Clinical Cancer Research **Highlights**

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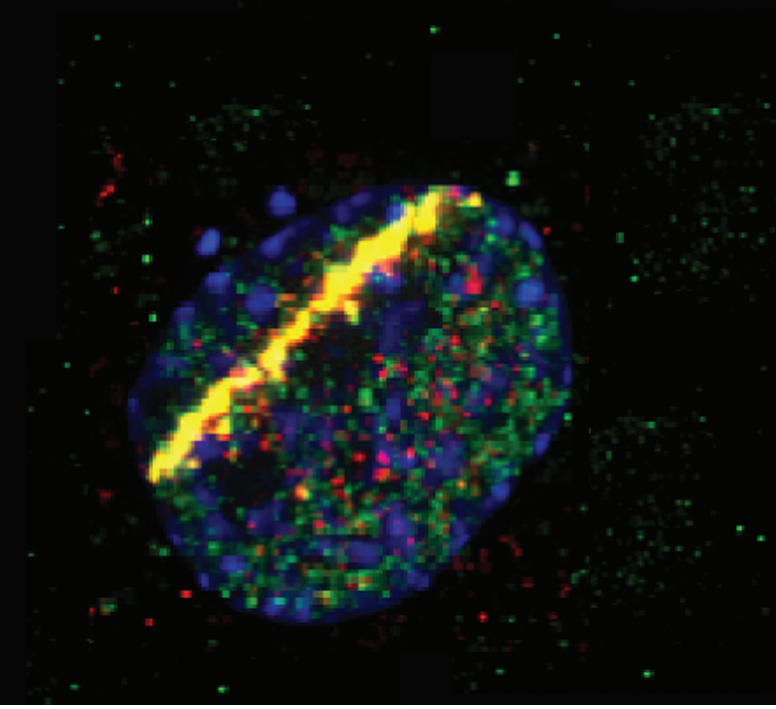
Selected Articles from This Issue



PTEN and RAD51 in Prostate Cancer

Fraser *et al.* _____**Page 1015**

Deletion of the *PTEN* tumor suppressor gene, which occurs in a large proportion of prostate cancers, has been linked to reduced homologous recombination–mediated DNA repair, reduced RAD51 expression, and increased sensitivity to PARP inhibitors. Using preclinical prostate cancer models and primary prostate cancer tissues, Fraser and colleagues show that *PTEN* loss does not alter homologous recombination function or RAD51 expression as the basis for differential sensitivity to experimental radiotherapy, chemotherapy, or PARP inhibition. Instead, other DNA damage response genes, such as *MRE11*, can confer PARP inhibitor sensitivity. *PTEN* status is not a direct biomarker of RAD51 function and is unlikely to predict therapeutic response in prostate cancer clinical trials on its own.

HER3 in Colon Cancer

Beji *et al.* _____**Page 956**

HER3 receptor tyrosine kinase has been shown to play a crucial role in mediating various human tumors. Beji and colleagues designed a strategy to explore the significance of this pseudokinase in colon cancer. HER3 expression may represent a putative prognostic marker because it correlates with reduced patient survival. Reduction in HER3 expression by either siRNA or monoclonal antibodies abrogated a wide range of cellular processes, including proliferation, migration, and invasion; interfered with progression of the cell cycle; and induced a shift in cell morphology. HER3 may therefore represent a promising target for novel targeted therapy.

Keratin Expression in Circulating Tumor Cells

Joosse *et al.* _____**Page 993**

Circulating tumor cells (CTC) can be detected in peripheral blood of breast cancer patients by antibodies against epithelial-specific keratin proteins. However, during epithelial–mesenchymal transition, keratin expression may be downregulated and these CTCs remain undetected. Joosse and colleagues have shown that the keratins currently targeted for CTC detection are downregulated in particular in breast cancer patients with unfavorable outcome. By targeting more keratins, detection of clinically relevant CTCs can be improved, and this information can be used in the future for better assessment of prognosis and monitoring therapeutic efficacy.

OCT2 Involvement in Creatinine Clearance

Ciarimboli *et al.* _____**Page 1101**

Assessment of kidney function in cancer patients receiving chemotherapeutic agents is usually accomplished by measuring serum creatinine concentration and creatinine clearance. Using an array of technologies, including transfected cell models, transporter-deficient mice, genetic-association analyses, and drug-creatinine interaction studies in patients, Ciarimboli and colleagues found that the organic cation transporter 2 (OCT2) plays a decisive role in the renal secretion of creatinine. This process can be inhibited by OCT2 substrates such as the chemotherapeutic drug cisplatin. Therefore, treatment with such agents may compromise the usefulness of creatinine as a marker of renal function in cancer patients.