Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

Seminar

Tracing the Origins of the Eukaryotic Cytoskeleton

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Asgard archaea, a deep-branching group that contains homologs of major eukaryotic protein families, provide an intriguing model for studying eukaryogenesis. Our study investigates the evolution, origin, and assembly of the Tubulin like superfamily in Asgard archaea. We identified two distinct tubulin-like proteins with unique filament structures and membrane-targeting mechanisms, highlighting the diversity of Tubulin like proteins within the Asgard Archaea. This work provides valuable insight into the evolutionary journey of cytoskeletal proteins, hypothesized to play a crucial role in the formation of internal compartments and directional force-generating motors essential for eukaryotic cells. By exploring these ancient archaeal cytoskeleton components, we aim to deepen our understanding of how the eukaryotic cytoskeleton emerged and evolved.

Tuesday, Nov 12th 2024

16:00 Hrs (Tea / Coffee 15:45 Hrs)

Auditorium, TIFR-H