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► **COVER:** 'Translational immunology' by Neil Smith; inspired by this month's Focus issue.



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**F**rom bench to bedside: from mouse to man. Are we getting any better at successfully making this transition, or are we still a long way from understanding and treating immune-mediated diseases in humans?

Arguably, one of the greatest success stories in translational immunology has been the development and application of tumour-necrosis-factor blockers, which have now benefited millions of patients with chronic diseases, such as rheumatoid arthritis and Crohn's disease.

However, recently the field has been beset with several sobering reminders that basic principles learned in mice might not always be directly applicable to humans. This has been shown most recently by initial tests of a CD28-specific monoclonal antibody in humans. Although preclinical studies of the 'superagonist' TGN1412 were encouraging and led to hopes for its use in the treatment of leukaemia and autoimmune disease, its transition to human volunteers had immediate, devastating effects (In the News, on page 340).

Similarly, unfortunate and unexpected side-effects of immunotherapy in humans have led to the interruption of a clinical trial of amyloid- $\beta$  vaccination in patients with Alzheimer's disease (Review on page 404) and the temporary ban on prescribing the monoclonal antibody natalizumab for the treatment of patients with multiple sclerosis.

Nevertheless, by taking these products to the clinic, some important lessons have been learned, and the differences between animal models and human disease highlighted. The articles in this Focus issue and accompanying Web Focus provide examples of some of the hottest and most encouraging immunotherapeutic approaches that are reaching the clinic. Importantly, they focus largely on data from human studies in the hope that such approaches are not lost in translation.

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