### Breaking Advances

1257  Highlights from Recent Cancer Literature

### Review

1259  Regulation of the Na⁺/H⁺ Exchanger (NHE1) in Breast Cancer Metastasis
      Schammim R. Amith and Larry Fliegel

### Clinical Studies

1265  Oncolytic Vaccinia Virus Disrupts Tumor-Associated Vasculature in Humans
      Caroline J. Breitbach, Rozanne Arulanandam, Naomi De Silva, Steve H. Thorne, Richard Patt, Manijeh Daneshmand, Anne Moon, Carolina Ilkow, James Burke, Tae-Ho Hwang, Jeong Heo, Mong Cho, Hannah Chen, Fernando A. Angarita, Christina Addison, J. Andrea McCart, John C. Bell, and David H. Kirn

### Integrated Systems and Technologies

1276  Nitroreductase, a Near-Infrared Reporter Platform for In Vivo Time-Domain Optical Imaging of Metastatic Cancer
      Emmet McCormack, Elisabeth Silden, Richard M. West, Tina Pavlin, David R. Micklem, James B. Lorens, Bengt Erik Haug, Michael E. Cooper, and Bjorn Tore Gjertsen

### Microenvironment and Immunology

1287  STC1 Expression By Cancer-Associated Fibroblasts Drives Metastasis of Colorectal Cancer
      Cristina Peña, María Virtudes Céspedes, Maja Bradic Lindhi, Sara Kiflemariam, Artur Mezhuyeuski, Per-Henrik Edqvist, Christina Haggfjör, Helgi Birgisson, Linda Bojmar, Karin Jirström, Per Sandström, Eleonor Olsson, Srinivas Veerla, Alberto Gallardo, Tobias Sjöblom, Andy C.-M. Chang, Roger R. Reddel, Ramón Mangués, Martin Augsten, and Arne Ostman

### Molecular and Cellular Pathobiology

1298  Amplification of FRS2 and Activation of FGFR/FRS2 Signaling Pathway in High-Grade Liposarcoma
      Keqiang Zhang, Kevin Chu, Xiwei Wu, Hanlin Gao, Jinhui Wang, Yate-Ching Yuan, Sofia Loera, Kimberley Ho, Yafan Wang, Warren Chow, Frank Un, Peiguo Chu, and Yun Yen

1308  BRMS1 Suppresses Lung Cancer Metastases through an E3 Ligase Function on Histone Acetyltransferase p300
      Yuan Liu, Marty W. Mayo, Alykhan S. Nagji, Emily H. Hall, Lisa S. Shock, Azhien Xiao, Edward B. Stelow, and David R. Jones

1318  Midkine Promotes Neuroblastoma through Notch2 Signaling
      Satoshi Kishida, Ping Mu, Shin Miyakawa, Masatoshi Fujiwara, Tomoyuki Abe, Kazuma Sakamoto, Akira Onishi, Yoshikazu Nakamura, and Kenji Kadomatsu

Précis: Findings reveal a mechanistic basis for understanding how cancer-associated fibroblasts activated in the tumor microenvironment act to promote cancer metastasis, with implications for arresting this deadly process.

Précis: FGFR/FRS2 signaling may play an important role in the development of high-grade liposarcoma and, therefore, represents a potential therapeutic target.

Précis: Findings offer a mechanistic explanation for how the metastasis suppressor gene BRMS1 acts to suppress metastases in a lung cancer model.

Hyperactivated JNK Is a Therapeutic Target in pVHL-Deficient Renal Cell Carcinoma

Jiabin An, Huiren Liu, Clara E. Magyar, Yanchuan Guo, Mysore S. Veena, Eri S. Srivatsan, Jiaoti Huang, and Matthew B. Rettig

Precis: This study provides insight into HIF-dependent mechanisms that drive renal cancer and offers new opportunities for therapeutic targeting of this disease.

Tasquinimod Is an Allosteric Modulator of HDAC4 Survival Signaling within the Compromised Cancer Microenvironment


Precis: Findings define the mechanism of action of an antiangiogenic drug currently in phase III trials and suggest how to leverage its efficacy in combination with other drugs that target the tumor microenvironment.
LETTER TO THE EDITOR

1445

Oxidation-Mediated DNA Crosslinking Contributes to Toxicity of 6-Thioguanine in Human Cells — Letter
Nanne K.H. de Boer, Dirk P. van Asseldonk, Margien L. Seinen, and Adriaan A. van Bodegraven

CORRECTION

1446

Correction: Chloroquine in Cancer Therapy: A Double-Edged Sword of Autophagy

ABOUT THE COVER

The microRNA network is considered to play critical roles in tumor progression; however, little information is available for microRNA in cancer stem-like cells (CSC). The results of microRNA profile analysis revealed that miR-7 is significantly downregulated in CSCs that are highly metastatic to the brain, and the expression of this microRNA significantly suppressed the ability of CSCs to metastasize to the brain in vivo. miR-7 was also found to be capable of modulating KLF4. Consistently, the expression of miR-7 and KLF4 in brain-metastatic lesions of breast cancer patients was found to be significantly downregulated and upregulated, respectively. High expression of KLF4 was also inversely correlated to brain-metastasis free survival of breast cancer patients. For details, see the article by Okuda and colleagues on page 1434.