

IN BRIEF

THERAPY**Metformin protective against colorectal cancer?**

Metformin is a widely used treatment for type 2 diabetes mellitus, but previous research suggests it also prevents colorectal cancer. Researchers conducted a double-blind, placebo-controlled multicentre trial in 151 patients without diabetes mellitus who had previously undergone removal of one or more colorectal adenomas or polyps. Patients treated with low-dose metformin for 1 year were found to have fewer adenomas or polyps than controls, with no severe adverse effects observed. Larger and more long-term trials are now required.

ORIGINAL ARTICLE Higurashi, T. *et al.* Metformin for chemoprevention of metachronous colorectal adenoma or polyps in post-polypectomy patients without diabetes: a multicentre double-blind, placebo-controlled, randomised phase 3 trial. *Lancet Oncol.* [http://dx.doi.org/10.1016/S1470-2045\(15\)00565-3](http://dx.doi.org/10.1016/S1470-2045(15)00565-3) (2016)

LIVER**Hepatocytes induced from myofibroblasts *in vivo***

A new study has demonstrated successful reprogramming of myofibroblasts into hepatocytes in a mouse model of chemically induced liver fibrosis. The researchers virally induced expression of several transcription factors in fibrosis-promoting myofibroblasts to convert these cells into hepatocytes. This *in vivo* reprogramming resulted in reduced liver fibrosis, suggesting that this approach could present a new regenerative treatment strategy after liver damage.

ORIGINAL ARTICLE Song, G. *et al.* Direct reprogramming of hepatic myofibroblasts into hepatocytes *in vivo* attenuates liver fibrosis. *Cell Stem Cell* <http://dx.doi.org/10.1016/j.stem.2016.01.010> (2016)

DEVELOPMENTAL BIOLOGY**Liver vasculature cells are derived from cardiac tissue**

Hepatic vasculature has a vital role in the development, function and regeneration of the liver, but the embryonic origin of hepatic blood vessels is largely unknown. New research published in *Nature Genetics* now shows that a substantial proportion of these vessels arise from the developing endocardium. The investigators traced the genetic lineage of cells using fluorescent markers in several transgenic mouse models to show that endocardial cells surround the developing liver bud, contribute to vasculature in the mature liver and play an important part in hepatic organogenesis.

ORIGINAL ARTICLE Zhang, H. *et al.* Genetic lineage tracing identifies endocardial origin of liver vasculature. *Nat. Genet.* <http://dx.doi.org/10.1038/ng.3536> (2016)

GUT MICROBIOTA**Gut bacteria affect post-ischaemic inflammation in stroke by modulating intestinal T cells**

Acute brain injury in stroke is modulated by commensal gut bacteria, according to new research. Benakis *et al.* found that antibiotic treatment in mouse models of stroke substantially reduced infarct volume in these animals compared with control animals. This protective effect was attributed to reduced migration of intestinal IL-17-producing $\gamma\delta$ T cells, which were found to travel from the gut to the brain meninges following stroke injury in control but not immune-compromised animals. These findings provide more evidence of a microbiota–gut–brain axis and suggest that gut microbiota promote a harmful neuroinflammatory response in stroke.

ORIGINAL ARTICLE Benakis, C. *et al.* Commensal microbiota affects ischemic stroke outcome by regulating intestinal $\gamma\delta$ T cells. *Nat. Med.* <http://dx.doi.org/10.1038/nm.4068> (2016)