

Light Sheet SP8DLS

Room : E1041 CBI

Inverted SP8 confocal microscope (Leica) with the Digital Light Sheet (DLS) module dedicated to high speed imaging of living samples. Equipped with motorized x-y-z stages.

Excitation Lasers

Illumination	Wavelength range, nm	Application examples
Laser diode 405 nm	405	Confocal and light sheet imaging
Solid state laser 488 nm	488	Confocal and light sheet imaging
Solid state laser 552 nm	552	Confocal and light sheet imaging
Solid state laser 638 nm	638	Confocal and light sheet imaging

Microscope

Inverted Leica DMI6000 microscope with the light sheet module (detection arm with specific detection objective, TwinFlect mirror device and camera)

Objectives

Default objectives	Magnification	NA	Working distance	Immersion	coverglass
HCX PL APO CS	10	0.4	2.2	DRY	0.17
HC PL APO CS2	20	0.75	0.62	DRY	0.17
HC PL FLUOTAR*	2.5	0.07		DRY	0.17
HCX PL FLUOTAR*	5	0.15		DRY	0.17

*specific objective for light sheet acquisition

Detection objectives

Objectives	Magnification	NA	Working distance	Immersion	coverglass
HC APO L	10	0.3	3.6	Water	-
HC FLUOTAR L	25	0.95	2.5	Water	-

TwinFlect Mirror Device for light sheet detection objective

TwinFlect 5 mm - Specimen size: max. 2.0 mm (short axis)

TwinFlect 2.5 mm - Specimen size: max. 1.0 mm (short axis)

Camera

CMOS Hamamatsu Orca Flash 4.0 V2

2048 x 2048 pixels – pixel size 6.5µm

Possible Binning 2x2 or 4x4

Confocal Detection

Detection	Wavelength range, nm	Application examples
2 Internal (descanned) PMTs	350 to 800 nm, adjustable spectral range	Confocal fluorescence imaging, Confocal reflectance imaging...
1 PMT trans	Laser wavelength	Transmission imaging

Filter cubes for epifluorescence observation

Cube name	Excitation filter	Dichroic	Emission filter
A	BP 340-380	400	LP425
N2.1	BP 515-560	580	LP590
I3	BP 450-490	510	LP 515

Stages

X-Y motorized stage for multiposition recordings

Z Piezo stage for fast z stack

Software:

Leica LAS-X software

- lightSheet mode – dual side illumination control - online or offline fusion
- 3D Visualization module
- Standard confocal Acquisition modes: time lapse (xyt), z stack (xyz), spectral acquisitions (xy λ ; xy Λ), Multiposition (Mark&Find), Overview Image (Tile Scan), Sequential acquisition

Temperature and CO₂:

No