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Structural Genomics Approach to Study Proteins and Their Functions

Proteins are essential part of organisms and are involved in every process in living cells. Their functions and properties are determined by their three-dimensional structure. Large-scale, multiple genome approach is used in the determination of the structures of proteins by structural genomics methods. High-throughput cloning, expression, purification, and crystallization methods allow the determination of structures of many important biological molecules in matter of days. In this talk, I will present how the applications of structural genomics methods lead to the determination of novel structures of proteins involved in the terminal-step of proline biosynthesis.