In This Issue

Highlighted research articles

Important news stories affecting the community

Q&A: Stephen Friend on a Bioinformation Commons

PARP Inhibitors Refocus for Rebound

A Deeper Look at Tumor Heterogeneity

Selected highlights of recent articles of exceptional significance from the cancer literature

For more News and Research Watch, visit Cancer Discovery online at http://CDnews.aacrjournals.org.

News in Brief

Discovery in Context: Leveraging Multidimensional Glioblastoma Datasets to Identify Targetable Regulatory Networks

I. Babic and P.S. Mischel

Commentary on Genovese et al., p. 736

Review

Mechanisms of BRCA1 Tumor Suppression

D.P. Silver and D.M. Livingston

Research Brief

A Central Role for RAF→MEK→ERK Signaling in the Genesis of Pancreatic Ductal Adenocarcinoma


Précis: Pancreatic ductal adenocarcinomas harboring KRAS mutations are dependent on RAF signaling and are sensitive to MEK inhibition.

Research Watch

First-in-Human Trial of a STAT3 Decoy Oligonucleotide in Head and Neck Tumors: Implications for Cancer Therapy


Précis: Intratumoral injection of a STAT3 decoy oligonucleotide safely reduced target gene expression in a phase 0 clinical trial, and chemical modification may enable systemic delivery.
The Outgrowth of Micrometastases Is Enabled by the Formation of Filopodium-like Protrusions

T. Shibue, M.W. Brooks, M.F. Inan, F. Reinhardt, and R.A. Weinberg

Précis: The formation of integrin β1-containing protrusions mediates FAK signaling to promote metastatic cell proliferation and colonization.

IDO Is a Nodal Pathogenic Driver of Lung Cancer and Metastasis Development


Précis: IDO orchestrates inflammation, vascularization, and immunosuppression to establish a protumorigenic environment in lung cancer and metastasis models.

microRNA Regulatory Network Inference Identifies miR-34a as a Novel Regulator of TGF-β Signaling in Glioblastoma


Précis: miR-34a functions as a subtype-specific tumor suppressor in glioblastoma through targeted inhibition of SMAD4-regulated transcription.

Correction

Correction: High Frequency of PIK3R1 and PIK3R2 Mutations in Endometrial Cancer Elucidates a Novel Mechanism for Regulation of PTEN Protein Stability

For more News and Research Watch, visit Cancer Discovery online at http://CDnews.aacrjournals.org. Online-only News stories include the following:

- Finding Your Place in Cancer Research
- FDA Offers Guidance for Neoadjuvant Trials
- Cancer Trials Fail to Track Tobacco Use
- FDA to Speed Its Work on Shortages, Generics
- Georgia Tech Opens Integrated Research Center
- Seeing Deeper Inside Tissues

Sen and colleagues conducted an exploratory, first-in-human phase 0 trial that showed that intratumoral injection of a STAT3 decoy oligonucleotide during tumor resection surgery could safely reduce STAT3 target gene expression in head and neck squamous cell carcinomas (HNSCC). Modification of the STAT3 decoy by linkage or circularization of the 2 strands increased its stability in vitro, which facilitated systemic administration of the STAT3 decoy in vivo. Intravenous injection of a cyclic STAT3 decoy, but not the parental decoy, decreased STAT3 target gene expression in HNSCC xenografts and significantly suppressed tumor growth. For details, please see the article by Sen and colleagues on page 694.