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

Seminar

Identifying a role of the E3 ligase SkpA in regulating developmental signaling and autophagy in *Drosophila*

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Cellular recycling pathways such as autophagy are crucial for maintaining cellular health, but also play diverse roles during animal development. Yet, the underlying regulatory mechanisms that coordinate autophagy induction and progression remain understudied. Using the *Drosophila* larval fat body as a model system, we identify that the SCF E3 ubiquitin ligase subunit SkpA regulates developmental autophagy. We show that SkpA regulates insulin/PI3K signalling and phosphoinositide homeostasis and is required for timely autophagosome induction and lysosome maturation. At the organismal level, SkpA activity in the fat body regulates fat body remodelling and developmental timing. Together, our findings identify SCF complex as a regulator of PI3K signalling and endolysosomal function affecting both autophagy induction and progression during *Drosophila* development.

Friday, Jun 12th 2026

10:00 Hrs (Tea / Coffee 9:45 Hrs)

Auditorium, TIFRH