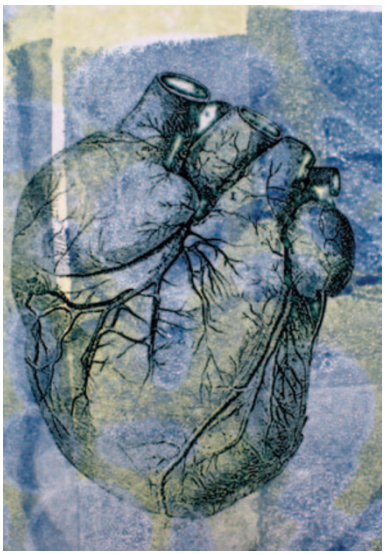
IN BRIEF



CARDIOVASCULAR DISEASE

Targeting C-reactive protein for the treatment of cardiovascular disease.

Pepys, M. B. *et al. Nature* **440**, 1217–1221 (2006)

Studies show that human C-reactive protein (CRP), which binds to ligands in damaged tissue and activates complement, increases myocardial and cerebral infarct size in rats. Targeting CRP is therefore a potential therapeutic strategy against heart attack and stroke in humans. This paper reports the design and synthesis of a small-molecule inhibitor of CRP, 1,6-bis(phosphocholine)-hexane, and shows that administration of the compound to rats undergoing myocardial infarction completely abolished the pathogenic effects caused by human CRP.

PHARMACOGENETICS

Thousands of samples are needed to generate a robust gene list for predicting outcome in cancer.

Ein-Dor, L. *et al. Proc. Natl Acad. Sci. USA* **103**, 5923–5928 (2006)

Researchers need to exercise caution when correlating gene-expression signatures to cancer treatment outcomes because of significant ambiguities between different published gene lists. Variation between datasets is thought to stem from the small number of tumour samples used. Ein-Dor and coauthors report a mathematical model called 'probably approximately correct' (PAC) sorting that they used to evaluate the robustness of several published gene lists. Their calculations show that to achieve 50% overlap between two predictive gene sets for breast cancer requires the genetic profiles of several thousand patients.

DRUG DELIVERY

Transdermal protein delivery by a coadministered peptide identified via phage display.

Chen, Y. *et al. Nature Biotechnol.* **24**, 455–460 (2006)

Recent studies that used phage-display to identify peptide sequences that facilitate phage transport across the gastrointestinal mucosa prompted Chen *et al.* to look for peptide sequences that could aid transdermal delivery. Application of a phage library to the skin of mice and subsequent *in vivo* selection of phage from the systemic circulation identified eight phage clones expressing a common sequence. Co-administration of a cyclic peptide expressing multiple copies of this sequence was able to enhance the transdermal delivery of both insulin and growth hormone in a sequence- and dose-dependent manner.

STROKE

Role of matrix metalloproteinases in delayed cortical responses after stroke.

Zhao, B.-Q. *et al. Nature Med.* **12**, 441–445 (2006)

Matrix metalloproteinases (MMPs) are thought to exacerbate the effects of stroke because of their role in degradation of the neurovascular matrix, and there has been much interest in the development of inhibitors of MMPs for acute stroke therapy. However, this study suggests that MMPs might have a beneficial role in plasticity and remodelling of neurovascular tissue during stroke recovery. MMP9 was shown to be upregulated 7–14 days after stroke, and treatment with MMP inhibitors inhibited neurovascular remodelling and increased brain injury. The results suggest that rather than aiming to inhibit MMPs, compounds that can modulate MMPs to promote stroke recovery should also be explored.