

Nikon Automated Widefield Microscope

Fully automated Nikon Ti-E inverted microscope base for widefield microscopy in brightfield or fluorescence mode. The microscope is operated via Nikon NIS-Elements software (v.4.60).

For data processing and analysis, newer software versions (v5.21 and v5.30) are available on the HCI 1470 workstation which can be booked separately on the calendar. Includes new software modules such as denoise.ai, clarify.ai, HCA / JOBS, etc.

Suggested Applications:

- Multichannel fluorescence and transmitted fixed slide imaging
- Tiling mosaics of fixed or live samples
- Timelapse of dishes or glass bottom well plates

Main features of System:

- Motorized Prior II XY stage with a variety of stage inserts available (slides, dishes, multiwall plates, chamber slides, etc..)
- Nikon NIS-Elements multi-platform acquisition software capable of Tiling, timelapse, scripting, analysis and advanced image processing.
- Fluorescence:
 - Monochrome high sensitivity Andor Zyla sCMOS camera (Neo 4.2)
 - Sola "white light" LED lightsource (model SE II 365) that covers excitation range from 360 - 650nm.
 - Filter cubes for DAPI, FITC, mCherry, Cy5 installed. Extra filters upon request.
- Brightfield
 - Transmitted light LED and optics for BF, DIC, Phase contrast, POL imaging.
 - Monochrome or RGB camera for histopathology scans (Nikon DS-Ri2).
- Six different microscope objectives for low and high resolution studies. Further options upon request.
- Perfect Focus System (PFS) provides focal depth consistency across varying sample regions of interest. Manual focus surfaces can be created for non-flat tissues.
- Live cell imaging with OKOLAB stage top incubator: temperature, CO₂, and humidity control.

Objectives:

Objective	Magnification	Immersion	Numerical Aperture	Correction Ring	Coverglass (mm)	Working Distance (mm)
Plan Apo Lambda	4	Air	0.2			20
Plan Apo Lambda	10	Air	0.45		0.17	4

Plan Apo Lambda	20	Air	0.75		0.17	1
S PLAN Fluor ADM ELWD	20	Air	0.45	Corr	0-2.0	8.2-6.9
Plan Apo Lambda	60	Oil	1.4		0.17	0.13
Plan Apo Lambda	100	Oil	1.45		0.17	0.13

Filters:

Filter No	Filter cube name / Fluorochrome	Excitation (nm)	Beamsplitter (nm)	Emission (nm)
1	Empty / Brightfield			
2	DAPI	361-389	415	435-485
3	FITC	465-495	505	515-555
4	F-06 / mCherry	540-580	600	605-665
5	Cy5	595-645	655	665-715
6	DIC			