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Structural Biology of Intrinsically Disordered Proteins: Revisiting Unsolved Mysteries

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ACCEPTED MANUSCRIPT

Mini-review

Structural Biology of Intrinsically Disordered Proteins: Revisiting Unsolved

Mysteries

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Keywords: intrinsically unstructured proteins; T cell receptor; dimerization; proteinprotein interactions; lipid-protein interactions; no disorder-to-order transition

Highlights:

- Long-standing contradictions in the field of intrinsically disordered proteins are revisited.
- Intrinsically disordered proteins demonstrate two different modes of lipid-binding activity depending on the cell membrane model.
- Intrinsically disordered proteins can use "coupled binding and folding" or "binding without folding" mechanisms upon interaction with their lipid and protein partners.
- Unusual biophysics of intrinsically disordered proteins contributes to drug discovery.

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