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| Title: | Intrinsically disordered proteins in the formation of functional amyloids from bacteria to humans |
| Authors: | Avni, A. (/jspui/browse?type=author&value=Avni%2C+A.) Hemaswathi, M. (/jspui/browse?type=author&value=Hemaswathi%2C+M.) Majumdar, A. (/jspui/browse?type=author&value=Majumdar%2C+A.) Mukhopadhyay, S. (/jspui/browse?type=author&value=Mukhopadhyay%2C+S.) |
| Keywords: | Amyloid formation Cross- β Protein aggregation |
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| Abstract: | Amyloids are nanoscopic ordered self-assemblies of misfolded proteins that are formed via aggregation of partially unfolded or intrinsically disordered proteins (IDPs) and are commonly linked to devastating human diseases. An enlarging body of recent research has demonstrated that certain amyloids can be beneficial and participate in a wide range of physiological functions from bacteria to humans. These amyloids are termed as functional amyloids. Like disease-associated amyloids, a vast majority of functional amyloids are derived from a range of IDPs or hybrid proteins containing ordered domains and intrinsically disordered regions (IDRs). In this chapter, we describe an account of recent studies on the aggregation behavior of IDPs resulting in the formation of functional amyloids in a diverse range of organisms from bacteria to human. We also discuss the strategies that are used by these organisms to regulate the spatiotemporal amyloid assembly in their physiological functions. |
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