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Metabolomics Strategy Reveals Subpopulation of Liposarcomas Sensitive to Gemcitabine Treatment .................. 1109
Précis: Nucleoside salvage activity in a subset of liposarcomas can be identified via PET imaging and enhances tumor response to gemcitabine.

FGFR Genetic Alterations Predict for Sensitivity to NVP-BGJ398, a Selective Pan-FGFR Inhibitor .................. 1118
Précis: Mutations of FGFR family members or ligands may represent stratification biomarkers that identify patients likely to respond to targeted FGFR inhibition.

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W.D. Tilley, F.Y. Feng, and K.E. Knudsen
Précis: PARP-1 represents a potential therapeutic target in prostate cancer due to its roles in DNA repair and regulation of androgen receptor activity.

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• Decoding ENCODE for Cancer
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• Hormone Levels Predict Long-term Breast Cancer Risk
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ON THE COVER
Braas and colleagues performed mass-spectrometry–based metabolomics to assess alternative nutrient uptake in liposarcoma and observed nucleoside consumption and elevated activity of the nucleoside salvage pathway enzyme deoxycytidine kinase (dCK) in patient-derived liposarcoma cell lines and a subset of primary liposarcoma samples. Nucleoside salvage pathway activity could be imaged in vivo by positron emission tomography (PET) using a cytidine–derived tracer, 1-(2′-deoxy-2′-[18F]fluoroarabinofuranosyl) cytosine (FAC), and enhanced the sensitivity of liposarcoma cell lines and xenograft tumors to gemcitabine, a nucleoside analogue prodrug, in a dCK–dependent manner. These results suggest that FAC–PET may identify patients with liposarcoma who will benefit from gemcitabine treatment. For details, please see the article by Braas and colleagues on page 1109.