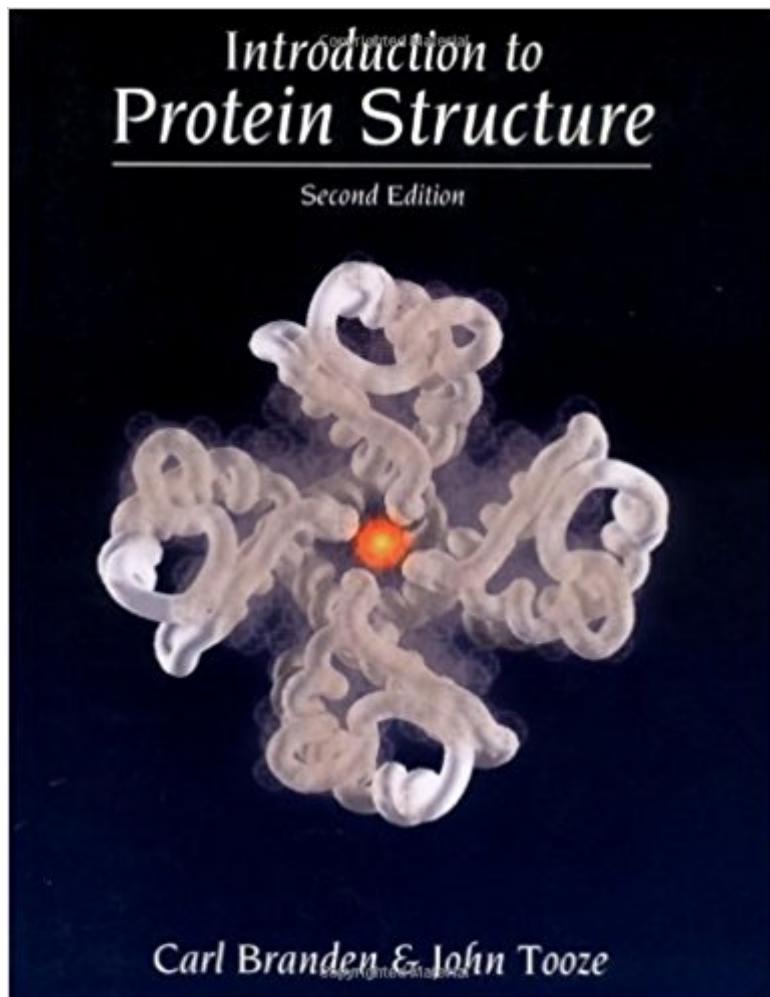


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# Introduction To Protein Structure



## Synopsis

Introduction to Protein Structure provides an account of the principles of protein structure, with examples of key proteins in their biological context generously illustrated in full-color to illuminate the structural principles described in the text. The first few chapters introduce the general principles of protein structure both for novices and for non-specialists needing a primer. Subsequent chapters use specific examples of proteins to show how they fulfill a wide variety of biological functions. The book ends with chapters on the experimental approach to determining and predicting protein structure, as well as engineering new proteins to modify their functions.

## Book Information

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## Customer Reviews

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Carl Branden was educated at Uppsala University (PhD) and the MRC Laboratory for Molecular Biology, Cambridge, where he was a postdoctoral fellow in the laboratory of J.C. Kendrew. He has pursued a career in basic research, science administration (as science advisor to the Swedish Government), and biotechnology. Formerly Research Director of the European Synchrotron Radiation Facility in Grenoble, France, he is now at the Microbiology and Tumor Biology Center at the Karolinska Institute in Stockholm. A protein crystallographer with a distinguished academic career in research and teaching, he has made major contributions to the understanding of many biological structures, and is an editor of *Structure*. John Tooze was educated at Cambridge University (MA), London University (PhD) and Harvard University (where he was a postdoctoral

fellow in the laboratory of J.D. Watson). After several years in basic research, he moved principally into science administration and science publishing, notably as the executive secretary of the European Molecular Biology Organisation, Heidelberg, Germany. He is currently Director of Support Services at the Imperial Cancer Research Fund Laboratories, London, and editor of EMBO Journal. A molecular biologist, his previous books include Molecular Biology of Tumor Viruses, The DNA Story (with J.D. Watson) and the very successful first edition of Recombinant DNA: A Short Course (with J.D. Watson and D.T. Kurtz).

I used this book a lot for one of my undergraduate courses three years back. It's excellent at explaining the fundamentals of protein structure, it's written very clearly and the diagrams are easy to understand and appropriate. I found it particularly useful when studying immunology, the explanation of immunoglobulin structure, splicing, and mechanism of action was better than some of the other textbooks I used from the library. I finally bought a copy as reference and to aid revision of some basics while applying for research associate positions within the biochemistry field.

I bought this book to improve my play on fold.it.I am interested in science but have no qualifications in it.This book is VERY approachable even for an uneducated person like me.Also it has improved my understanding of protein structures a lot and my score on fold.it :O)

This is a good protein structure book with a lot of intuitive cartoons on that. The major deficiency of the book is that it is slightly outdated because structural biology continuous making progress in recent years. There are very little in depth analysis based on the physical chemistry of protein, so it doesn't provide more insight into how protein functions. I give it 4 star because the pictures are really gorgorous.

Well, I really have no complaints. The material is presented in an easy to read format, but it doesn't feel very authoritative when it is so very old. As I recall, this is the 2001 edition? Anyway, that's 8 long years in a field that is rapidly expanding.

The book is completely new as the description said. I received it in 2 days

Today I got the book "Introduction to Protein Structure" 2nd edition by Branden & Tooze. As written by seller the condition of book is 'very good', which seems not true. You can say it 'Good' but not

'very good'. Overall book is OK but I am not very happy with this order. Monika

This review refers to the second edition of this book, issued in 1999. The book, written by a noted crystallographer (Branden) and a molecular biologist (Tooze) noted for science education. Following up on an earlier edition, the present volume takes advantage of the enormous increase in solved protein structures that has occurred in the intervening years. The book is well written, clear, and makes excellent use of contrasting pastel colors to represent three-dimensional objects (proteins) on a two-dimensional page. One rather surprising omission is the lack of stereo views of proteins in a book about structure. These have become quite common in the structural biology literature, and I feel the book would have been strengthened by judicious inclusion of some examples. The book, which would be suitable for an advanced undergraduate, graduate course or for biologist wishing to delve more into structure, begins with basic amino acid properties. The secondary structure elements of alpha helix and beta sheet are next introduced, along with some of the conventions used to illustrate structure in publications. How these structural elements are formed to build motifs, and motifs in turn are built into complex structures is discussed. Protein folding and flexibility are discussed, and proteins that assist in the process (e.g., chaperones, GroEL-GroES, disulfide isomerases) are highlighted. The next several chapters deal with DNA structure, DNA recognition by helix-turn-helix motifs, and eukaryotic transcription factors. The various transcription factor families are outlined, with emphasis on their interactions with DNA. Next, the subject of enzyme catalysis is covered, using serine proteases as exemplars. Membrane proteins, signal transduction proteins, fibrous proteins and immune system components all have individual chapters that emphasize structural features in the service of function. There is a chapter on spherical virus assembly and structure. Two general chapters close the book: one on structure prediction and protein engineering and design, and a final chapter on protein structure determination, which deals with X-ray crystallography and NMR methods and studies.

This book is one of the best books that addresses the topic of protein structure. The book answers nearly all the questions that anybody interested to know about protein structure. Meanwhile, the authors provided clear examples about how elucidating a protein structure can hint for its function (example, B-lactoglobulin structure similarity to retinol binding proteins hints for its function as retinol binding protein in the mammals intestine). Besides, the organization of the book chapters made it so easy to read. Above all, the versatile illustrative examples and figures that the authors used make reading this book is really enjoyable for people have the basic background in

biochemistry or those who are interested to building skills in biochemistry as well. The chapters describing prediction of protein structure and methods to determine the protein structure are really so valuable as a basic introduction about these broad topics. With basic biochemistry skills, this book will be so enjoyable.

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