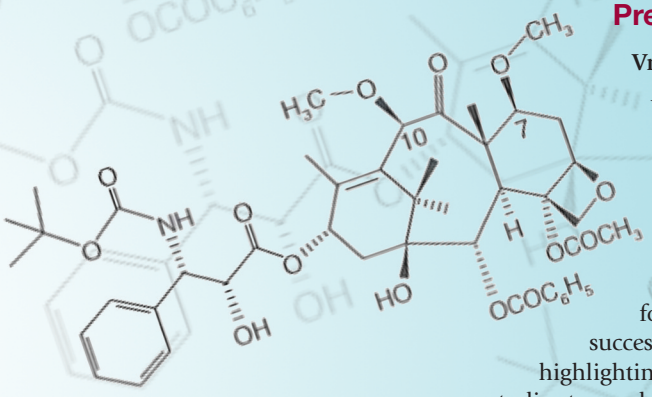
Clinical Cancer Research **Highlights**

June 1, 2013 • Volume 19 • Number 11

Selected Articles from This Issue



Preclinical Antitumor Activity of Cabazitaxel

Vrignaud *et al.* _____**Page 2973**

Vrignaud and colleagues present a comprehensive overview of preclinical studies with cabazitaxel, a semisynthetic taxane that has been shown to overcome docetaxel resistance, with proof-of-concept achieved in clinical studies. These findings support the current use of this agent in patients with metastatic hormone-refractory prostate cancer experiencing disease progression following docetaxel therapy and offer an insight into a successful development process for a new anticancer agent, highlighting the importance of conducting relevant, rationally designed studies to accelerate progress in drug discovery.

Early Chemotherapy Impairs Learning In Adolescent Mice

Bisen-Hersh *et al.* _____**Page 3008**

Clinical studies estimate that 40% to 70% of survivors given chemotherapy-only treatment experience neurocognitive impairment. Cancer chemotherapeutics have been examined in preclinical models of learning in adult rodents; however, these models are not adequate for studying emergent effects of childhood treatment. To examine these effects using young rodents, Bisen-Hersh and colleagues treated mouse pups on postnatal days 14 to 16 with methotrexate and cytarabine. Nineteen days after treatment, impairment on one-trial learning tasks was found, but only mild deficits occurred on an extensive training task, suggesting that practice may ameliorate deficits. These findings have implications for the development of cognitive remediation programs for childhood cancer survivors.

microRNA Biomarkers for the Detection of Parotid Gland Tumors

Matse *et al.* _____**Page 3032**

Salivary gland tumors constitute 0.3% of all human tumors and ~4% of head and neck cancer, with 37 subtypes, many having overlapping histopathology, presenting clinical and diagnostic challenges. Extracellular RNA is an emerging target for biomarker development. Matse and colleagues explore the utility of salivary extracellular microRNA to discriminate malignant from benign parotid gland tumors, where 80% of salivary gland tumors occur. Six salivary extracellular microRNAs were statistically different between the 2 groups. The best combination of 4 biomarkers yielded a receiver-operating characteristics curve with an area under the curve of 90%, a sensitivity of 69%, and a specificity of 95% in discriminating saliva samples from patients with malignant tumors from those in patients with benign tumors in the parotid gland. These results are promising for the development of noninvasive tools for early detection of tumors in salivary glands.

Food Effect Study of Vismodegib

Sharma *et al.* _____**Page 3059**

Vismodegib is an orally bioavailable small-molecule Smoothened inhibitor that is currently available for the treatment of advanced basal cell carcinoma. To explore the effects of food on plasma exposure of this drug, Sharma and colleagues designed and conducted a pharmacokinetic study in patients with advanced solid tumors. They found no significant differences in exposure at steady state after daily dosing between patients who took the drug fasting versus fed. Vismodegib can be safely taken with or without food, and the study design used here can serve as a template for studies of other oral anticancer drugs.

Clinical Cancer Research

Highlights of This Issue

Clin Cancer Res 2013;19:2789.