

Confocal Spinning disk - Nikon Ti - Roper iLas FRAP system

Room: E1036 CBI

Inverted confocal spinning-disk microscope dedicated to live cell imaging and applications that require high speed multidimensional imaging. FRAP option.

Excitation Lasers

405 nm – 491 nm – 561 nm – 635* nm

* The 635 nm laser is not functional for FRAP experiments

Microscope

Inverted Nikon Eclipse Ti equipped with the PFS (perfect focus system)

Stages

X-Y motorized stage for multiposition recordings

Motorized Z control of the objective for Z stack acquisition

Confocal Unit:

Yokogawa CSU-X1 Confocal Scanner

Variable Scanner Motor Rotation Speed: 1500 to 10000 rpm

Pinhole size: 50µm

Camera:

Photometrics Evolve 512 back-illuminated EMCCD

512 x 512 pixels

Pixel size : 16 µm

-85 °C air cooled

Objectives

Default objectives	Magnification	Numerical aperture	Working distance	Immersion	Specificity
S FLUOR	10x	0.5	1.2 mm	DRY	
PLAN APO VC	60x	1.4	0.13 mm	oil	
APO TIRF	100x	1.49	0.12 mm	oil	Corr coverglass thickness

Detection

5 emission settings are accessible

Filter name	Wavelength range, nm
527/645	dual band 506 – 548 and 620.5 – 669.5
529/39	509.5 – 548.5
605/64	573 - 637
725/150	650 - 800
QUAD	4-band filter suited to the 4 laser excitation

Filter cubes for epifluorescence observation / widefield experiments

DAPI – GFP - mCherry

Cubes on demand: 355 – CFP - YFP

Software:

Metamorph 7.0 for spinning disk control (iLas option for FRAP)
NIS-Element Imaging software for widefield/TIRF experiment

Temperature\CO₂:

A Tokai Hit Stage Top Incubator allows temperature, humidity and CO₂ control.

If you need to use the temperature control, 3 hours are needed to stabilize the temperature