Research & Services | The Confocal and Electron Microscopy Units (Yissum)

code: 34-2007-1749

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Categories	Electron microscopy, confocal laser scanning microscopy

Function

- Electron microscope (EM) Unit facilitates biological research projects ranging from the cellular to the macromolecular complex level
- The Confocal Laser Scanning Microscope (CLSM) Unit provides qualitative and quantitative visualization of sub-cellular proteins and organelles which interact with specific antibodies conjugated by fluorescence

Research provided

- The EM Unit serves researchers representing all branches of life sciences and allied fields by
- Providing advanced techniques of high resolution immunogold localization of intrinsic and chimeric proteins as well as nanotechnology and chemistry research
- Training students and technicians in sample preparation and use of the equipment
- The CLSM Unit provides services to related research such as FRAP experiments, live cell imaging, uncaging experiments, and XYZT acquisition with multiple fluorescence channels and over multiple fields (multipoint)

Advantages

- The EM and CLSM Units are staffed by highly knowledgeable, experienced researchers utilizing state-of-the-art equipment and technologies

Client record

- The EM Unit currently serves research groups in the Institute of Life Sciences, Chemistry, Physical Chemistry, the Faculty of Medicine in Ein Kerem, and Hadassah Medical Centre, as well as commercial customers
- The CLSM Unit serves 40 research groups in the Life Sciences Institute and the Faculty of Medicine and commercial biotech customers

Available equipment

Electron Microscopy:

- Transmission Electron Microscopes:
- Tecnai 12 (Phillips. FEI) TEM equipped with MegaView II CCD camera and AnalySIS® version 3.0 software
- Jeol JEM-100cx (Jeol-LTD.Tokyo Japan).

LKB III Ultramicrotomes:

- Ultracut S-Reichert and Cryo Ultramicrotome
- Cryo plunging
- CPD-Critical point drying for prepations of SEM samples
- Spatter coater
- Edwards 306 coater unit (carbon & shadowing)
- Glow discharge unit

Confocal:

- The FV-1000 confocal working station is equipped with 4 lasers, 4 confocal detection channels, one transmitted light detector and an on-scope incubator (life imaging services) which controls temperature, CO_2 concentration, and humidity
- BioRad MRC-1024 Confocal Microscope with an Argon Ion Laser (457, 488 and 514 nm wave lengths) and a 594 nm laser line. It has 3 detectors (PMT) which can be fluorescence detectors or 2 fluorescence detectors and a transmitted light detector

Staff

- Prof. Joseph Orly, PhD, Academic Director
- Avi Willenz, EM Unit Head
- Naomi Feinstein, MSc
- Naomi Book-Melamed, PhD, CLSM specialist

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