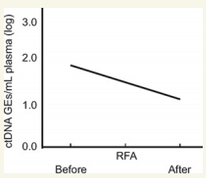
Clinical Cancer Research
Highlights
September 15, 2017 • Volume 23 • Number 18 Selected Articles from This Issue

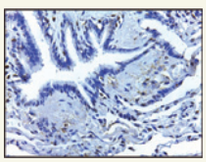
Monitoring Circulating Tumor DNA in Colorectal Cancer



There is a clinical need for an improved approach for longitudinal noninvasive monitoring of the tumor burden in colorectal cancer (CRC) patients. Schøler and colleagues studied 371 plasma samples from 45 patients. Longitudinal samples revealed that postoperative ctDNA detection provides evidence of residual disease and identifies patients at very high risk of relapse. Furthermore, longitudinal surveillance enables early detection of relapse and informs about response to intervention. This work provides predictors of clinical outcome in CRC and has promising implications for personalized patient management during postsurgery follow-up. ■

See article by Schøler et al., p. 5437

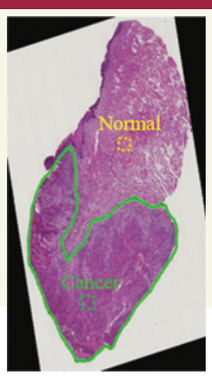
RCC2 Promotes Lung Adenocarcinoma Metastasis



A high incidence of tumor metastasis poses a threat to the patient's survival; however, the underlying molecular mechanisms are largely unknown. Pang and colleagues characterize RCC2, a novel metastasis-related gene, and its role in lung adenocarcinoma (LUAD). They show that RCC2 is significantly associated with metastasis and could be an independent prognostic factor for LUAD. Furthermore, a series of *in vitro* and *in vivo* studies demonstrate that RCC2 can promote LUAD metastasis by inducing EMT *via* MAPK-JNK signaling. These findings offer novel insight about LUAD that may be beneficial to identify effective treatments against lung cancer. ■

See article by Pang et al., p. 5598

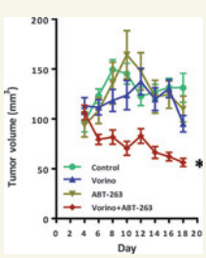
Hyperspectral Imaging for Head and Neck Cancer Detection



Accurate delineation of tumor margin is crucial for maximizing the efficacy of surgical treatment and the patient's subsequent quality of life. To achieve this, Lu and colleagues investigated the feasibility of using quantitative hyperspectral imaging (HSI) combined with machine learning-based tools as a diagnostic tool to delineate the cancer boundaries in surgical specimens of human patients with head and neck cancers (HNC). This study demonstrates the application of quantitative HSI as a sensitive and specific diagnostic tool for the detection and delineation of HNC in a wide variety of anatomic sites, which could be translated into the clinic application with the hope of improving clinical outcomes in the future. ■

See article by Lu et al., p. 5426

ATF3 Drives HDAC-Induced Apoptosis



Histone deacetylase inhibitors (HDACi) are epigenome-targeting anticancer therapeutics for certain cancers; however, there is currently no clear strategy to reliably predict HDACi sensitivity. Chüeh and colleagues identify a novel mechanism by which HDACi induce apoptosis in tumor cells through induction of the ATF3 transcription factor and subsequent repression of BCLXL. This mechanism transcends tumor type, is measurable in patient samples *in vivo*, and defines the basis for sensitivity or resistance to HDACi. These findings establish a strategy for overcoming inherent resistance to HDACi by rational combination with BCL-XL inhibitors and define a framework for the identification of biomarkers predictive of HDACi response, including rapid assessment of ATF3 induction. Additionally, they have the potential to directly impact the clinical use of HDACi for the approved indications of CTCL and multiple myeloma, and for their ongoing clinical development in multiple malignancies. ■

See article by Chüeh et al., p. 5573

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Clin Cancer Res 2017;23:5323.