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<td>Highlights from Recent Cancer Literature</td>
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<td>Urinary Tobacco Smoke– Constituent Biomarkers for Assessing Risk of Lung Cancer</td>
<td>Jian-Min Yuan, Lesley M. Butler, Irina Stepanov, and Stephen S. Hecht</td>
<td><em>Précis</em>: By using a macrophage-specific gene knockout mouse, this important study reveals how tumor-associated macrophages not only orchestrate local inflammation but also cell mutagenesis to drive the development of colon cancer.</td>
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<td>ERKs in Cancer: Friends or Foes?</td>
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<td>Bookmarking Target Genes in Mitosis: A Shared Epigenetic Trait of Phenotypic Transcription Factors and Oncogenes?</td>
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<td>Bridging Population and Tissue Scale Tumor Dynamics: A New Paradigm for Understanding Differences in Tumor Growth and Metastatic Disease</td>
<td>Jill Gallaher, Aravind Babu, Sylvia Plevritis, and Alexander R.A. Anderson</td>
<td><em>Précis</em>: Vascular response is a primary cause of the differences in rates of tumor growth and metastatic disease in two of the most common cancers.</td>
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<td>CCL2/CCR2-Dependent Recruitment of Functional Antigen-Presenting Cells into Tumors upon Chemotherapy</td>
<td>Yuting Ma, Stephen R. Mattarollo, Sandy Adjemian, Heng Yang, Laetitia Aymeric, Dalil Hannani, Joao Paulo Portela Catani, Helene Duret, Michele W.L. Teng, Oliver Kepp, Yidan Wang, Antonella Sistigu, Joachim L. Schultze, Gautier Stoll, Lorenzo Galluzzi, Laurence Zitzvogel, Mark J. Smyth, and Guido Kroemer</td>
<td><em>Précis</em>: These findings illustrate the importance of CCL2/CCR2 signaling pathways for immunogenic chemotherapeutics to elicit their antitumor effects, suggesting risks that CCL2/CCR2 targeting strategies being tested clinically may actually worsen clinical outcomes in cancer patients.</td>
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<td>Immune Chaperone gp96 Drives the Contributions of Macrophages to Inflammatory Colon Tumorigenesis</td>
<td>Crystal Morales, Saleh Rachidi, Feng Hong, Shaoli Sun, Xinshou Ouyang, Caroline Wallace, Yongliang Zhang, Elizabeth Garret-Mayer, Jennifer Wu, Bei Liu, and Zihai Li</td>
<td><em>Précis</em>: These results shed light on the mechanisms of inflammation-associated lung carcinogenesis, showing how cigarette smoke promotes contributions from lung macrophages in the tissue microenvironment to promote lung cancer.</td>
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<td>MUC1 in Macrophage: Contributions to Cigarette Smoke–Induced Lung Cancer</td>
<td>Xiuling Xu, Mabel T. Padilla, Bilan Li, Alexandra Wells, Kosuke Kato, Carmen Tellez, Steven A. Belinsky, Kwang Chul Kim, and Yong Lin</td>
<td><em>Précis</em>: Dysregulation of the Hedgehog pathway in cancer cells drives the formation of a supportive microenvironment, by stimulating a core mechanism of support for the development of myeloid-derived suppressor cells.</td>
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<td>Defective TGF-β Signaling in Bone Marrow– Derived Cells Prevents Hedgehog-Induced Skin Tumors</td>
<td>Qipeng Fan, Dongsheng Gu, Hailan Liu, Ling Yang, Xiaoli Zhang, Mervin C. Yoder, Mark H. Kaplan, and Jingwu Xie</td>
<td><em>Précis</em>: These results define the protein chaperone cyclophilin B as a promising molecular target for treatment of glioblastoma multiforme, with immediate clinical implications for repositioning the approved drug cyclosporin as a potential therapeutic to treat this aggressive malignancy.</td>
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547 Circadian Regulation of mTOR by the Ubiquitin Pathway in Renal Cell Carcinoma
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552 Blocking eIF5A Modification in Cervical Cancer Cells Alters the Expression of Cancer-Related Genes and Suppresses Cell Proliferation
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558 Identification of a Cyclin D1 Network in Prostate Cancer That Antagonizes Epithelial–Mesenchymal Restrangement
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563 Novel Mechanism of MDA-7/IL-24 Cancer-Specific Apoptosis through SARI Induction

575 Small Molecule Agonists of PPAR-γ Exert Therapeutic Effects in Esophageal Cancer
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580 Preclinical Therapeutic Efficacy of a Novel Pharmacologic Inducer of Apoptosis in Malignant Peripheral Nerve Sheath Tumors
Vincent Chau, S. Kyun Lim, Wei Mo, Chiachi Liu, Amish J. Patel, Renée M. McKay, Shuguang Wei, Bruce A. Posner, Jef K. De Brabander, Noelle S. Williams, Luis F. Parada, and Lu Q. Le

586 p53-Induced miR-15a/16-1 and AP4 Form a Double-Negative Feedback Loop to Regulate Epithelial–Mesenchymal Transition and Metastasis in Colorectal Cancer
Lei Shi, Rene Jackstadt, Helge Siemens, Huilui Li, Thomas Kirchner, and Heiko Hermeking

592 MDRI Synonymous Polymorphisms Alter Transporter Specificity and Protein Stability in a Stable Epithelial Monolayer
King Leung Fung, James Pan, Shinobu Ohnuma, Paul E. Lund, Jessica N. Pixley, Chaya Kimchi-Sarfaty, Suresh V. Ambudkar, and Michael M. Gottesman

Précis: This important study shows how a pivot cell growth regulator is controlled by circadian clock systems, with significant therapeutic implications.

Précis: These findings suggest a mechanistic rationale to immediately reposition two approved drugs for cancer treatment, offering a low-risk clinical opportunity to evaluate new therapeutic modalities for cancer treatment.

Précis: These findings define a signaling axis in cancer-specific killing that suggests a strategy to treat both local and metastatic disease.

Précis: This mechanistic study sheds new light on opposing circuitries of control for mesenchymal and epithelial states in cancer cells, the balance of which may influence invasive migration and metastasis.

Précis: These findings define a signaling axis in cancer-specific killing that suggests a strategy to treat both local and metastatic disease.

Précis: Using a robust new model of malignant peripheral nerve sheath tumors that recapitulates features of the human malignancy, this study identified a novel proapoptotic small molecule that inhibits tumor cell growth.

Précis: This new-generation small molecule agonist of PPAR-γ that is more selective than existing agents may offer a novel route to treat esophageal squamous cancers, with immediate implications for clinical translation.

Précis: These findings reveal a novel function for cyclin D1 in mediating the expansion of prostate stem cells that contribute to prostate cancer.

Précis: These findings suggest a mechanistic rationale to immediately reposition two approved drugs for cancer treatment, offering a low-risk clinical opportunity to evaluate new therapeutic modalities for cancer treatment.

Précis: These findings suggest a mechanistic rationale to immediately reposition two approved drugs for cancer treatment, offering a low-risk clinical opportunity to evaluate new therapeutic modalities for cancer treatment.

Précis: Significant therapeutic implications.
TUMOR AND STEM CELL BIOLOGY

609  FGFR1–WNT–TGF-β Signaling in Prostate Cancer Mouse Models Recapitulates Human Reactive Stroma
Julienne L. Carstens, Payam Shahi, Susan Van Tsang, Billie Smith, Chad J. Creighton, Yiyan Zhang, Amber Seamans, Mamatha Setthammanagari, Indira Vedula, Jonathan M. Levitt, Michael M. Ittmann, David R. Rowley, and David M. Spencer

Précis: Targeting the reactive stroma in aggressive prostate adenocarcinoma may generate a two-pronged attack that is more efficacious, by attacking cancer cells as well as the critical stromal tissue driving their outgrowth.

621  PPARα Activation Can Help Prevent and Treat Non–Small Cell Lung Cancer
Nataliya Skrypnyk, Xiwu Chen, Wen Hu, Yan Su, Stacey Mont, Shilin Yang, Mahesha Gangadhariah, Shouzuo Wei, John R. Falck, Jawahar Lal Jat, Roy Zent, Jorge H. Capdevila, and Ambra Pozzi

Précis: This important study provides a preclinical proof-of-concept for administering clinically approved PPARα agonists to treat lung cancer, with immediate implications to reposition an existing drug treatment that is well tolerated and may be highly efficacious in this setting.

LETTERS TO THE EDITOR

632  Dual Blockade of PD-1 and CTLA-4 Combined with Tumor Vaccine Effectively Restores T-Cell Rejection Function in Tumors—Letter
David C. Binder and Hans Schreiber

633  Dual Blockade of PD-1 and CTLA-4 Combined with Tumor Vaccine Effectively Restores T-Cell Rejection Function in Tumors—Response
Jaikumar Duraiswamy, Gordon J. Freeman, and George Coukos

635  Editors’ Viewpoint—Response
Mario P. Colombo and George C. Prendergast

CORRECTIONS

636  Correction: A Single-Nucleotide Substitution Mutator Phenotype Revealed by Exome Sequencing of Human Colon Adenomas

637  Correction: Neuropilin-2 Is Upregulated in Lung Cancer Cells during TGF-β1–Induced Epithelial–Mesenchymal Transition

ABOUT THE COVER

Anthracycle-based chemotherapy promotes the recruitment of CD11c⁺ (green) CD86⁺ (red) dendritic cells in close proximity to Caspase 3α⁺ (magenta) dying tumor cells. This process relies on “eat me” signal ATP and CCL2/CCR2 chemotactic axis. For details, see the article by Ma and colleagues on page 436 of this issue.
Cancer Research

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