Clinical Cancer Research **Highlights**

June 15, 2011 • Volume 17 • Number 12

Selected Articles from This Issue

Metformin Sensitizes Cancer Cells to Paclitaxel

Rocha *et al.* Page 3993

Metformin is a widely-used antidiabetic drug whose anticancer effects represent a promising and novel approach for the treatment of cancer. Chemotherapy produces genotoxic stress and induces p53 activity, which can cross-talk with the AMPK/mTOR pathway. Rocha and colleagues tested the combination of metformin and paclitaxel and showed that combined treatment is more effective at arresting cells in the G2/M phase of the cell cycle, decreasing tumor growth, and increasing apoptosis in tumor-bearing mice. These results demonstrate that different drugs may cooperate to increase anti-growth signals and suggest that activation of AMPK may be an alternative therapeutic strategy in cancer treatment.

CCR Focus: Therapeutic Advances in Prostate Cancer

Bates *et al.* Page 3866

Important advances have been made recently in the treatment of prostate cancer, with several drugs for metastatic, castration-resistant prostate cancer obtaining FDA approval in 2010 and 2011. In this issue of CCR Focus, guest editors Gerhardt Attard and Johann de Bono discuss the recent progress that has been made in prostate cancer therapy. Topics covered include targeting continued androgen receptor signaling; immunotherapeutic approaches in prostate cancer; the use of circulating tumor cells as treatment response biomarkers; and overcoming chemotherapy resistance in prostate cancer. Particular emphasis is put on the impact of newly approved agents (abiraterone, sipuleucel-T, and cabazitaxel).

Characterizing Bone Metastases in Prostate Cancer

Mehra *et al.* Page 3924

Bone metastases are ultimately responsible for the death of 500,000 patients worldwide every year. Investigators have been unable to study the molecular events underlying bone metastasis in these patients because of the lack of quality tissue available for study. Here, Mehra and colleagues present the discovery of nonossified bone metastases from multiple patients with advanced prostate cancer and their subsequent characterization and comparison to nonosseous metastases from the same patients. This represents a versatile and practical approach that may be used to characterize the steps in metastasis and opens important new possibilities for clinical monitoring through biomarker evaluation during treatment.

KIT Pathway Alterations in Mucosal Melanoma

Omholt *et al.* Page 3933

KIT is an important oncogene in mucosal melanoma. In this issue, Omholt and colleagues studied mucosal melanomas from several different anatomical sites and found a significantly higher frequency of *KIT* mutations in melanomas of the vulva compared with melanomas of other mucosal sites (35% versus 10%). Using immunohistochemistry, the authors also found that ERK and AKT were activated in a large proportion of mucosal melanoma samples. Targeting the *KIT* downstream RAF-MEK-ERK and PI3K-AKT signaling pathways may represent a promising alternative therapeutic approach in mucosal melanoma, especially in the subset of tumors lacking activating *KIT* mutations.

Clinical Cancer Research

Highlights of This Issue

Clin Cancer Res 2011;17:3853.