



Protein Engineering: The Present and the Future

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Message from the Guest Editor

Dear Colleagues,

Proteins are simple polymers with extraordinary properties of enormous biological and economic value. They are widely used in biological catalysis, as key components of analytical methods, or as highly specific drugs for personalized medicine. Protein engineering uses synthetic methods that allow the application of rational physicochemical knowledge and the power of evolutionary approaches to the goal of creating, in useful quantities, novel proteins that exhibit advantageous properties. In some cases, the challenge is to stabilize a natural protein for cheaper production, easier transport and storage, and longer operational life. In others, completely new properties are sought, which requires a greater amount of design. Significant advances in the understanding of protein energetics, in computational methods for sequence and structural analysis, and in synthetic methods, combined with growing economic and social interest in proteins, claim the logical transformation of Protein Engineering into a predictive quantitative discipline, where success is guaranteed by good design.

