

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.

Nikon Live

Transmitted light, phase contrast and widefield fluorescence microscope system

Excitation sources

- Sutter Lambda xenon-arc lamp

Camera

- Photometrics CoolSNAP HQ2

Capabilities

- Transmitted light
- Phase contrast
- DIC
- Multi-channel fluorescence (nine filter sets)
- Z-stack acquisition
- Multi-point acquisition
- Large area acquisition (with automated stitching)
- Live cell imaging
- Temperature and CO₂ control
- Autofocus
- Photobleaching (FRAP) and photoactivation
- Cell ablation
- Accepts slides, dishes, plates and other specimen holders

Recommended uses

- Fluorescence
- Phase contrast
- DIC
- Time lapse
- Live cell imaging

LEARN MORE

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General information

The Nikon Live is an inverted microscope suited for widefield fluorescence imaging as well as transmitted light imaging in differential interference contrast, or DIC, and phase contrast modes. The microscope is primarily used for time-lapse imaging of living samples. Excitation and emission filters are available for a wide variety of fluorescent dyes and proteins, from UV dyes such as DAPI to far red dyes such as Cy5. Transmitted light imaging is also possible, including phase contrast and DIC. Images are captured on a high-resolution Photometrics Coolsnap HQ2 scientific CCD camera. The system is automated, allowing the imaging of multiple locations over time, and it includes a fast focus tracking mechanism (Nikon's Perfect Focus system) to keep samples within the focal plane during extended imaging sessions. This versatile system can image a variety of samples, including plates, and can be used for time-lapse microscopy.

The instrument's high-power metal halide lamp has filter sets for DAPI, CFP, GFP, FITC, YFP, Rhodamine, RFP, Texas Red, mCherry, Cy5 and similar dyes, and it offers DIC and phase optics.

FILTER	EXCITATION	EMISSION
DAPI	360/40	460/25
FITC	480/30	535/40
TRITC		620/60
Cy5	640 peak	
CFP	440 peak	485/50
YFP	514 peak	535/30
RFP	585 peak	630/30