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Nota di contenuto	Chapter 1.Introduction -- Chapter 2.Chemical Synthesis of Mirror-Image VHHs and Evaluation of Their Immunogenicity -- Chapter 3. Identification of a Mirror-Image VHH against Vascular Endothelial Growth Factor -- Chapter 4.Synthetic Study of Full-Length Hepatitis B Virus Core Protein and Its Capsid Assembly -- Chapter 5.Chemical Synthesis of Interleukin-6 for Mirror-Image VHH Discovery -- Chapter 6.Conclusions.
Sommario/riassunto	This book outlines the chemical synthesis of therapeutic targets and a screening process for unexplored mirror-image single-domain antibodies (D-VHH). This book first describes the chemical synthesis of model VHH and the characteristics of both enantiomeric VHHs, including binding activity, biodistribution and immunogenicity. Immunogenicity testing in mice demonstrated that administration of conventional L-VHH induced the generation of anti-drug antibodies while D-VHH-binding antibodies were not observed in D-VHH-immunized mice. Second, it is explained that the T7-phage-based mirror-image screening system was developed to identify D-VHH

antibody fragments capable of binding to vascular endothelial growth factors. Additionally, this book details the chemical synthesis of full-length hepatitis B virus core protein and interleukin-6 for the application of exploring D-VHHs and other mirror-image molecules. Demonstrating that it is possible to develop a D-VHH that preferentially binds the native target protein and exhibits reduced immunogenicity, this book is useful for anyone interested in developing alternative biotherapeutics with reduced immunogenicity by combining chemical and biological approaches.