## Highlights from Recent Cancer Literature

**Dysregulated Hematopoiesis Caused by Mammary Cancer Is Associated with Epigenetic Changes and Hox Gene Expression in Hematopoietic Cells**

Alexander Sio, Manreet K. Chehal, Kevin Tsai, Xueling Fan, Morgan E. Roberts, Brad H. Nelson, Jolanta Grembecka, Tomasz Cierpicki, Danielle L. Krebs, and Kenneth W. Harder

**Précis:** These findings provide insight into how tumor-secreted factors profoundly disturb hematopoiesis, for example by causing myeloproliferative-like disease (leukemoid reaction), anemia, and disrupted bone marrow stem compartments.

## Why Your Preferred Targeted Drugs May Become Unaffordable

**Adenomatous Polyps Are Driven by Microbe-Instigated Focal Inflammation and Are Controlled by IL-10–Producing T Cells**

Kristen L. Dennis, Yunwei Wang, Nichole R. Blatner, Shuya Wang, Abdulrahman Saadalla, Erin Trudoe, Axel Roers, Casey T. Weaver, James J. Lee, Jack A. Gilbert, Eugene B. Chang, and Khushayarsha Khazaie

**Précis:** IL-10 provided by T cells in the colon is critical to control bacterial-driven inflammation and polyp growth, providing a rationale for this cytokine as a candidate target for immunotherapy in colon cancer.

## The Emerging Role of Immunosurveillance in Dictating Metastatic Spread in Breast Cancer

**Constitutive β-Catenin Activation Induces Male-Specific Tumorigenesis in the Bladder Urothelium**

Congxing Lin, Yan Yin, Kristina Stemler, Peter Humphrey, Adam S. Kibel, Indira U. Mysorekar, and Liang Ma

**Précis:** Investigations in a preclinical model of bladder cancer suggest that males have a predilection for this disease due to a synergy between the β-catenin and androgen receptor signaling pathways.

## The CpG Island Methylator Phenotype: What’s in a Name?

**FGFR4 Promotes Stroma-Induced Epithelial-to-Mesenchymal Transition in Colorectal Cancer**

Rui Liu, Jingyi Li, Ke Xie, Tao Zhang, Yunlong Lei, Yi Chen, Lu Zhang, Kai Huang, Kui Wang, Hong Wu, Min Wu, Edouard C. Nice, Canhua Huang, and Yuquan Wei

**Précis:** An FGFR receptor is found to be pivotal for the process by which the tumor stromal microenvironment triggers conversion of epithelial cancer cells to mesenchymal phenotypes that are more invasive and metastatic.
Downregulation of microRNA-515-5p by the Estrogen Receptor Modulates Sphingosine Kinase 1 and Breast Cancer Cell Proliferation


Precis: This study links the estrogen receptor and a microRNA implicated in breast cancer risk to a key lipid kinase that is essential for maintaining continuous cell proliferation in breast cancer.

Nm23-H1 Binds to Gelsolin and Inactivates Its Actin-Severing Capacity to Promote Tumor Cell Motility and Metastasis

Natascia Marino, Jean-Claude Marshall, Joshua W. Collins, Ming Zhou, Yongzhen Qian, Timothy Veenstra, and Patricia S. Steeg

Precis: A protein with protean and somewhat confusing functions in cancer is found to limit the metastasis in breast cancer by blocking the action of an actin-severing protein in breast cancer cells.

Cyclin D1-Dependent Induction of Luminal Inflammatory Breast Tumors by Activated Notch3

Hua Ling, Jean-Rene Sylvestre, and Paul Jolicoeur

Precis: Activated forms of Notch3 may preferentially induce expansion of luminal progenitor cells in the mammary gland that can contribute to inflammatory breast cancer, a particularly aggressive and poorly managed disease.

Notch1 Is Required for Kras-Induced Lung Adenocarcinoma and Controls Tumor Cell Survival via p53

Silvia Licciulli, Jacque L. Avila, Linda Hanlon, Scott Troutman, Matteo Cesaroni, Smitha Kota, Brian Keith, M. Celeste Simon, Ellen Puré, Fred Rattle, Anthony J. Capobianco, and Joseph L. Kissil

Precis: These findings define a novel role for the Notch1 receptor in lung cancer, offering a molecular basis for observations related to patient prognosis and reinforcing the notion that Notch1 is a worthy therapeutic target in this setting.
An Antibody That Locks HER3 in the Inactive Conformation Inhibits Tumor Growth Driven by HER2 or Neuregulin
Precis: HER3 is a member of the EGFR family that mediates oncogenic functions of other family members, thereby offering a target that can more generally shut down signaling by this common cancer cell system.

Double Minute Chromosomes in Glioblastoma Multiforme Are Revealed by Precise Reconstruction of Oncogenic Amplicons
J. Zachary Sanborn, Sofie R. Salama, Mia Grifford, Cameron W. Brennan, Tom Mikkelsen, Suresh Jhanwar, Sol Katzman, Lynda Chin, and David Haussler
Precis: Oncogenic amplicons, a feature of many glioblastomas, were precisely reconstructed by high-throughout sequencing data, a process that could be useful for diagnosis and monitoring of disease.

MicroRNA-218 Inhibits Glioma Invasion, Migration, Proliferation, and Cancer Stem-like Cell Self-Renewal by Targeting the Polycomb Group Gene Bmi1
Yanyang Tu, Xingchun Gao, Gang Li, Hualin Fu, Daxiang Cui, Hui Liu, Weilin Jin, and Yongsheng Zhang
Precis: A tumor-suppressive microRNA acts by regulating a central transcriptional co-repressor molecule implicated in glioblastoma, from which insights into its downstream targets in stem cell populations have emerged recently.

CORRECTIONS

Correction: A Novel Class of Anticancer Compounds Targets the Actin Cytoskeleton in Tumor Cells

Correction: Constitutive HER2 Signaling Promotes Breast Cancer Metastasis through Cellular Senescence

Correction: PTK6 Activation at the Membrane Regulates Epithelial–Mesenchymal Transition in Prostate Cancer
ABOUT THE COVER

Tumor cells evolve by interacting with the local microenvironment. In this study, an FGF receptor (FGFR4) is found to be pivotal for the process by which the tumor stromal microenvironment triggers conversion of epithelial cancer cells to mesenchymal phenotypes that are more invasive and metastatic. Tumor-associated fibroblasts-mediated FGFR4 activation is strongly related to a high risk of tumor metastasis and poor patient outcome, suggesting novel therapeutic opportunities for the treatment of colorectal cancer. For details, see article by Liu and colleagues on page 5926.