



Spectral Resolution Add-on Device for Two Photon Microscope

OTT ID #1105/1242

APPLICATIONS

Imaging of Live Cell, 3D, Deep Tissue, and Long-Term without compromised tissue viability, Whole Organ or Slice Imaging

TARGET PROBLEMS

Typical two photon microscopes scramble dynamic spectral information in living cells and sample scanning limitations and spectral bleed severely limit the imaging capabilities in most microscopes.



KEY FEATURES

- **Single Scan Capture** – No need for multiple scans to resolve spectrum and no photobleaching.
- **Easy Installation (Add-on Device)**– Can be integrated into variety of microscopes with fluorescence and either brightfield or phase contrast.
- **High Resolution** – Delivers high spatial and spectral resolution in real-time.
- **Unsurpassed Detection Capability** – Provides spectral information up to 100x magnification.
- **Speed and Sensitivity** – Has the sensitivity and speed of competing systems; is similar to that of broadband microscopes.
- **Wide Wavelength Range** – Large numbers of fluorescent markers are easily resolvable spectrally.
- **Proven Technology** – Based on well-established quantitative FRET imaging.

TECHNOLOGY

The add-on device may be attached to the existing research microscope via a side port that incorporates a femtosecond laser (as shown in the picture). This state-of-the-art imaging tool uses a single scan multiphoton excitation (425 to 650 nm wavelength range) to deliver pixel level spectral resolution of complex, multi-color fluorescence samples. This technology can upgrade the imaging capability of a variety of microscopes, enabling it to achieve multi-photon microscope grade with 3D spatial resolution. This is the only scanning system that permits real-time quantitative analysis of a single molecule, molecular complexes, and their spatial distribution in living cells. This technology also allows fluorescence signals from co-localized molecules in a three-dimensional sample to be resolved spectrally by parallel detection of tens or hundreds of wavelengths using an EMCCD camera without the need of Confocal setup.

INTELLECTUAL PROPERTY [US7,973,927](#) | [US8,094,304](#) | [US9,103,721](#) | [US8,982,206](#) | [EP20120782796](#)
validated in BE, FR, DE, UK, and IE.

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