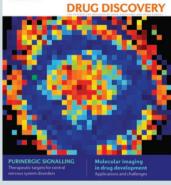
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nature REVIEWS



► COVER: 'Molecular imaging' inspired by the Review on p591.





PETER KIRKPATRICK





CHARLOTTE HARRISON





MONICA HOYOS FLIGHT

pecialty pharmaceuticals — drugs that are prescribed mainly by specialists — are attracting increasing attention from companies that have traditionally focused on products prescribed by primarycare physicians. In their Perspective, Ma and colleagues provide an analysis of marketed specialty products, identifying specific factors that are most influential in determining their success. Recent technological advances are aiding the application of genetic information for the prediction of drug response, and in the second perspective this month, Weiss and colleagues consider key factors and challenges in the development and performance of accurate and clinically meaningful pharmacogenetic tests. Identifying those patients that are most likely to benefit from a particular therapy may also be aided by molecular imaging techniques. In their Review, Gambhir and colleagues discuss the applications and associated challenges of molecular imaging in all phases of drug development, focusing on its use in the oncology field. Among the many clinically successful anticancer agents, there are a number of macrocyclic natural products. However, despite their proven success in oncology as well as in various other disorders, the therapeutic potential of macrocycles remains relatively under-explored. The pharmacologically favourable properties and features offered by this class of compounds are reviewed by Terrett and colleagues, who predict rapid growth in the therapeutic application of synthetic macrocyclic compounds in the near future. The development of agents targeting the purinergic system is another growing field of pharmaceutical research. In our final review, Burnstock overviews the roles of purinergic signalling in disorders of the central nervous system, providing insight into which specific purinergic receptor subtypes represent promising therapeutic targets, particularly in the treatment of

pain, as well as neuropsychiatric and neurodegenerative diseases.

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