Clinical Cancer Research **Highlights**

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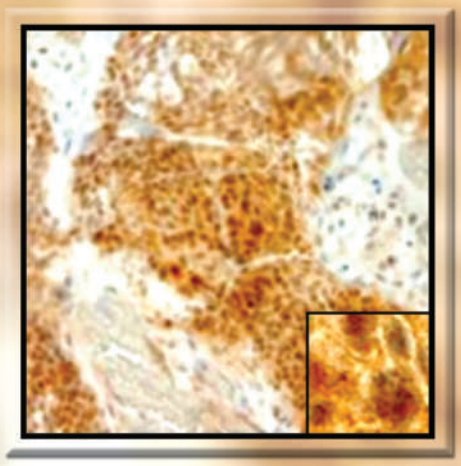


Role of GSK-3β in Bladder Cancer

Naito *et al.*_____Page 5124

The serine/threonine kinase GSK-3β is a positive regulator of human cancer cell survival and proliferation. To explore the role of GSK-3β in bladder cancer, Naito and colleagues determined the subcellular localization of GSK-3β and evaluated the effect of GSK-3 inhibition. Nuclear accumulation of GSK-3β was strongly associated with high-grade tumors, metastasis, and lower survival rates in bladder cancer patients. Further, inhibition of GSK-3β suppressed proliferation and survival of bladder cancer cells. These results identify nuclear accumulation of GSK-3β as a novel prognostic marker in bladder cancer, and suggest GSK-3β as a potential therapeutic target in urothelial carcinoma.

DNA Repair Genes and Melanoma Relapse

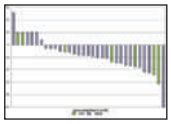
Jewell *et al.*_____Page 5211

Prognostic and chemotherapy predictive biomarkers are needed for melanoma. In this study, Jewell and colleagues performed gene expression profiling of formalin-fixed primary melanoma tumors. They found that DNA repair genes, predominantly involved in double-strand break repair, were over-expressed in tumors from patients with reduced relapse-free survival, and in tumors with higher mitotic rate. Analysis of a subset of patients treated with chemotherapy (predominantly dacarbazine) revealed that DNA repair genes were over-expressed in tumors from patients unresponsive to chemotherapy. These findings highlight the importance of up-regulation of DNA repair processes during melanoma progression and indicate a potential role in chemoresistance.

FDG-PET Imaging Predicts Sunitinib Response

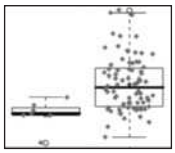
Carr *et al.* _____Page 5260

Carr and colleagues performed a phase II trial of continuous dosing of sunitinib in patients with advanced thyroid cancer to determine disease response and toxicity. Also, an exploratory analysis of FDG-PET imaging after seven days of therapy was performed to determine if disease response could be predicted. Of 33 patients, 10 had partial responses and 16 had stable disease. Patients with RECIST response and stable disease had a significant decline in average SUVs compared to patients with progressive disease. These results suggest that FDG-PET imaging may help identify patients unlikely to respond to tyrosine kinase inhibitor therapy.



30-Gene Chemotherapy Response Predictor in Breast Cancer

Tabchy *et al.* _____Page 5351



Clinically useful predictors of response to specific chemotherapy regimens in breast cancer are needed. Tabchy and colleagues tested a 30-gene predictor of pathologic complete response to neoadjuvant paclitaxel and fluorouracil, doxorubicin, cyclophosphamide (T/FAC) chemotherapy from fine-needle biopsies of breast cancers in a prospective randomized trial. The authors found that the 30-gene predictor could identify patients with greater than average sensitivity to T/FAC chemotherapy but not to FAC treatment. To improve their clinical utility, second generation genomic predictors should be developed separately for different molecular subsets of breast cancers.

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Highlights of This Issue

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