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Nota di contenuto	Module 1. Preface -- Module 2. Introduction to protein complexes -- Module 3. Historical advancement -- Module 4. Databases for protein complexes -- Module 5. Types of protein complexes -- Module 6. Hetero dimer protein complexes -- Module 7. Homo dimer protein complexes -- Module 8. Multimer protein complexes -- Module 9. Interfaces in protein complexes -- Module 10. Principles of protein-protein binding -- Module 11. Homodimer folding and binding -- Module 12. Gene fusion and protein complexes -- Module 13. Domain-domain interactions -- Module 14. Protein docking: Methods, software tools and servers -- Module 15. Protein complexes, pathways and networks -- Module 16. Protein complexes and biological functions -- Module 17. Protein complexes in diseases -- Module 18. Protein complexes in drug discovery & vaccine development -- Module 19. Protein complexes in genome and proteome analysis -- Module 20. Conclusions & challenges.
Sommario/riassunto	This book illustrates the importance and significance of the molecular

(physical and chemical) and evolutionary (gene fusion) principles of protein-protein and domain-domain interactions towards the understanding of cell division, disease mechanism and target definition in drug discovery. It describes the complex issues associated with this phenomenon using cutting edge advancement in Bioinformatics and Bioinformation Discovery. The chapters provide current information pertaining to the types of protein-protein complexes (homodimers, heterodimers, multimer complexes) in context with various specific and sensitive biological functions. The significance of such complex formation in human biology in the light of molecular evolution is also highlighted using several examples. The chapters also describe recent advancements on the molecular principles of protein-protein interaction with reference to evolution towards target identification in drug discovery. Finally, the book also elucidates a comprehensive yet a representative description of a large number of challenges associated with the molecular interaction of proteins.