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    Elizaveta V. Benevolenskaya and Maxim V. Frolov

624  GOLPH3 Links the Golgi, DNA Damage, and Cancer
    Matthew D. Buschman, Juliati Rahajeng, and Seth J. Field

### PRIORITY REPORT

628  A Unique Subset of Epithelial Ovarian Cancers with Platinum Sensitivity and PARP Inhibitor Resistance
    Raphael Ceccaldi, Kevin W. O’Connor, Kent W. Mouw, Adam Y. Li, Ursula A. Matulonis, Alan D. D’Andrea, and Panagiotis A. Konstantinopoulos
    **Précis:** These findings reveal a mechanism of platinum sensitivity that alters sensitivity to PARP inhibitors in a discordant manner, with potential implications for trials of this new class of drugs in ovarian cancer.

666  Genetic Mutation of p53 and Suppression of the miR-17–92 Cluster Are Synthetic Lethal in Non-Small Cell Lung Cancer due to Upregulation of Vitamin D Signaling
    **Précis:** These genetic findings suggest that vitamin D receptor agonists may be highly efficacious in p53 mutant lung cancers, a possibility with immediate implications for clinical evaluation.

### MICROENVIRONMENT AND IMMUNOLOGY

635  Accelerated Tumor Progression in Mice Lacking the ATP Receptor P2X7
    Elena Adinolfi, Marina Capece, Alessia Franceschini, Simonetta Falzoni, Anna L. Giuliani, Alessandra Rotondo, Alba C. Sarti, Massimo Bonora, Susanne Syberg, Domenica Corgiano, Paolo Pinton, Niklas R. Jorgensen, Luigi Abelli, Laura Emionite, Lizzia Raffaghello, Vito Pistoia, and Francesco Di Virgilio
    **Précis:** These provocative genetic results challenge the notion that inflammation solely promotes tumor growth by showing how deletion of an important proinflammatory receptor, the P2X/ATP receptor, can impair antitumor responses and promote malignant progression.

### MOLECULAR AND CELLULAR PATHOBIOLOGY

645  Prostaglandin E2 Inhibits p53 in Human Breast Adipose Stromal Cells: A Novel Mechanism for the Regulation of Aromatase in Obesity and Breast Cancer
    Xiuyi Wang, Maria M. Docanto, Hiromobu Sasano, Kathleen Cunningham Foundation Consortium for Research into Familial Breast Cancer, Camden Lo, Evan R. Simpson, and Kristy A. Brown
    **Précis:** These results show that in addition to its conventional roles in cell-cycle arrest and apoptosis, p53 may also prevent mammary gland hyperplasia and dysplasia by inhibiting expression of aromatase in breast adipose stromal cells.

656  β-Catenin Promotes Regulatory T-cell Responses in Tumors by Inducing Vitamin A Metabolism in Dendritic Cells
    Yuan Hong, Indumathi Manoharan, Amol Suryawanshi, Tanmay Majumdar, Melinda L. Angus-Hill, Pandelakis A. Koni, Balaji Manicassamy, Andrew L. Mellor, David H. Munn, and Santhakumar Manicassamy
    **Précis:** In this seminal study, yet another fundamental oncogenic pathway is linked to immune escape, a fundamental driver of malignant conversion that is coordinated with tumor growth, offering new opportunities to reposition cancer cell-centric therapeutic drugs in trials in which they may be more properly conceptualized as immunotherapeutic agents.
**Stem Cell Transplantation Reverses Chemotherapy-Induced Cognitive Dysfunction**


**Precis:** Cancer survivors suffer from impaired cognition due to chemotherapy, a condition informally referred to as “chemobrain,” but this very common side effect in cancer survivors has been little studied as an unmet medical need.

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**eIF4E Threshold Levels Differ in Governing Normal and Neoplastic Expansion of Mammary Stem and Luminal Progenitor Cells**

Svetlana Avdulov, Jeremy Herrera, Karen Smith, Mark Peterson, Jose R. Gomez-Garcia, Thomas C. Bradfell, Kathryn L. Schwerpfefer, Alexey O. Benyumov, I. Carlos Manivel, Shunan Li, Anja-Katrin Bielinsky, Douglas Yee, Peter B. Bitterman, and Vitaly A. Polunovsky

**Precis:** eIF4E overexpression, which occurs widely in cancer, appears to enable cells to evade DNA damage checkpoints, a feature that is associated with threshold levels but not changes in RNA cap-binding capabilities as might have been suspected.

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**Interaction between p53 Mutation and a Somatic HDMX Biomarker Better Defines Metastatic Potential in Breast Cancer**


**Precis:** This study develops a simple paired biomarker for the p53 pathway in breast cancer, rendering it more clinically useful for predicting metastatic progression and patient prognosis.

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**ERK5 Is a Critical Mediator of Inflammation-Driven Cancer**

Katherine G. Finegan, Diana Perez-Madrigal, James R. Hitchin, Clare C. Davies, Allan M. Jordan, and Cathy Tournier

**Precis:** These findings highlight a kinase that fosters chronic inflammation in the setting of carcinogenesis, a key issue in understanding how an inflamed microenvironment supports cancer progression.

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**Epigenetic Silencing of miR-490-3p Reactivates the Chromatin Remodeler SMARCD1 to Promote Helicobacter pylori-Induced Gastric Carcinogenesis**


**Precis:** This study shows how miRNA misregulation of a member of the SWI/SNF chromatin remodeling family contributes to the development of infection-associated stomach cancers.
Suppressing TGFβ Signaling in Regenerating Epithelia in an Inflammatory Microenvironment Is Sufficient to Cause Invasive Intestinal Cancer

Hiroko Oshima, Mizuho Nakayama, Tae-Su Han, Kuniko Naoi, Xiaoli Ju, Yusuke Maeda, Sylvie Robine, Kiichiro Tsuchiya, Toshiro Sato, Hiroshi Sato, Makoto Mark Taketo, and Masanobu Oshima

Précis: These provocative results show how invasive colon cancers can develop simply as a result of chronic inflammation that engenders evolution of immune escape, alongside epithelial cell regeneration that seeks to restore colonic tissue in the face of ongoing inflammation.

LETTER TO THE EDITOR

Cep63 Recruits Cdk1 to the Centrosome—Letter

Mohammad Alsara, Harald Löffler, Anne Fechter, Jiri Bartek, and Alwin Krämer

CORRECTION

Correction: AIMP3 Haploinsufficiency Disrupts Oncogene-Induced p53 Activation and Genomic Stability

ABOUT THE COVER

Human neural stem cell (hNSC) transplantation reverses chemotherapy-induced cognitive dysfunction through a mechanism involving the preservation of host neuronal morphology. The image shows Golgi-Cox impregnated neurons in the hippocampus of rats treated with chronic cyclophosphamide and engrafted with hNSCs. Disruptions to overall granule and CA1 pyramidal cell neuronal architecture caused by cyclophosphamide were ameliorated in the brains of rats receiving hNSC transplantation when analyzed 2 months posttransplantation. For further details, see article by Acharya and colleagues on page 676.