UNIVERSITÀ DI TRENTO
Dipartimento di Biologia Cellulare, Computazionale e Integrata - CIBIO

30 SEPTEMBER

12.30 P.M.
ROOM A208 - POVO 1

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POSTDOCTORAL RESEARCH – RIBEIRAO PRETO
SCHOOL OF MEDICINE (FMRP)

EXTERNAL SEMINAR

XENOTOPIC EXPRESSION OF THE ALTERNATIVE OXIDASE SHAPES MITOCHONDRIAL PHYSIOLOGY AND LARVAL GROWTH IN DROSOPHILA MELANOGASTER.

The alternative oxidase (AOX) is a mitochondrial enzyme present in many organisms but absent in vertebrates and most insects. In animal models, AOX has shown therapeutic potential in mitigating mitochondrial dysfunction. However, because it does not pump protons, AOX can partially uncouple mitochondria, potentially generating excess heat and disrupting normal metabolism. We demonstrate that AOX from the tunicate Ciona intestinalis accelerates the development of Drosophila melanogaster, leading to increased larval biomass (primarily through fat accumulation), enhanced mobility, and elevated food intake, without inducing additional heat production.
AOX promotes larval growth by reinforcing the proliferative metabolic program through a reconfiguration of the ETS.