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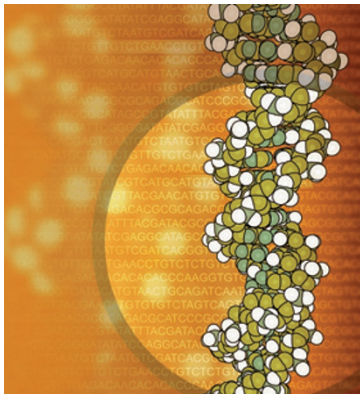

Cancer genomics in clinical trials p358

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Platforms for antibiotic discovery p371

Despite the urgent need for novel antibacterial agents, the involvement of pharmaceutical companies in the field is much lower than in the past, in part owing to failures of strategies such as high-throughput screening against genomic targets to provide an effective discovery platform. Considering lessons learned from the golden era of antibiotic discovery in the 1940s to the 1960s, Lewis discusses how high-tech platforms could be established, and also how previous successful platforms — for example, focusing on species-specific antibiotics — could be revived. Aided by species-specific screening, new antibiotics and regimens for the treatment of tuberculosis are emerging for the first time since the 1960s. Zumla and colleagues assess the current pipeline of novel tuberculosis therapies, including new chemical entities and repurposed agents, and discuss recent progress in the design of improved treatment regimens and clinical trials. In the first of two 'Innovation' articles, Wood and colleagues discuss recent advances in the understanding of the biological roles of extracellular vesicles and highlight their therapeutic potential. They propose strategies to inhibit extracellular vesicles as well as approaches to exploit them as therapeutic agents or drug delivery vehicles for the treatment of autoimmune diseases, neurodegenerative disorders, HIV-1 infection and cancer. Next-generation sequencing has enabled the molecular classification of many cancer subtypes and identified predictive biomarkers that may be used to match patients with molecularly targeted therapies. In the second 'Innovation' article, Roychowdhury and Simon consider the practical issues and challenges associated with generating molecular diagnostics and implementing personalized cancer genomics in clinical trials.

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