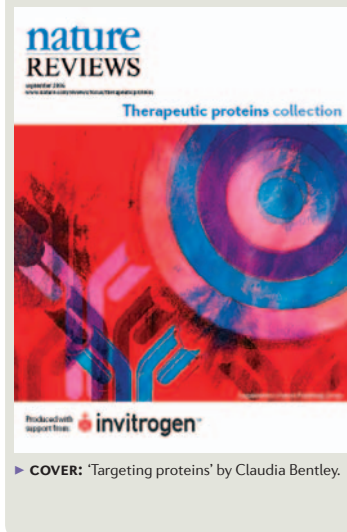




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**T**he use of proteins as therapeutic agents is not a new concept — the protein insulin was first introduced as a treatment for diabetes in the 1920s. Approval for the first therapeutic antibody — rituximab (Rituxan; Genentech, Inc. and Biogen Idec Inc.); used in the treatment of B-cell non-Hodgkin's lymphoma — was gained in 1997, and antibodies have since become the fastest-growing class of human therapeutics. Protein-based therapy has become an important strategy that has greatly benefited people suffering from various disorders, including cancer, Crohn's disease, diabetes and multiple sclerosis

This *Nature Reviews* Collection features Review, Perspective and Research Highlight articles that discuss the design, generation and application of proteins as therapeutics. On page S9, David Schrama, Ralph Reisfeld and Jürgen Becker review developments in the use of tumour-specific antibodies conjugated to therapeutic agents for the successful targeting of cancer drugs to the tumour site. But how are antibody-based treatments developed? The process of generating potent antibody therapeutics, including design and optimization (with an emphasis on IgG), is discussed by Paul Carter, in the Review on page S22. Ole Henrik Brekke and Inger Sandlie look at how different aspects of antibodies relate to their use as therapeutic agents and review recent antibody technologies (page S37). Finally, in a Timeline article on page S48, Andreas Gschwind, Oliver Fischer and Axel Ullrich discuss the role of receptor tyrosine kinases in cancer development and describe how the characterization of these protein kinases led to the development of the first target-specific anticancer agents.

For a complete overview of the latest developments — including additional Reviews, Perspectives and Research Highlights from the Nature Publishing Group — please visit the *Nature Reviews* Therapeutic Proteins Collection Web Focus (<http://www.nature.com/reviews/focus/therapeuticproteins>). Access to the Web Focus is free until March 2007, and we are grateful to Invitrogen Corporation for their financial support.

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