Fred Hutch
Cancer Center

Cellular Imaging

Research Administration
Seattle, WA • 501(c)(3) Nonprofit

Fred Hutch's Shared Resources are catalysts for lifesaving discoveries. This uniquely centralized program of 15 specialized core facilities and scientific services drives advances by integrating dedicated experts and cutting-edge technologies across the entire research pipeline, from basic science to clinical trial.

LEARN MORE

Cellular Imaging Core
206.667.4205
imaging@fredhutch.org

Miltenyi Ultramicroscope II

Light sheet microscope

Excitation sources

- NKT white light laser (470, 500, 550, 560, 595, 645 and 740 nm)

Emission filters

- 525/50 (Alexa Fluor 488, eGFP)
- 540/30 (eYFP)
- 585/40 (Alexa Fluor 555, tdTomato)
- 620/60 (Alexa Fluor 568, mCherry)
- 650/50 (Alexa Fluor 594)
- 680/30 (Alexa Fluor 647)
- 811/80 (Alexa Fluor 750)

Objectives

- MI PLAN 1.1x/0.1 (16mm WD), on infinity body with 1x/2x mag changer
- PLAPO 2x/0.5 (5.6mm WD), on zoom body with 0.63x-6.3x range

Camera

- Andor Neo 5.5 sCMOS

Capabilities

- 3D optically sectioned imaging of large, cleared samples
- High speed imaging of large samples (13x16x10 mm X,Y,Z) at low to medium resolution
- Tiled imaging for acquisition of large regions at higher resolutions

Recommended uses

- Organs
- Tissue sections
- Transparent or cleared organisms

General information

The light sheet microscope illuminates a sample with an adjustable plane of laser light, detecting fluorescence perpendicular to the illumination path. The Miltenyi Ultramicroscope illuminates bidirectionally with three focused light sheets, reducing shadowing artifacts. Selective excitation of the focal plane reduces bleaching and phototoxicity significantly. This microscope is optimized for the imaging of large cleared samples, but it also can be used for in vivo imaging at room temperature.