

Students' Annual Seminar

Stress-Induced Mitochondrial Biogenesis in *Drosophila* requires dMyc

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Mitochondrial biogenesis is dynamically regulated in cells to adapt to various physiological, developmental, and metabolic requirements. To identify novel regulators of mitochondrial biogenesis, we performed a forward genetic screen in *Drosophila* and isolated mutations in 15 nuclear-encoded mitochondrial genes causing increased mitochondrial abundance. Using a subset of these mutants, we show that the increased mitochondrial content is due to the activation of mitochondrial biogenesis. We term this Stress-Induced Mitochondrial Biogenesis (SIMB).

Further, we show that Stress-Induced Mitochondrial Biogenesis is independent of PGC1a, a well-known master regulator of mitochondrial biogenesis. Instead, we found that Stress-Induced Mitochondrial Biogenesis requires a transcription factor dMyc. In the talk, I will discuss how mitochondrial stress signalling may activate dMyc leading to Stress-Induced Mitochondrial Biogenesis and its biological significance.

Friday, Apr 21st 2023

2:00 PM

Seminar Hall, TIFR-H