

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.

Andor Dragonfly 200 High Speed Confocal Spinning disk confocal microscope

Excitation sources

- Lasers: 405 nm, 488 nm, 561 nm, 637 nm
- White light LED

Objectives

- 5x/0.15 (air)
- 10x/0.45 (air)
- 20x/0.75 (air)
- 40x/1.1 (water)
- 63x/1.4 (oil)
- 100x/1.4 (oil)

Cameras

- Andor Zyla 4.2 Plus sCMOS
- Andor iXon 888 EMCCD

Capabilities

- DIC, polarization, brightfield, and luciferase imaging
- Widefield and confocal 4-color fluorescence imaging
- Dual channel simultaneous imaging, LP565 or SP565
- Fast frame rate, up to 400 frames per second
- Z-stack, multi-point, and tile stitching acquisition
- Ablation or wounding using Andor MicroPoint, 435 nm laser
- Fluorescence photoswitching using Andor Mosaic, 405 nm laser

Recommended uses

- Live cell imaging
- Fast volume imaging
- 2-color simultaneous imaging
- Colocalization studies
- FRAP, photoconversion, and optogenetics assays
- Ablation and wounding assays
- Imaging adherent cells, *C. elegans*, zebrafish, spheroids, and organoids

General information

The Dragonfly confocal microscope removes out-of-focus light using a pinhole in the optical path. The microscope is equipped with either of two spinning disks to enable optimal high-contrast imaging of thick specimens. The Dragonfly uses sensitive cameras to detect fluorescence signals which allow rapid acquisition of samples that are tens to hundreds of microns thick. The ASI piezo stage facilitates precision x, y, z movements and can be used in standard mode to acquire steps with 50 ms exposure and down to 2.5 ms exposure in high-performance mode. The Leica microscope stand includes Adaptive Focus Control, which keeps the specimen in focus over hours long time courses.

LEARN MORE

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Filter	Laser (nm)	Band Pass Filter	Detection Range
DAPI	405	445/46	422-468 nm
GFP	488	521/38	502-540 nm
RFP	561	594/43	572-616 nm
Cy5	637	698/77	659-737 nm