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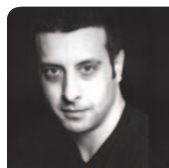
► **COVER:** 'Lab-on-a-chip' by Susanne Harris, inspired by the review on p210.



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**M**ultidrug resistance (MDR), in which tumour cells become unresponsive to a variety of chemotherapeutics, is a major challenge in cancer treatment. This month, Gottesman and colleagues review the mechanisms underlying MDR and new approaches to overcome this phenomenon, focusing on targeting ATP-binding cassette (ABC) transporters. Cancer is one of several conditions for which adenosine receptors have been identified as potential therapeutic targets, and Jacobson and Gao discuss recent preclinical and clinical progress with compounds that specifically modulate the various adenosine receptor subtypes. Several articles this month focus on immune disorders. Korzenik and Podolsky summarize advances in the understanding of the pathophysiology of inflammatory bowel diseases, such as Crohn's disease and ulcerative colitis, and the development of new treatment strategies, while Fresh from the Pipeline considers the recently approved rheumatoid arthritis drug, abatacept. Two recently discovered members of the tumour-necrosis factor family, APRIL and BLYS/BAFF, have also emerged as potential targets for immune diseases, as well as cancers. Dillon and colleagues review the expanding research into the normal and pathological roles of these molecules and discuss efforts to inhibit their activity with, for example, monoclonal antibodies. Although cancer and immune disorders have been the main focuses for the development of monoclonal antibodies so far, they also have potential for targeting infectious diseases, and Reichert and Dewitz analyse trends in the development of anti-infective monoclonal antibodies. Finally, Dittrich and Manz review 'lab-on-a-chip' technologies and discuss the potential uses of microfluidics to accelerate drug discovery, such as the miniaturization of screening assays and synthesis reactions.

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