Clinical Cancer Research **Highlights**

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Selected Articles from This Issue

Focus: DNA Repair as a Therapeutic Target

Bates _____Page 4510

Many therapeutics exert an antitumor effect through the damage of DNA. Therefore, understanding the complex cellular network involved in DNA repair has important translational implications. In this issue of *CCR Focus*, guest editor Eddie Reed provides an overview of research surrounding DNA repair and therapeutic strategies targeting components of the repair machinery. Topics discussed include the involvement of epigenetics and hypoxia in DNA repair, validation of new biomarkers of DNA repair, and the activity of PARP inhibitors in breast cancer.

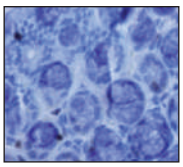
Docetaxel Activity against Myeloid-Derived Suppressor Cells

Kodumudi *et al.*_____Page 4583

Effective antitumor immunity is frequently impeded by complicating factors such as tumor-induced immune suppression via myeloid-derived suppressor cells (MDSCs). Therefore, agents that inhibit MDSCs may be useful for cancer patients. Kodumudi and colleagues found that docetaxel administration significantly inhibited tumor growth in 4T1-Neu tumor–bearing mice and considerably decreased MDSCs *in vivo*. The treatment selectively increased cytotoxic T lymphocyte (CTL) responses. Most importantly, docetaxel could directly modulate MDSC phenotype with preferential apoptosis of M2 cells and accumulation of M1 cells. These findings suggest that addition of docetaxel to current immunotherapeutic protocols could offer clinical benefit.

Silibinin Suppresses Colon Tumorigenesis

Ravichandran *et al.* _____Page 4595

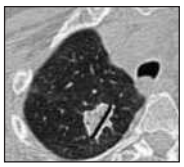


Silibinin is a flavonolignan from the dietary supplement milk thistle extract. Ravichandran and colleagues evaluated the chemopreventive efficacy of silibinin against azoxymethane (AOM)-induced colon tumorigenesis in a mouse model. They found significant inhibition of AOM-caused colonic cell proliferation, inflammation, angiogenesis, and cell survival, accompanied by a reduction in the number and size of colonic tumors. Modulation of β-catenin, IGF-1Rβ, pGSK-3β, pAkt, and IGFBP-3 protein levels was also observed. These findings suggest multitargeting effects of silibinin, and support its translational potential in colorectal cancer chemoprevention.

Tumor Volume Change and Biomarker Development

Zhao *et al.*_____Page 4647

Zhao and colleagues performed a critical assessment of tumor response imaging to evaluate what metrics best distinguish "sensitive" and "resistant" tumors. They assessed gefitinib therapy in lung adenocarcinoma, and evaluated whether semi-automated diameter or volume measurement was more accurate at distinguishing between EGFR mutant and wild-type tumors. A 24.9% decrease in volume measurement was found to have a high sensitivity and specificity, while diameter measurement was less accurate. These findings suggest that use of volume-based response assessment when developing tissue biomarkers could improve dichotomization of sensitive and resistant tumor populations.



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Highlights of This Issue

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