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**1322** Immune Toxicities Elicited by CTLA-4 Blockade in Cancer Patients Are Associated with Early Diversification of the T-cell Repertoire

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## MICROENVIRONMENT AND IMMUNOLOGY

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Molecular and Cellular Pathobiology

1331 Bone Metastasis of Prostate Cancer Can Be Therapeutically Targeted at the TBX2–WNT Signaling Axis
Précis: These findings provide a mechanism-based targeting rationale to inhibit bone metastasis in advanced prostate cancer, a common feature of late stage disease.

1345 Rb7 Expression Determines the Differential Effects of Ascorbic Acid in Normal and Cancer Cells
Xiaowei Wei, Yong Xu, Fang Fang Xu, Luksana Chaiswing, David Schnell, Teresa Noel, Chi Wang, Jinfei Chen, Daret K. St. Clair, and William H. St. Clair
Précis: Changing ROS levels affects levels of the NF-κB transcription factor Rb7, thereby affecting the capability of i.v. ascorbic acid to differentially and usefully influence the radiosensitivity of normal and cancer tissues.

1357 A Transposon-based Analysis Reveals RASA1 Is Involved in Triple-Negative Breast Cancer
Cristian Suárez-Cabrera, Rita M. Quintana, Ana Bravo, M. Llanos Casanova, Ánguistas Page, Josefa P. Alameda, Jesús M. Paramio, Alicia Maroto, Javier Salamanca, Adam J. Dupuy, Angel Ramírez, and Manuel Navarro
Précis: Allelic loss of Rasa1, a gene controlling the Ras pathway, is a frequent occurrence in triple-negative breast cancer.

1369 Long Noncoding RNA LINC00092 Acts in Cancer-Associated Fibroblasts to Drive Glycolysis and Progression of Ovarian Cancer
Lijie Zhao, Gaoli Ji, Xiaohong Li, Chenlu Wang, Lian Xu, Min Feng, Yaqiang Zhang, Huiliang Yang, Yu Xuan, Yanfei Yang, Lingxi Lei, Qilian Yang, Wayne Bond Lau, Bonnie Lau, Yi Chen, Xiangbing Deng, Shaohua Yao, Tao Yi, Xia Zhao, Yuquan Wei, and Shengtao Zhou
Précis: This study uncovers a positive feedback loop in the metabolism of cancer-associated fibroblasts and epithelial ovarian cancer cells critical for their metastatic progression.

1383 Aberrant Phosphorylation of SMAD4 Thr277-Mediated USP9x–SMAD4 Interaction by Free Fatty Acids Promotes Breast Cancer Metastasis
Yong Wu, Xiaoting Yu, Xianghui Yi, Ke Wu, Sami Dwabe, Mohammad Atif, Yahya Elshimali, Kevin T. Kemp II, Krutika Bhat, Jesse Haro, Marianna Sarkissyan, and Jaydutt V. Vadgama
Précis: These findings highlight the mechanism behind the increased risk of distant metastatic recurrence in overweight and obese breast cancer patients.

Prevention and Epidemiology

1408 Biomarker Dynamics in B-cell Lymphoma: A Longitudinal Prospective Study of Plasma Samples Up to 25 Years before Diagnosis
Florentin Späth, Carl Wilbom, Esmeralda J.M. Kroep, Ann-Sofie Johansson, Ingear A. Bergdahl, Roel Vermeulen, and Beatrice Melin
Précis: Sustained B-cell activation is a dynamic process during lymphomagenesis that may be indicative of occult disease or disease progression in monitoring patients with indolent lymphomas.

Therapeutics, Targets, and Chemical Biology

1416 Reprogramming Medulloblastoma-Propagating Cells by a Combined Antagonism of Sonic Hedgehog and CXCR4
Stacey A. Ward, Nicole M. Warrington, Sara Taylor, Najla Kfoury, Jinjing Luo, and Joshua B. Rubin
Précis: These findings suggest a mechanism-based approach to eradicate the most recalcitrant cells in one common type of pediatric brain cancer.

1427 Two-Pore Channel Function Is Crucial for the Migration of Invasive Cancer Cells
Ong Nam Phuong Nguyen, Christian Grimm, Lina S. Schneider, Yu-Kai Chao, Carina Azeberger, Karin Bartel, Anna Watermann, Melanie Ulrich, Doris Mayr, Christian Wahl-Schott, Martin Biel, and Angelika M. Vollmar
Précis: These findings reveal a role for endolysosomal two-pore channels in leading edge formation in cancer cells, suggesting their novelty as targets for treatment of invasive tumors.

1439 Constitutive NOTCH3 Signaling Promotes the Growth of Basal Breast Cancers
Lisa Choy, Thii J. Hagenbeek, Margaret Solon, Dorothy French, David Finkle, Amy Shelton, Rayna Venook, Matthew J. Brauer, and Christian W. Siebel
Précis: An antibody that can directly assess receptor signaling distinguishes constitutive and ligand-independent activity of the oncogenic Notch pathway in enabling the malignant growth of basal breast cancers.
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<td>Bone Marrow Adipocytes Facilitate Fatty Acid Oxidation Activating AMPK and a Transcriptional Network Supporting Survival of Acute Monocytic Leukemia Cells</td>
<td>Yoko Tabe, Shinichi Yamamoto, Kaori Saitoh, Kazumasa Sekihara, Norikazu Monma, Kazuho Ikeo, Kaoru Mogushi, Masato Shikami, Vivian Ruvolo, Jo Ishizawa, Numsen Hail Jr, Saiko Kazuno, Mamoru Igarashi, Hiromichi Matsushita, Yasunari Yamanaka, Hajime Arai, Isao Nagaoka, Takashi Miida, Yoshihide Hayashizaki, Marina Konopleva, and Michael Andreeff</td>
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<td>1485</td>
<td>Prostate Cancer Patients with Late Radiation Toxicity Exhibit Reduced Expression of Genes Involved in DNA Double-Strand Break Repair and Homologous Recombination</td>
<td>Bregje van Ooschot, Lon Uitterhoeve, Ilja Oomen, Rosemarie ten Cate, Ian Paul Medema, Harry Viseling, Lukas J.A. Stalpers, Perry D. Moerland, and Nicolaas A.P. Franken</td>
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<td>1492</td>
<td>Aberrant SYK Kinase Signaling Is Essential for Tumorigenesis Induced by TSC2 Inactivation</td>
<td>Ye Cui, Wendy K. Steagall, Anthony M. Lamattina, Gustavo Pacheco-Rodríguez, Mario Stylianou, Pranav Kidambi, Benjamin Stump, Fernanda Golzarri, Ivan O. Rosas, Carmen Priolo, Elizabeth P. Henske, Joel Moss, and Souheil El-Chemaly</td>
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<td>1503</td>
<td>Correction: Long Noncoding RNA GCASPC, a Target of miR-17-3p, Negatively Regulates Pyruvate Carboxylase-Dependent Cell Proliferation in Gallbladder Cancer</td>
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<td>1504</td>
<td>Correction: Cdk5 Directly Targets Nuclear p21(^{CIP1}) and Promotes Cancer Cell Growth</td>
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<td>1505</td>
<td>Correction: Differential Regulation of the Melanoma Proteome by eIF4A1 and eIF4E</td>
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**CORRECTIONS**

**AC icon indicates Author Choice**

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ABOUT THE COVER

Many human tumors are characterized by extensive fibrin deposition in their extracellular matrix. Shown here is a representative image of a human colon tumor section stained for fibrin. For details, see article by Kirtane and colleagues on page 1465.