglada-Pérez, Iñigo Landa, Aguirre A. de Cubas, Agnieszka Maliszewska, Iñaki Comino-Méndez, Rocío Letón, Álvaro Gómez-Graña, Raúl Torres, Juan Carlos Ramírez, Sara Alvarez, 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. Kaluza, Jill M. Thompson, Timothy J. Kottke, and Richard G. Vile
  - **Précis:** Combining adoptive T-cell therapy with the immune stimulatory benefits of oncolytic virotherapy might generate a truly systemic protocol for treatment of metastatic cancers without the need of direct access to the tumor.
TUMOR AND STEM CELL BIOLOGY

**4765** B-Raf Activation Cooperates with PTEN Loss to Drive c-Myc Expression in Advanced Prostate Cancer Jingqiang Wang, Takashi Kobayashi, Nicolas Floc'h, Carolyn Waugh Kinkade, Alvaro Aytes, David Dankort, Celine Lefebvre, Antonina Mitrofanova, Robert D. Cardill, Martin McMahon, Andrea Califano, Michael M. Shen, and Cory Abate-Shen

**4777** 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

**4787** Oxidation-Mediated DNA Cross-Linking Contributes to the Toxicity of 6-Thioguanine in Human Cells Reto Brem and Peter Karran

**4796** HER2 Overexpression Renders Human Breast Cancers Sensitive to PARP Inhibition Independently of Any Defect in Homologous Recombination DNA Repair Somaira Nosheen, Tiffany Cooper, James A. Bonner, Albert F. LoBuglio, and Eddy S. Yang

**4807** Effective Combination Therapy for Malignant Glioma with TRAIL-Secreting Mesenchymal Stem Cells and Lipoxygenase Inhibitor MK886 Seong Muk Kim, Ji Sun Woo, Chung Heon Ryu, Jung Yeon Lim, and Sin-Soo Jeun

**4818** 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

**4829** 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

**4840** 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

**4846** 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
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.

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.

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