

## LIVER

An integrated genomic and epigenomic approach predicts therapeutic response to zebularine in human liver cancer

Andersen, J. B. *et al. Sci. Transl. Med.* 2, 54ra77 (2010)

Transcriptomic and epigenomic profiling has been used to identify a zebularine response signature that can classify liver cancer into two subtypes of cell line according to their response to the drug. The finding was confirmed in a xenograft mouse model. Combining this signature with zebularine gene expression and demethylation response signatures will enable clinicians to identify patients who might benefit from therapies that target the cancer epigenome.

## TRANSPLANTATION

Toll-like receptor 4 contributes to small intestine allograft rejection

Krams, S. M. *et al. Transplantation* doi:10.1097/TP0b013e3181fdda0d

Using an orthotopic mouse model of small intestine transplantation (SIT), researchers have shown that grafts survive for longer in the absence of Toll-like receptor (TLR) 4. Gut flora in the graft might augment alloimmune responses through TLR4. This finding suggests that the TLR pathway could be a novel therapeutic target to increase graft survival in SIT.

## HEPATOCELLULAR CARCINOMA

Preserved liver function, portal thrombosis and absence of oesophageal varices are risk factors for metastasis of hepatocellular carcinoma

Addario, L. *et al. Dig. Liver Dis.* doi:10.1016/j.dld.2010.09.003

Extrahepatic metastases are rare in patients with hepatocellular carcinoma, but have a negative effect on prognosis. In an analysis of the clinical files of 520 patients with hepatocellular carcinoma, extrahepatic metastases were more frequent in patients with good liver function. Patients without esophageal varices, but who had portal thrombosis, had the highest risk of developing extrahepatic metastases.

## HEPATITIS

Efficient hepatitis C virus particle formation requires diacylglycerol acyltransferase-1

Herker, E. *et al. Nat. Med.* 16, 1295–1298 (2010)

Researchers have found that diacylglycerol acyltransferase 1 (DGAT1) is a key host factor required for HCV infection. DGAT1 is a triglyceride-synthesizing enzyme that interacts with the nucleocapsid core of HCV. The formation of lipid droplets mediated by DGAT1 is necessary for the production of infectious HCV particles. Inhibiting or knocking down DGAT1 impaired production of infectious virions. The researchers conclude that DGAT1 could be a new target for antiviral therapy.