

Olympus FV3000 Confocal Microscope

The Olympus FV3000 is an inverted IX83 laser scanning confocal microscope system equipped for specimens stained or labelled with up to 4 fluorophores of differing excitation wavelengths.

It has all diode lasers and LED illumination. It has high sensitivity GaAsP Photomultiplier Tubes for high S/N ratio images under very low excitation light. The system also has live spectral unmixing with TruSpectral detection. The system supports macro to micro imaging from 1.25X up to 100X, and users can employ image stitching to generate overview images. Being fitted with a resonant scanner which is ideal for high-speed imaging capturing at 30 frames per second, which also greatly reduces photobleaching and phototoxicity for live cell imaging. Accurate time-lapse imaging is ensured with Z-Drift Compensator keeping samples focus during an experiment despite changes in temperature or addition of reagents.

Features:

| | |
|-----------------|--|
| Incubation | Live cell imaging chamber with CO ₂ , humidity and temperature control |
| Imaging Modes | Confocal (Galvanometer/ Resonant) and DIC illumination |
| Stage | Motorized XY stage |
| Scan Resolution | 64 x 64 – 4096 x 4096 pixels |
| Detector | -Four simultaneous channels with highly sensitive 2 GaAsP PMT and 2 multi-alkali PMT -One TLD Bright field Detector |
| Speed | Galvanometer: 512 x 512 with 1.1 s- 264 s (pixel dwell 2 μs- 1000 μs) Resonant: 512 x 512 30fps |

Objective lenses:

| Magnification | Immersion | Type | Numerical Aperture | Working Distance (mm) |
|---------------|-----------|---------|--------------------|-----------------------|
| 1.25X | Air | PLAPON | 0.04 | 5.00 |
| 10X | Air | UPLXAPO | 0.40 | 3.10 |
| 20X | Air | UPLXAPO | 0.80 | 0.60 |
| 40X | Air | UPLXAPO | 0.95 | 0.18 |
| 60X | Oil | UPLXAPO | 1.42 | 0.15 |
| 100X | Oil | UPLXAPO | 1.45 | 0.13 |

Laser module:

| Description | Excitation (nm) | Laser | Power (mW) |
|-------------|-----------------|-------------------|------------|
| DAPI | 405 | Solid state diode | 50 |
| FITC | 488 | Solid state diode | 20 |
| TRIC | 561 | Solid state diode | 20 |
| Cy5 | 640 | Solid state diode | 40 |

Software:

FV31-ASW