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Protein Aggregation—Accident, Threat or Organized Assembly?

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Message from the Guest Editor

Dear Colleagues,

Most cellular processes are thought to be coordinated by supramolecular assemblies of well-folded interacting accurately and specifically with one another. When this assembly loses its specificity, mostly comprises a single protein component, is often misfolded, and exhibits limited solubility, it is characterized as aggregation. Protein aggregation is implicated in the pathology of several diseases (e.g., amyloid formation in neurodegenerative diseases). It can result from the overexpression of proteins and potentially act as a protective measure against undesirable, aberrant, or toxic proteins in bacteria (inclusion bodies), but it could also represent a method of compartmentalizing cellular processes in membrane-less "phase-separated" organelles. This Special Issue aims to illuminate this "dark side" of protein intracellular assembly at the biochemical/biophysical level as well as the cellular and organismal level.













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