Spotlight on the cell – to study dynamic processes in living cells, Olympus Life Science System Solutions provide you with fast and highly sensitive imaging techniques. Precise and efficient device control allows you to obtain high-quality live cell data with minimized photodamage and optimized cell viability.

**IXplore Live – Fast Live Cell Imaging**

**Live Cell Imaging** – Achieve high speed with the highest precision

**Autofocus** – Automatically maintain focus position throughout a long-term time lapse

**Modular Incubation System** – Maintain cell viability and physiological conditions

**Dedicated Optics** – Catch more fluorescence signal at a better axial resolution using silicone immersion oil

**IXplore SpinSR – Live Cell Confocal Imaging**

**Super Resolution** – See more details with resolution down to 120 nm using living samples

**Live cell Imaging** – take advantage of less phototoxicity and bleaching for prolonged cell viability in confocal time-lapse imaging

**Multi-modal Imaging** – easy switching between widefield, confocal and super resolution mode

**Dedicated optics** – Accurate 3D reconstruction with Olympus silicone immersion optics
**FLUOVIEW FV3000**

**Live Cell Imaging** – Achieve high-quality live cell data and optimum cell viability with high-speed scanning and sensitive detection

**Spectral Freedom** – Flexible spectral bandwidth for optimized emission collection in multicolor stainings

**Enhanced Resolution** – Get more details at resolutions down to 120 nm

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**Confocal Imaging**

- Nucleolus
- Nucleus

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**TIRF Imaging**

- Nuclear pore complex
- Nuclear envelope
- Plasma membrane
- Smooth endoplasmic reticulum
- Rough endoplasmic reticulum
- Ribosomes

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**Cell Manipulation**

**FLUOVIEW FV3000**

**IXplore TIRF – Multicolor TIRF Imaging**

**Multicolor Imaging** – Document processes in your living cells at the same penetration depth using up to four laser-beam paths

**Dedicated Optics** – See more with numerical aperture 1.7 for detailed optical sectioning

**Real-Time Control** – Advanced, high-speed, real-time imaging ensures high accuracy in automated experiment setups

**Enhanced Resolution** – Adaptable for single molecule localization microscopy

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**FluidFM BOT**

**Nano-Injection** – Inject a material of your choice into the cytoplasm or nuclei in a non-destructive and measurable manner

**Nano-Extraction** – Perform gentle biopsies on selected cells

**Cell Isolation** – Easily isolate cells and move them to another well

**Nano-Printing** – Print spots, complex patterns and high-density arrays with sub-micron precision
Live Cell Imaging – Staying Alive
Studying dynamic processes in living cells poses two main challenges to a microscope system: collecting live cell data with sufficient signal-to-noise ratio while at the same time keeping cells alive and healthy. Therefore, reliable control and maintenance of temperature, pH and humidity is vital for successful live cell studies. IXplore Live combines this with microsecond accuracy in device control. Such a seamlessly integrated system solution enables high-speed imaging with the lowest phototoxicity. Based on confocal spinning disk technology, IXplore SpinSR provides fast 3D super resolution imaging without the need for dedicated labeling procedures. Stage and focus stability guarantee high-precision, multipoint time-lapse images that are perfectly aligned and in focus. Matching the refractive index of living tissue, silicone immersion optics are the perfect amendment for a live cell imaging system, enabling you to catch more signal and image the real shape of live cells over time.

- FLUOVIEW FV3000
- IXplore TIRF
- IXplore Live
- IXplore SpinSR

Cell Manipulation - Single Cell Experiments Reinvented
The FluidFM BOT uses the hollow FluidFM probes to perform nano-injection, nano-extraction, cell isolation and nano-printing. Through the microfluidic channel inside FluidFM probes, a vast variety of materials – from small molecules to proteins, CRISPR Cas complexes, RNAs, plasmids and PLL – can be injected into, extracted from single cells or printed on substrates. Manipulation of various cell types such as HeLa, HEK, CHO, C2C12, neurons and human iPS cells is currently being undertaken.

- FluidFM® BOT
- CYTOSURGE®

Cover image: Thy1 YFP-16 triangularis sterni, YFP pan Neuronal cytoplasmic labelling, bungaro-toxin Alexa 594, labels postsynapse, Sample Provided by Monika Brill and Thomas Misgeld, Institute of Neuronal Cellbiology, Technical University Munich