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## CANCER “-OMICS”

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5-Azacytidine Transiently Restores Dysregulated Erythroid Differentiation Gene Expression in TET2-Deficient Erythroleukemia Cells  
Brian M. Reilly, Timothy Luger, Soo Park, Chan-Wang Jerry Lio, Edali Gonzalez-Avalos, Emily C. Wheeler, Minjung Lee, Laura Williamson, Tiffany Tanaka, Dinh Diep, Kun Zhang, Yun Huang, Anjana Rao, and Rafael Bejar

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Characterization of Clonal Evolution in Microsatellite Unstable Metastatic Cancers through Multiregional Tumor Sequencing  
Russell Bonneville, Anoosha Paruchuri, Michele R. Wing, Melanie A. Krook, Julie W. Reeser, Hui-Zi Chen, Thuy Dao, Eric Samorodnitsky, Amy M. Smith, Lianbo Yu, Nicholas Nowacki, Wei Chen, and Sameek Roychowdhury
DNA methylation is commonly dysregulated in a wide array of cancers, and numerous therapeutics have been developed to target this pathway. 5-Azacytidine is a DNA hypomethylating agent that can be particularly effective treatment in TET2-mutated myelodysplastic syndrome patients. The cover depicts hexagonal bins representing the density of CpG loci in a differential analysis of DNA methylation comparing targeted bisulfite sequencing data from TET2 wild-type and TET2 knockout human erythroleukemia cell lines (density gradient from red to blue, with red indicating larger number of CpG loci falling within the hexagonal bin and blue indicating a lesser number). The authors found that TET2 is essential for maintaining low levels of DNA methylation at erythroid-specific transcriptional enhancers, and that 5-Azacytidine can counteract aberrant hypermethylation of these enhancers when TET2 is mutated. For more information, see the article on page 451.
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