

Olympus FVMPE-RS Multiphoton Laser Scanning Microscope

The FVMPE-RS multiphoton microscope employs advanced technology and optical design to enhance sensitivity and resolution during deep imaging of biological specimens.

- The FVMPE-RS imaging platform supports a dual wavelength infrared pulsed laser or two independent tunable infrared lasers for multichannel, multiphoton excitation imaging. DLARIC has two laser sources that provide excitation wavelengths in the range of 690 nm to 1300 nm.
- broad 400 nm to 1600 nm spectral transmission window efficiently delivers near-infrared excitation without compromising short wavelength detection
- Large-area detection path collects more emission signal, especially large-angle scattered photons
- TruResolution objectives offer automated spherical aberration compensation to increase brightness and resolution, revealing fine details at every plane within a deep image stack.
- Non-descanned Light Fluorescence detectors (GaAsP / PMTs):
 - 4 channel reflected &
 - 1 transmitted

High-Speed resonant (438 fps maximum imaging speed)

scanner is available for you to capture rapid, dynamic phenomena, such cell transport during blood flow and calcium signaling events in neurons and other cells.

Galvanometer scanning: Deep tissue penetration with high resolution structural imaging of fixed samples and live animals.



The dedicated high NA condenser detects transmitted fluorescence as well as transmitted second harmonic generation (SHG) signals

Dichroic mirrors and fluorescent filter cubes available at DLARIC are listed in the following tables.

Table 1. Available SDM at DLARIC

SDM Available	
FV30-SDM570	>570 nm to RNDD1/2 and <570 nm to RNDD3/4
FV30-SDM-M	Mirror all emission to RNDD3/4 (100% reflective mirror cubes)
Empty	All emission to RNDD1/2

Table 2. Available Fluorescent cubes at DLARIC

Filter cube	Colors	Emission filter 1	DM	Emission filter 2
FV30-FVG	Violet & Green	BA410-460	DM485	BA495-540
FV30-FGR	Green & Red	BA495-540	DM570	BA575-645
FV30-FRCY5	Red & far red	BA575-645	DM650	BA660-750
FV30-F475R	475 nm & Red	SHG465-485	DM570	BA600-670

TruResolution 25x water immersion objective is available for use. The objective has capacity of a motorized correction collar (∞ / 0–0.23 (correction collar); OFN18 (optical field size) is 18 mm; Plan-corrected (flat-field)

The FVMPE-RS Multiphoton Laser Scanning Microscope imaging at DLARIC is assisted use service. All microscope users are required to take laser safety training with ESSR.