

# nature REVIEWS

## NATURE REVIEWS DRUG DISCOVERY

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Worldwide, the size of ageing populations is increasing, adding greater urgency to the need for new therapies for age-related diseases. Clark and Yorio review new approaches to the treatment of impaired vision caused by glaucoma and macular degeneration, and the market for ophthalmic drugs is analysed by Renaud and Xuereb. Rheumatoid arthritis also predominantly affects the elderly, and Smolen and Steiner describe advances in our understanding of the pathogenesis of this debilitating condition that have led to novel drugs and also pointed to future approaches for drug development. The prospects for the effective treatment of chronic pain caused by nerve damage have improved with the discovery that neurotrophic factors are key to neuropathic pain pathways. As Porreca and colleagues highlight, therapeutically targeting neurotrophins might have the potential to reverse this persistent pain state. Another neurological disorder, schizophrenia, is the focus of this month's 'Fresh from the Pipeline' on aripiprazole, a recently approved atypical antipsychotic with a novel therapeutic profile. Getting a new drug to market is not, however, always the end of the story. Ferrini and Fossa consider the impact of the problem of QT interval prolongation — which has led to the withdrawal of several drugs — on drug development. The need for more critical scrutiny of screening assays used in early drug development is highlighted by Kenakin in this month's 'Guide to Drug Discovery' article, showing that the various natural and recombinant cellular assay systems used in lead optimization for compounds targeted against G-protein-coupled receptors can yield significantly different results. Finally, Merril and colleagues show that looking back can be another way of moving forward in their Perspective on the potential for bacteriophage — first used clinically in 1915 — to combat pathogenic bacteria.



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