### REVIEW

**The Initial Hours of Metastasis: The Importance of Cooperative Host–Tumor Cell Interactions during Hematogenous Dissemination**

M. Labelle and R.O. Hynes

**MicroRNAs Reprogram Normal Fibroblasts into Cancer-Associated Fibroblasts in Ovarian Cancer**

A.K. Mitra, M. Zillhardt, Y. Hua, P. Tiwari, A.E. Murmann, M.E. Peter, and E. Lengyel

**FGFR Genetic Alterations Predict for Sensitivity to NVP-BGJ398, a Selective Pan-FGFR Inhibitor**


### NEWS IN BRIEF

**Q&A: Celeste Simon on Hypoxia–Cancer Links**

Data Sphere Shares Clinical Trial Information

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

### IN THIS ISSUE

Highlighted research articles

Important news stories affecting the community

Q&A: Celeste Simon on Hypoxia–Cancer Links

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### VIEWS

**MicroRNAs Play a Big Role in Regulating Ovarian Cancer-Associated Fibroblasts and the Tumor Microenvironment**

J. Chou and Z. Werb

Commentary on Mitra et al., p. 1100

**Lineage-Specific Biomarkers Predict Response to FGFR Inhibition**

D.C. Loch and P.M. Pollock

Commentary on Guagnano et al., p. 1118

**Hello Out There… Is Anybody Listening?**

R.A. DeFilippis and T.D. Tlsty

Commentary on Kuznetsov et al., p. 1150

### RESEARCH BRIEFS

**MicroRNAs Reprogram Normal Fibroblasts into Cancer-Associated Fibroblasts in Ovarian Cancer**

A.K. Mitra, M. Zillhardt, Y. Hua, P. Tiwari, A.E. Murmann, M.E. Peter, and E. Lengyel

Précis: Changes in microRNA expression in ovarian cancer promote cancer-associated fibroblast reprogramming and induce the expression of the tumor-promoting chemokine CCL5 in fibroblasts.

**Metabolomics Strategy Reveals Subpopulation of Liposarcomas Sensitive to Gemcitabine Treatment**


Précis: Nucleoside salvage activity in a subset of liposarcomas can be identified via PET imaging and enhances tumor response to gemcitabine.

**FGFR Genetic Alterations Predict for Sensitivity to NVP-BGJ398, a Selective Pan-FGFR Inhibitor**


Précis: Mutations of FGFR family members or ligands may represent stratification biomarkers that identify patients likely to respond to targeted FGFR inhibition.

### IN THE SPOTLIGHT

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### RESEARCH ARTICLES

**FGFR Genetic Alterations Predict for Sensitivity to NVP-BGJ398, a Selective Pan-FGFR Inhibitor**


Précis: Mutations of FGFR family members or ligands may represent stratification biomarkers that identify patients likely to respond to targeted FGFR inhibition.
Dual Roles of PARP-1 Promote Cancer Growth and Progression.........................1134


Précis: PARP-1 represents a potential therapeutic target in prostate cancer due to its roles in DNA repair and regulation of androgen receptor activity.

Identification of Luminal Breast Cancers That Establish a Tumor-Supportive Macrounvironment Defined by Proangiogenic Platelets and Bone Marrow-Derived Cells.................1150


Précis: Luminal breast cancers stimulate distant tumor growth by generating a systemic protumor environment composed of activated circulating platelets and bone marrow cells.

Acknowledgment to Reviewers……..1166

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• Decoding ENCODE for Cancer
• Cancer Imaging Research Looks Ahead
• Compendia Goes Clinical
• Innovation for Life Science Innovators
• Hormone Levels Predict Long-term Breast Cancer Risk
• Drugmakers Struggle with Indian Patents

ON THE COVER

Braas and colleagues performed mass-spectrometry–based metabolomics to assess alternative nutrient uptake in liposarcoma and observed nucleoside consumption and elevated activity of the nucleoside salvage pathway enzyme deoxycytidine kinase (dCK) in patient-derived liposarcoma cell lines and a subset of primary liposarcoma samples. Nucleoside salvage pathway activity could be imaged in vivo by positron emission tomography (PET) using a cytidine-derived tracer, 1-{2′-deoxy-2′-[18F]fluoroarabinofuranosyl} cytosine (FAC), and enhanced the sensitivity of liposarcoma cell lines and xenograft tumors to gemcitabine, a nucleoside analogue produg, in a dCK-dependent manner. These results suggest that FAC–PET may identify patients with liposarcoma who will benefit from gemcitabine treatment. For details, please see the article by Braas and colleagues on page 1109.