

Special Issue

Versatility of Protein Synthesis in a Test Tube

Message from the Guest Editor

The genetic code is manifested in thousands of proteins in all living organisms. Determining the function of these proteins is a challenging task in life sciences. The analysis of individual proteins typically begins with producing the protein of interest, which can often be a bottleneck for further analysis. Although cell cultures are currently the most widely used platforms for recombinant protein production, cell-free translation systems are a more rational approach for small-scale and high-throughput protein synthesis, as well as synthetic biology studies. In recent decades, cell-free translation systems have been optimized for synthesizing difficult-to-produce proteins, such as those with disulfide bridges and membrane proteins, and even for composing functional protein complexes. Recent developments have made cell-free translation an even more versatile method for producing proteins, and it is expected to be the method of choice in an increasing number of laboratories. This Special Issue aims to provide insight into the current status of cell-free protein production and showcase the capabilities of optimised, next-generation in vitro translation systems.

Guest Editor

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