Arctis Cryo-Plasma-FIB
Automation, throughput and connectivity for the cryo-electron tomography workflow
Take the next step

The Thermo Scientific™ Arctis™ Cryo-Plasma-FIB automates high-throughput TEM lamellae production and features Autoloader connectivity for the cryo-electron tomography workflow.

Scanning electron microscope optimized for high resolution and beam stability. Enables sample navigation, targeting of the region of interest, and precise end-pointing for cryo-lamella preparation.

Plasma focused ion beam provides multiple ion species (xenon, oxygen, argon) for high-quality lamella preparation without gallium implantation. Obtain outstanding performance for large volume material removal and precision milling.

System enclosure, designed with biosafety in mind, protects the microscope assembly from the laboratory environment and is equipped with an integrated service hoist.

Thermo Scientific iFLM Correlative System Fluorescence microscope for targeting lamellae sites without moving the stage. Enables imaging at the electron/ion beam coincidence point.

Robotic sample handling for up to 12 grids and direct connectivity to cryo-TEMs with Autoloader. Precise and stable sample manipulation with CompuStage. TomoGrids for optimal alignment of cryo-lamellae to the tomographic tilt axis.
Correlation to light microscopy

“On-board” integrated fluorescence light microscope (iFLM) allows the same area to be observed with light, ion, or electron beams. Fluorescence imaging for targeting, intermediate verification, and final target confirmation can easily be done before, in-between, and after ion milling without moving the stage.
“One of the things that I find exciting about Arctis [Cryo-PFIB] is the degree to which it is an automated workflow. And so, this ability to have it running essentially unsupervised and produce high quality, large numbers of lamella is transformational.”

–Jim Naismith
Director of The Rosalind Franklin Institute
Connected cryo-electron tomography workflow

Specially designed TomoGrids always ensure correct lamella alignment to the tomographic tilt axis, from initial milling through high-resolution TEM imaging. The direct connection to any Autoloader-equipped cryo-TEM (e.g., Thermo Scientific Krios™ or Glacios™ Cryo-TEMs) eliminates manual grid handling and transfer steps between FIB-SEM and TEM.
High-quality lamellae with consistent thickness

Reliable control of thickness significantly increases throughput, saves time, and gives you confidence in the quality of your final lamellae. An ultra-clean working environment is ensured for multiple days through the proven combination of a compact sample chamber and a dedicated cryo-box for shielding against water condensation.