

Confocal SP8MP

Room : E1003 CBI

Upright confocal microscope (Leica) dedicated to the conventional confocal and multiphoton imaging of fixed and living samples, photoablation, SHG (on demand). Equipped with a climatic chamber (temperature control (RT to 37°C) only) and motorized x-y-z stages.

Fixed stage available (on demand) for intravital experiment.

Excitation Lasers

Illumination	Wavelength range, nm	Application examples
Laser diode 405 nm	405	Confocal fluorescence imaging
Argon laser	458 476 488 496 514	Confocal fluorescence imaging
DPSS Laser 561 nm	561	Confocal fluorescence imaging
HeNe Laser 633 nm	633	Confocal fluorescence imaging
Femtosecond Ti:Saph pulsing laser (Coherent)	690-1080 nm	Multiphoton fluorescence imaging, Second harmonic generation (SHG)

Microscope

Inverted Leica DMI6000B microscope

Stages

X-Y-Z motorized stage for multiposition recordings

Fixed stage available (on demand) for intravital experiment.

Confocal Unit:

Standard scanner with variable speed from 10 to 1800 Hz

Resonant scanner option 12kHz

Objectives

Default objectives	Magnification	NA	Working distance	Immersion	coverglass	CORR
HCPL APLO CS2	63	0.6-1.4	0.1	OIL	0.17	corr
HCX IRAPO L	25	0.95	2.5	water	-	-

Other objectives*	Magnification	NA	Working distance	Immersion	coverglass	CORR
HC PL APO CS	10	0.4	0.36	IMM	-	-

* the 10X objective can be installed instead of the 63X according to the user's needs

Detection

Detection	Wavelength range, nm	Application examples
2 Internal (descanned) PMTs	350 to 800 nm, adjustable spectral range	Confocal fluorescence imaging, Confocal reflectance imaging...
2 Internal (descanned) HyDs*	350 to 800 nm, adjustable spectral range	High sensitivity imaging of weak signals, Photon counting

		mode*
2 Non-descanned trans PMTs	Default filter cubes: FITC/TRITC BP525/50-BS560-BP585/40	Multiphoton fluorescence imaging
	On demand: 470/22	Second harmonic generation (SHG)
2 Non-descanned HyD*	Default filter cubes: FITC/TXR BP525/50-BS560-BP617/73	Multiphoton fluorescence imaging with high sensitivity, Photon counting mode*
1 PMT trans	Laser wavelength	Transmission imaging

* please to check out the HyD operating instructions

Filter cubes for epifluorescence observation

Cube name	Excitation filter - Dichroic - Emission filter		
A4	BP 360/40	400	BP 470/40
I3	BP 450 – 490	510	LP515
L5	BP 480/40	505	BP 527/30

(note Elvire: on pourrait éventuellement créer un lien actif vers les courbes en transmission des filtres....)

Software:

Leica LAS X software

- Acquisition modes: time lapse (xyt), z stack (xyz), spectral acquisitions (xyλ), Multiposition (Mark&Find), Overview Image (Tile Scan), Sequential acquisition
- Best Focus, FRAP and FRET modalities
- Processing tools for stitching, deconvolution, 3D visualization...

Temperature:

Environmental chamber for temperature control (Cube box system). No CO₂