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► **COVER:** 'Predicting therapeutic outcomes' inspired by the articles on p463 and p485.



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Diagnostics are gaining in importance in the clinical evaluation and use of novel drugs, and this month we feature two Perspective articles considering different aspects of their development. Million uses recently developed oncology therapeutics as case studies to illustrate the importance of incorporating diagnostic innovations early in drug development. Diagnostic development might, however, be facing its own 'pipeline problem', and Phillips and colleagues investigate this issue and suggest ways to address the problem. Several pioneering diagnostics have been developed to optimize the use of antibody-based therapeutics, and the field of protein drugs in general looks set to benefit substantially from the growth of pharmacogenetics. Krejsa and colleagues provide a comprehensive review of recent studies investigating effects of genetic variation on responses to protein therapeutics and discuss specific issues surrounding the application of pharmacogenetics to the development of these drugs. Elsewhere, Nissen and colleagues describe how intravascular ultrasound might facilitate the development of novel anti-atherosclerotic drugs by providing an intermediate measurement of efficacy before expensive and lengthy large-scale morbidity and mortality trials are initiated. Atherosclerosis is one of the multitude of conditions that red wine has been suggested to protect against owing to the effects of a key component, resveratrol. In their review, Baur and Sinclair evaluate the evidence for the efficacy of resveratrol in animal models of disease and consider its potential as a human therapeutic. Finally, Krieg assesses the therapeutic potential of drugs that harness the innate immune system, via Toll-like receptor 9, to combat diseases including cancer, allergy and asthma, and to improve existing vaccines. Accompanying this article, our Patentwatch this month features a list of recent patents for modulators of Toll-like receptors.

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