

**Peptide and Protein Design for Biopharmaceutical Applications.** Edited by Knud J. Jensen. Wiley, Hoboken, NJ. 2009. xii + 294 pp. 16 × 23.5 cm. ISBN 9780470319611. \$155.00.

This book provides a comprehensive review of the many approaches undertaken over the years to develop peptide-based and peptide-mimetic-based drugs. The book strikes a balance between theory and practice. Chapters are written by both academic and industrial scientists, topics range from theoretical conformational analysis to practical, industrial examples of designer proteins and peptide drugs. Each chapter is amply referenced for easy follow-up reading. In Chapter 2, Nikiforovich and Marshall review common force fields and illustrate application of computational approaches to 3D pharmacophore model of CXCR4-binding cyclopentapeptide FC131. In Chapter 3, Maes and Tourwe present a comprehensive overview of various peptidomimetics, from sterically constrained amino acids through amide bond mimetics to secondary structure ( $\beta$ -sheets,  $\alpha$ -helix) mimetics and nucleators. Chapter 4 by Demmer, Frank, and Kessler focuses on cyclic peptides and is illustrated by case histories of advanced cyclic peptide binders of the integrin, CXCR4 and somatostatin

receptors. In the following chapter, Jensen and Brask cover carbohydrate scaffolds in peptidomimetics as well as peptide-cyclodextrin conjugates. In Chapter 6 Jensen explains the principles of the *de novo* design of 3-helix and 4-helix bundles and further discusses their biopharmaceutical applications. The final chapter by Hoeg-Jensen describes approaches to designing prolonged-acting, fast-acting, and glucose-sensitive insulins and insulin mimetics. This book describes key approaches to peptide mimetics and designer proteins, in the context of their pharmaceutical uses. As such, this book is likely to be very useful to scientists in both academia and industry as a convenient, easy to follow, and yet comprehensive and authoritative reference.

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DOI: 10.1021/jm100527s  
Published on Web 06/15/2010