

India's first Single Cell Omics Translational Research Lab opens in IIT-M

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Indian Institute of Technology Madras (IIT-M) is partnering with Indian Railways Finance Corporation (IRFC), a Navratna Public Sector Enterprise, to establish the Nation's first 'Single Cell Omics Translational (SCOT) Research Laboratory'.

This Research Laboratory, inaugurated on the campus, marks a pioneering step toward advancing India's precision healthcare ecosystem. This initiative aims to bridge engineering and medicine for public health advancement.

Equipped with state-of-the-art instrumentation, the SCOT Lab will facilitate early diagnosis, disease prognosis, biomarker discovery and drug screening across a spectrum of diseases — including cancer, cardiovascular, infectious, inflammatory, metabolic, and other non-communicable diseases.

IRFC is providing a CSR grant of Rs 10.83 crore to establish this lab, which will be located in the Department of Medical Sciences and Technology (DMST) at IIT Madras. The facility is designed to accelerate research in single-cell biology, drug discovery, biomarker identification, and translational healthcare innovation.

The SCOT Lab will enable researchers to identify novel biomarkers for early disease detection and treatment response and develop personalized therapeutic strategies through single-cell profiling for various diseases. Further, this lab will also aim to advance early detection and drug/vaccine discovery platforms and strengthen India's precision medicine ecosystem by integrating molecular data with clinical insights.