

Researchers in structural genomics continue to search for biochemical and cellular functions of encoded proteins as well as the ways in which proteins assemble into functional pathways and networks using either experimental or computational approaches. Based on the experience of leading international experts, **Structural Genomics and High Throughput Structural Biology** details state-of-the-art analytical and computational methods used to reveal the three-dimensional structure and function of proteins.

A historical perspective and a detailed guide to the production of protein material for structural determination, a key step in the process, lay the necessary foundation for discussing the most effective structure determination technologies, such as X-ray crystallography and NMR spectroscopy. Encouraging the study of genes and proteins of unknown structure in order to discover new information about folding, specific structural features, or function, **Structural Genomics and High Throughput Structural Biology** presents the methods used to interpret the amino acid sequences of proteins, giving insight into their protein function. It also explains how to extract information from public data repositories and how to account for variability and accuracy in the quality of this data.

Features

- Offers a comprehensive overview of structural proteomics, from basic discovery to practical applications
- Provides guidance how to use structural information to decipher the relationship between genomic sequence and function
- Presents the work of the world's leading scientists, enabling readers to benefit from their extensive practical experience
- Examines and explains state-of-the-art analytical and computational methods for revealing the structure and function of proteins

The book concludes with a discussion of practical applications of proteomics, particularly therapeutically driven structural genomics, and presents future directions in the field. **Structural Genomics and High Throughput Structural Biology** offers a comprehensive guide to the theoretical, technological, and experimental methodologies used to derive structural information encoded proteins.



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