INTEGRATED SYSTEMS AND TECHNOLOGIES

6351
An Integrated Genome-Wide Approach to Discover Tumor-Specific Antigens as Potential Immunologic and Clinical Targets in Cancer
Qing-Wen Xu, Wei Zhao, Yue Wang, Maureen A. Sartor, Dong-Mei Han, Jixin Deng, Bakesh Ponnala, Jiang-Ying Yang, Qing-Yun Zhang, Guo-Qing Liao, Yi-Mei Qu, Lu Li, Fang-Fang Liu, Hong-Mei Zhao, Yan-Hui Yin, Wei-Feng Chen, Yu Zhang, and Xiao-Song Wang

 précis: This important paper reports an integrated technology to uncover the cancer-specific antigen genome as a reservoir for novel immunological and clinical targets.

Evolutionary Approaches to Prolong Progression-Free Survival in Breast Cancer
Ariosto S. Silva, Yoonseok Kam, Zayar P. Khin, Susan E. Minton, Robert J. Gillies, and Robert A. Gatenby

 précis: This work challenges the paradigm of maximum tolerated dose for drug treatment in cancer by proposing a combination strategy to burden chemoresistant cells with a chronic futile efflux of noncytotoxic drugs, with only the minimal chemotherapy dose needed to block tumor growth.

MICROENVIRONMENT AND IMMUNOLOGY

6371
Neuropilin-1 Identifies a Subset of Bone Marrow Gr1+ Monocytes That Can Induce Tumor Vessel Normalization and Inhibit Tumor Growth
Alessandro Carrer, Silvia Motimas, Serena Zacchigna, Lucia Pattarini, Lorena Zentilin, Giulia Ruozzi, Miguel Mano, Milena Sinigaglia, Federica Maione, Guido Serini, Enrico Giraudo, Federico Bussolino, and Mauro Giacca

 précis: Neuropilin-1 expressing monocytes (NEM) are able to stabilize the tumor vasculature, thereby improving tumor oxygenation and reducing tumor malignancy, invasiveness, and resistance to chemotherapy.
6382 TWIST1 Is an ERK1/2 Effector That Promotes Invasion and Regulates MMP-1 Expression in Human Melanoma Cells
Michele B. Weiss, Ethan V. Abel, Melanie M. Mayberry, Kevin J. Basile, Adam C. Berger, and Andrew E. Aplin
Précis: Findings define the mechanism of action of a core regulator of EMT in tumor cell invasion through its action in a previously unrecognized signaling cascade that may have general implications in cancer.

6393 p38 MAPK in Myeloma Cells Regulates Osteoclast and Osteoblast Activity and Induces Bone Destruction
Jin He, Zhiquiang Liu, Yuhuan Zheng, Jianfei Qian, Haiyan Li, Yong Lu, Jingda Xu, Bangxing Hong, Mingjun Zhang, Pei Lin, Zhen Cai, Robert Z. Orlowski, Larry W. Kwak, Qing Yi, and Jing Yang
Précis: Findings suggest that p38 MAPK inhibitors developed clinically should be repositioned to evaluate their use in treating osteolytic bone lesions in myeloma, with potentially broader implications to treat bone metastasis occurring in various cancers.

6403 Polyploidization of Murine Mesenchymal Cells Is Associated with Suppression of the Long Noncoding RNA H19 and Reduced Tumorigenicity
Ofer Shoshani, Hassan Massalha, Nir Shani, Sivan Kagan, Orly Ravid, Shalom Madar, Luba Trakhtenbrot, Dena Leshkowitz, Gideon Rechavi, and Dov Zipori
Précis: Findings reveal a critical link between a noncoding RNA and the polyploid character and low tumorigenicity of mesenchymal stromal cells.

6414 Loss of PPP2R2A Inhibits Homologous Recombination DNA Repair and Predicts Tumor Sensitivity to PARP Inhibition
Peter Kalev, Michal Simicek, Iria Vazquez, Sebastian Munck, Liping Chen, Thomas Soin, Natasha Dunda, Wen Chen, and Anna Sabina
Précis: Findings suggest that downregulation of a PP2A family phosphatase in tumors may predict therapeutic responses to a promising new class of anticancer agents currently in clinical trials.

6425 Genetically Mediated Nf1 Loss in Mice Promotes Diverse Radiation-Induced Tumors Modeling Second Malignant Neoplasms
Grace Choi, Brian Huang, Emile Pinarbasi, Steve E. Braunstein, Andrew E. Horvai, Scott Kogan, Smita Bhatia, Bruce Faddegon, and Jean L. Nakamura
Précis: A mouse model of second malignant neoplasms reveals that loss of the Nf1 gene drives genotoxin-induced tumorigenesis in multiple tissue types. Concordant with this mouse model, genetically-mediated Nf1 loss also occurs in human second malignant neoplasms.

6435 miR-23b Represses Proto-oncogene Src Kinase and Functions as Methylation-Silenced Tumor Suppressor with Diagnostic and Prognostic Significance in Prostate Cancer
Shahana Majid, Altaf A. Dar, Sharanjot Saini, Sumit Arora, Varahram Shabryati, Mohd Saif Zaman, Inik Chang, Soichiro Yamamura, Yuichiro Tanaka, Guoren Deng, and Rajvir Dahiya
Précis: This study documents the diagnostic, prognostic, and functional significance of microRNA-23b as a tumor suppressor gene in prostate cancer.

6447 Systemic Delivery of Salmonella typhimurium Transformed with IDO shRNA Enhances Intratumoral Vector Colonization and Suppresses Tumor Growth
Céline A. Blache, Edwin R. Manuel, Teodora I. Kaltcheva, Andrea N. Wong, Joshua D.I. Ellenhorn, Bruce R. Blazar, and Don J. Diamond
Précis: IDO blockade can leverage hypoxia-targeting infections that recruit neutrophils with powerful tumor-killing capacity, further expanding the broad acting modifier effects of IDO on adaptive and innate mechanisms of immune escape in tumors.

6457 Modulation of the ATPase and Transport Activities of Broad-Acting Multidrug Resistance Factor ABCC10 (MRP7)
Ekaterina V. Malofeeva, Natalya Domanitskaya, Mariya Gudima, and Elizabeth A. Hopper-Borge
Précis: Findings suggest that the approved multikinase inhibitor sorafenib may enhance chemotherapeutic efficacy of drugs that are effluxed by an important mediator of drug resistance in cancer cells.
**Tumor and Stem Cell Biology**

**6477**

**Cyclin D1 Activity Regulates Autophagy and Senescence in the Mammary Epithelium**

Nelson E. Brown, Rinath Jeselsohn, Teeru Bihani, Miaofen G. Hu, Parthena Foltopoulou, Charlotte Kupershawser, and Philip W. Hinds

Precis: Mammary epithelial cells expressing a kinase defective cyclin D1 survive due to an upregulation of autophagy, which if blocked, results in senescence.

**6490**

**Obesity and Overfeeding Affecting Both Tumor and Systemic Metabolism Activates the Progesterone Receptor to Contribute to Postmenopausal Breast Cancer**

Erin D. Giles, Elizabeth A. Wellberg, David P. Astling, Steven M. Anderson, Ann D. Thor, Sonali Jindal, Aik-Choon Tan, Pepper S. Schedin, and Paul S. MacLean

Precis: Striking findings may help explain why obese postmenopausal women have relatively increased risks of breast cancer.

**Correction**

Correction: The Kynurenine Pathway in Brain Tumor Pathogenesis
Updated version
Access the most recent version of this article at:
http://cancerres.aacrjournals.org/content/72/24

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