FOUNDATIONS AND FRONTIERS IN ENZYMOLOGY

Structure and Intrinsic Disorder in Enzymology

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For more than 100 years the structure-function relationship has been a cornerstone of biology. However, it has recently emerged that intrinsic disorder is as important as well-defined structures for protein and enzyme function.

Structure and Intrinsic Disorder in Enzymology offers a direct, yet comprehensive, presentation of the fundamental concepts, characteristics, and functions of intrinsically disordered enzymes, along with valuable notes and technical insights powering new research in this emerging field. Here, more than 20 international experts examine protein flexibility and cryo-enzymology; hierarchies of intrinsic disorder; methods for measurement of disorder in proteins; bioinformatics tools for predictions of structure, disorder, and function; protein promiscuity; protein moonlighting; globular enzymes; intrinsic disorder and allosteric regulation; protein crowding; intrinsic disorder in post-translational modifications; protein misfolding and aggregation; amyloids and prion-like domains; and phase separation in membrane-less cellular organelles, among other topics. The chapters also review methods for study, as well as evolving technology to support new research across academic, industrial, and pharmaceutical labs.

Key features

- Unifies the roles of intrinsic disorder and structure in the functioning of enzymes and proteins
- Examines a range of enzyme and protein characteristics, their relationship to intrinsic disorder, and methods for study
- Features chapter contributions from international leaders in the field

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