1923 Highlights from Recent Cancer Literature

1925 Advanced Glycation End-Products: A Biological Consequence of Lifestyle Contributing to Cancer Disparity
David P. Turner

1930 Genome Medicine in Cancer: What's in a Name?
Anne F. Schott, Charles M. Perou, and Daniel F. Hayes

1936 Manic Fringe Promotes a Claudin-Low Breast Cancer Phenotype through Notch-Mediated PIK3CG Induction
Shubing Zhang, Wen-Cheng Chung, Guanning Wu, Sean E. Egan, Lucio Miele, and Keli Xu
Précis: These results define a glucosylpeptide transferase as an oncogene in an aggressive subtype of breast cancer, with mechanistic insights offering a preclinical justification to block PI3K-γ as a treatment strategy in this setting.

1939 TLR5 Ligand–Secreting T Cells Reshape the Tumor Microenvironment and Enhance Antitumor Activity
Degui Geng, Sabina Kaczanowska, Alexander Tsai, Kenisha Younger, Augusto Ochoa, Aaron P. Rapoport, Sue Ostrand-Rosenberg, and Eduardo Davila
Précis: These findings suggest that T cells engineered for use in adoptive T-cell immunotherapy can be further engineered to deliver TLR5 ligands that reshape the tumor environment to enhance antitumor efficacy.

1944 Paracrine WNT5A Signaling Inhibits Expansion of Tumor-Initiating Cells
Nicholas Borcherding, David Kusner, Ryan Kolb, Qing Xie, Wei Li, Fang Yuan, Gabriel Velez, Ryan Askland, Ronald J. Weigel, and Weizhou Zhang
Précis: These results identify a novel tumor-suppressive signaling event that controls cancer progression and metastasis by limiting the expansion of tumor-initiating cells.

1949 Identification of Rare High-Avidity, Tumor-Reactive CD8+ T Cells by Monomeric TCR–Ligand Off-Rates Measurements on Living Cells
Michael Hebeisen, Julien Schmidt, Philippe Guillaume, Petra Baumgaertner, Daniel E. Speiser, Immanuel Luescher, and Nathalie Rufer
Précis: This study reports a novel peptide technology to readily isolate those rare high-avidity tumor-specific cytotoxic T cells from cancer patients that offer the greatest interest for use in adoptive cell therapies for treatment.

1958 A Chemical Genetics Approach for the Functional Assessment of Novel Cancer Genes
Qianhe Zhou, Adnan Derti, David Ruddy, Daniel Rakiec, Iris Kao, Michelle Lira, Veronica Gibaja, HoMan Chan, Yi Yang, Junxia Min, Michael R. Schlabach, and Frank Stegmeier
Précis: These results define a glucosylpeptide transferase as an oncogene in an aggressive subtype of breast cancer, with mechanistic insights offering a preclinical justification to block PI3K-γ as a treatment strategy in this setting.

1992 The Endogenous Cell-Fate Factor Dachshund Restrains Prostate Epithelial Cell Migration via Repression of Cytokine Secretion via a CXCL Signaling Module
Ke Chen, Kongming Wu, Xuanmao Jiao, Liping Wang, Xiaoming Ju, Min Wang, Gabriel Di Sanse, Shaoxue Hu, Qiong Wang, Kevin Li, Xin Sun, Congwen Xu, Zhiping Li, Mathew C. Castimiro, Adam Ertel, Sankar Addya, Peter A. McGuire, Michael P. Lisanti, Chenguang Wang, Richard J. Davis, Graeme Mardon, and Richard G. Pestell
Précis: These findings show how a cell fate determination factor that functions in normal development acts to inhibit the growth of androgen therapy-resistant prostate cancer.
2039 Decoy Receptor DcR1 Is Induced in a p50/CDK2 Inhibition Causes Anaphase
2029 Oncogenic HRAS Activates Epithelial-to-Mesenchymal Transition and Confers Stemness to p53-Deficient Urothelial Cells to Drive Muscle Invasion of Basal Subtype Carcinomas

THERAPEUTICS, TARGETS, AND CHEMICAL BIOLOGY

2029 CDK2 Inhibition Causes Anaphase Catastrophe in Lung Cancer through the Centrosomal Protein CP110
2039 Decoy Receptor DcR1 Is Induced in a p50/Bcl3–Dependent Manner and Attenuates the Efficacy of Temozolomide

2049 Nitrostyrene Derivatives Act as RXR Ligands to Inhibit TNFα Activation of NF-κB

2061 Pharmacological Inhibition of KIT Activates MET Signaling in Gastrointestinal Stromal Tumors

2071 Metabolic Signature Identifies Novel Targets for Drug Resistance in Multiple Myeloma

2083 MMP16 Mediates a Proteolytic Switch to Promote Cell–Cell Adhesion, Collagen Alignment, and Lymphatic Invasion in Melanoma
Tenascin-C Protects Cancer Stem–like Cells from Immune Surveillance by Arresting T-cell Activation

Elena Jachetti, Sara Caputo, Stefania Mazzoleni, Chiara Svetlana Brambilla, Sara Martina Parigi, Matteo Gritoni, Ignazio Stefano Piras, Umberto Restuccia, Arianna Calcino, Massimo Freschi, Angela Bachi, Rossella Galli, and Matteo Bellone

Précis: These results shed light on how early-disseminating cancer stem-like cells seed quiescent future sites of metastasis in tumor-draining lymph nodes by engaging a protumorigenic extracellular matrix protein that mediates local immune escape.

Development of Resistance to EGFR-Targeted Therapy in Malignant Glioma Can Occur through EGFR-Dependent and -Independent Mechanisms

Stefan Klingler, Baofeng Guo, Jun Yao, Haiyan Yan, Ling Zhang, Angelina V. Vaseva, Sida Chen, Peter Canoll, James W. Horner, Y. Alan Wang, Ji-Hye Paik, Haoqiang Ying, and Hongwu Zheng

Précis: These findings provide mechanistic insight into EGFR drug resistance in glioma and offer a platform to test therapies targeting aberrant EGFR signaling in this setting.

Chronic Inflammation Induces a Novel Epigenetic Program That Is Conserved in Intestinal Adenomas and in Colorectal Cancer

Monther Abu-Remaileh, Sebastian Bender, Günther Raddatz, Ihab Ansari, Daphne Cohen, Julian Gutekunst, Tanja Musch, Heinz Linhart, Achim Breiling, Eli Pikarsky, Yehudit Bergman, and Frank Lyko

Précis: These findings showing how an altered epigenetic program links inflammation to colon cancer strongly reinforce the concept that the microenvironment dictates the development and maintenance of malignant characters.

ABOUT THE COVER

Pelvic lymph nodes are the most frequent sites of prostate cancer dissemination, as depicted here by pan-cytokeratin immunohistochemistry on a human specimen. However, there is little knowledge about how precociously disseminated cancer cells seed lymph nodes and protect themselves from immune surveillance. Jachetti and colleagues report that early-disseminating cancer stem-like cells seed quiescent future sites of metastasis in tumor-draining lymph nodes by engaging Tenascin-C, a protumorigenic extracellular matrix protein, which mediates local immune escape by arresting T lymphocyte activation. For details, see article by Jachetti and colleagues on page 2095.