Clinical Cancer Research **Highlights**

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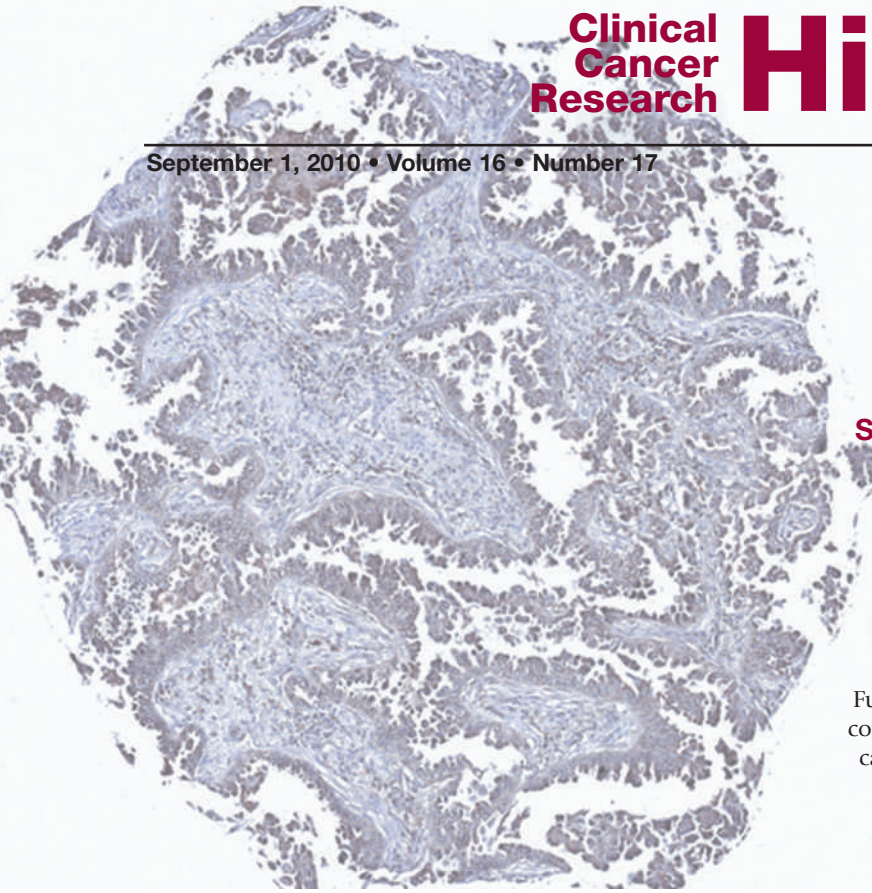
Selected Articles from This Issue



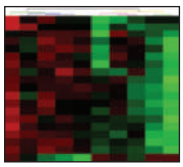
SOX9 Regulates Proliferation in Lung Cancer

Jiang *et al.* _____**Page 4363**

Many *SOX* gene family members have been shown to play a role in human cancer. Jiang and colleagues investigated the role of the transcriptional factor SOX9 in lung adenocarcinoma. Via data mining in several clinical gene expression datasets, they found that SOX9 was consistently upregulated in the majority of lung adenocarcinomas. Further, *in vitro* and animal experiments indicated that SOX9 could modulate proliferation and tumor growth capability of cancer cells, possibly through modulation of p21 and CDK4 (two important cell cycle regulators). These results suggest that the SOX9 pathway is a promising target for treatment of lung adenocarcinoma.

Gene Expression in Polycythemia Vera CD34 Cells

Berkofsky-Fessler *et al.* _____**Page 4339**

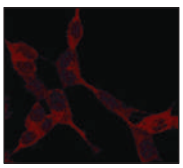


The somatic mutation JAK2V617F is found in about 95% of cases of polycythemia vera (PV), but the mechanism by which a single mutation contributes to pathogenesis is still unclear. To better understand the molecular events underlying PV and their relationship to JAK2V617F, Berkofsky-Fessler and colleagues performed microarray analysis with PV CD34+ cells. Using cell line models and comparing gene expression profiles of cell lines and PV CD34+ specimens, they identified a JAK2-dependent gene set. Further, they identified a significant number of genes deregulated in PV independently of JAK2. The deregulated genes found here may be potential therapeutic targets for PV.

Notch Inhibition Reduces Neuroblastoma Progression

Chang *et al.* _____**Page 4411**

Notch signaling has been implicated in human tumorigenesis. To explore its role in neuroblastoma (NB), Chang and colleagues examined Notch1 expression in NB tumor tissues. They found that Notch1 expression was an independent unfavorable prognostic marker of NB, and that expression of Notch1 inversely correlated with the differentiation of NB. Further, inhibition of Notch signaling by a γ-secretase inhibitor was shown to promote neuronal differentiation in cultured NB cells and to slow tumor progression in a xenograft NB mouse model. These results suggest that Notch signaling could be a novel therapeutic target in NB.



Validation of Bladder Cancer Gene Expression Profiles

Lauss *et al.* _____**Page 4421**

Whole-genome gene expression analyses of urothelial carcinomas have produced promising gene signatures for tumor stage, grade, progression, and prognosis. Before such signatures may be used in clinical practice, they should be firmly validated using independent data. In this issue, Lauss and colleagues undertook a systematic evaluation of 28 gene signatures in four independent data sets. They found that stage and grade signatures performed well. However, none of the tested survival signatures could be validated. Overall, larger signatures produced more robust predictions. These findings stress the importance of validation in the translation of gene signatures into clinical practice.

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