AFTER® *

Amplified Fluorescence (by) Transmitted Excitation (of) Radiation

Product overview

Fraen Corporation Srl develops integrated optical solutions for fluorescence microscopy consisting of a unique, proprietary illumination system with high power solid-state (LED) sources which replaces the mercury and xenon arc-lamps found in traditional epifluorescence microscopy.

This approach allows significant increase of performance and light source lifetime, reduction of initial costs and operating costs, reduction of maintenance and heat production.

The module is designed to attach to a standard bright field microscope and does not change the characteristics of the microscope in any way. The fluorescence light source is used in transmission mode and will not void any warranties. Bright field microscopy is not affected since the halogen white light function remains intact, which means that transmitted light observation is possible without major changes in the optical configuration.

AFTER® fluorescence LED module on a CX 31 Olympus microscope

Fraen AFTER® LED fluorescence is available as add-on kit for existing microscopes or as a complete ready-to-use instrument.
Available on microscopes from:

- Olympus
- Carl Zeiss
- Nikon
- Leica
- Motic

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* International Patent pending

Benefits

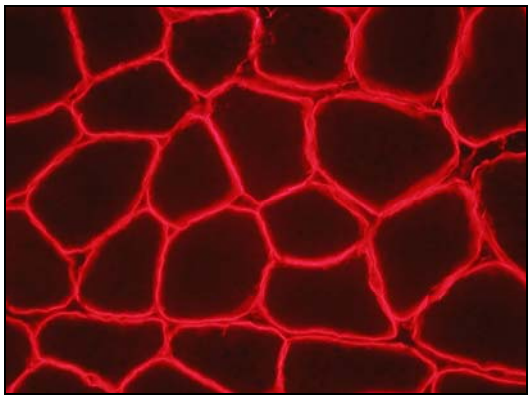
The products were developed to provide equivalent performance and capability delivered in standard fluorescence microscopy equipment, but with a series of enhancements designed to make the technology accessible to more users, easier to operate and maintain, and significantly smaller.

The LED modules are light sources emitting an extremely efficient spectrum only in the desired bandwidth, thus ensuring a very good signal-to-noise ratio.

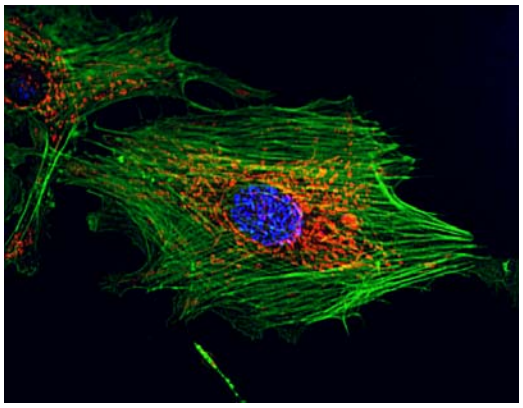
They are available from near UV across the visible light spectrum. Standard colors are: 630nm (red), 590 nm (yellow), 535nm (green), 480nm (blue), 450nm (deep blue), and 365nm (UV).

Key Product Benefits:

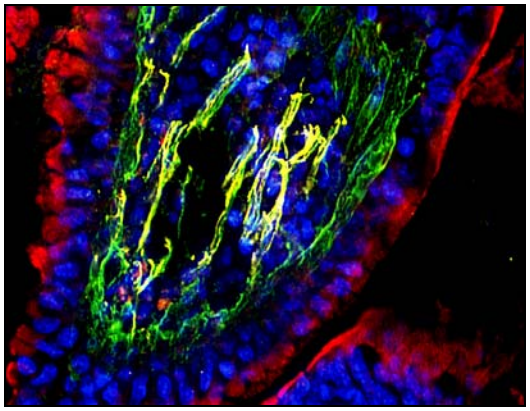
- One, two and three color excitation
- No alignment of light source
- Light source lifetime > 30.000 hrs
- Regulation of each single color channel via adjustable electronic driver (reduce photobleaching)
- Grab up to three colors in one time (no pixel shift)
- No warm-up time
- High S/N ratio
- Smaller instrument footprint
- Allows transmitted light observation
- Battery pack option for operation on field



Example of single color excitation: muscle, Alexa Fluor 594™



Example of three color excitation: BPAE cells, Dapi / Bodipy™ / Mito Tracker Red™



Example of four color excitation: gut, Dapi / Alexa Fluor 488™ / Cy3 / Alexa Fluor 647™

Systems specification

LED cassettes
Customer determines appropriate excitation cassette(s) according to fluorescent dyes.

Lifetime: > 30.000 hours
Power: tipically 3 W, depending on LED type
Excitation λ: see table

Driver unit
Different driver units available for single, dual or triple color control.

AC adaptor: 220/110VAC-7.5VDC,
Max. 15-18W
Features: self detection of LED power
Option: battery pack for use on field

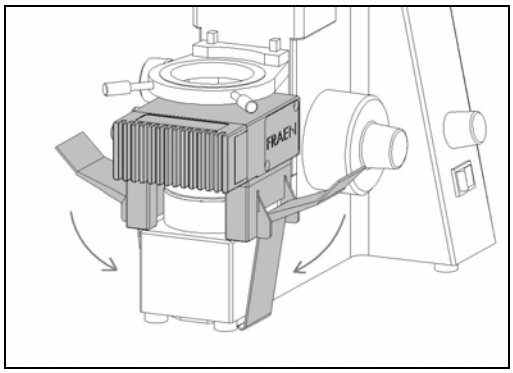
AFTER modules
Clamp-on adaptors for the following microscopes available:

- Olympus
- Carl Zeiss
- Nikon
- Leica
- Motic

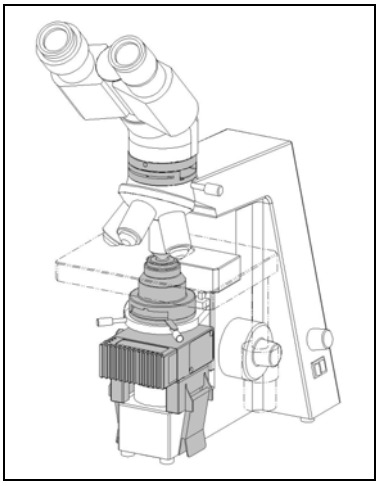
Additional optics
UV blocking filter: in filter carrier housing
Emission filters: in 3 to 6 positions sliding filter carrier
Mirror: enhanced Al + SiO_2 coating

FRAEN AFTER® cassettes	Excitation
UV	365 nm
ROYAL BLUE	450 nm
BLUE	480 nm
CYAN (on request)	505 nm
GREEN	535 nm
YELLOW	590 nm
RED	630 nm

AFTER® fluorescence LED cassettes with excitation wavelengths



Clamp-on adaptor on Axiostar Plus from Carl Zeiss



AFTER® fluorescence LED module on Axiostar Plus from Carl Zeiss