albafcs™

CONFOCAL
FLUORESCENCE
CORRELATION
SPECTROSCOPY

Alba FCS – Innovative Fluorescence Correlation Spectroscopy featuring:

- Photon Counting Histograms (PCHs)
- Fluorescence Polarization FCS
- Scanning FCS
- Particle Tracking

Ready-to-Use & User-Friendly Software

Alba FCS includes *Vista – FCS and Confocal Imaging Microscopy*, a comprehensive, user-friendly software package for acquiring FCS, FLIM, FRET, and RICS data.

Using two different analysis methods, Vista is capable of obtaining the following parameters:

Auto- and cross-correlation analysis:

- Diffusion coefficient
- Diffusion time
- Concentration
- Triplet state decay time constant
- Triplet function
- Flow rate
- Size of excitation volume
- Number of molecules

Photon-counting histogram (PCH):

- Number of molecules
- Molecular brightness

Fully Automated & Computer-Controlled

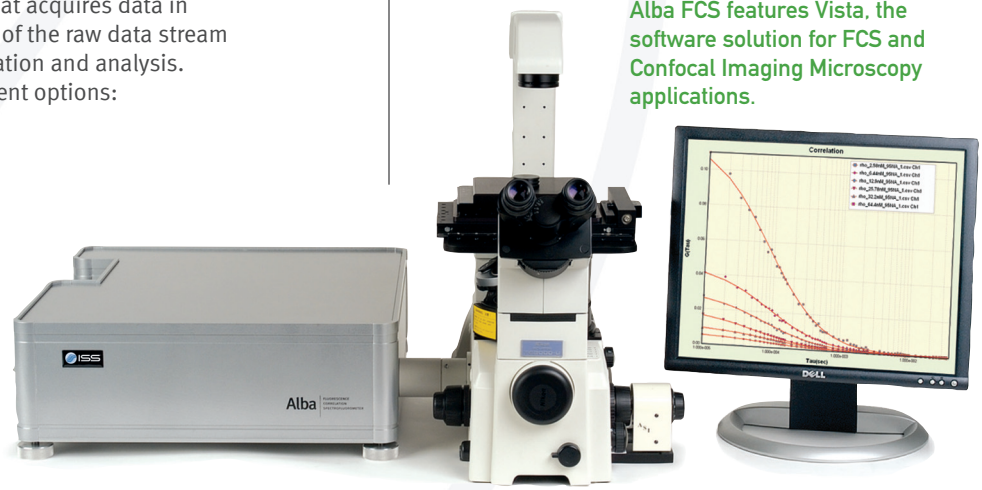
Alba FCS is a fully automated instrument that acquires data in either time or photon mode. Direct storage of the raw data stream allows for easier data processing, manipulation and analysis. Alba FCS provides the following measurement options:

- Auto- and cross-correlation FCS
- Polarization FCS
- Scanning FCS
- Particle tracking

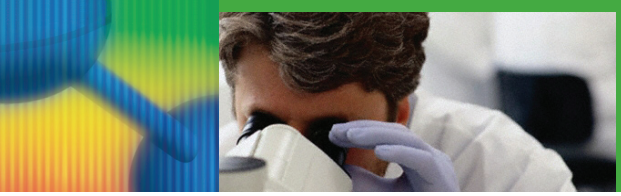
Key Features

- Dual-channel instrument
- Single- and multi-photon excitation
- Stores raw data stream and allows re-analysis of purged data sets
- Computer-controlled alignment of the confocal pinhole and optics
- Fully upgradable to Alba – Confocal Spectroscopy and Imaging Workstation
- Powered by Vista – FCS and Confocal Imaging Microscopy software

Alba FCS features Vista, the software solution for FCS and Confocal Imaging Microscopy applications.



ISS™
Innovations in Fluorescence



alba fcs Specifications

Software Specifications

Vista – FCS and Confocal Imaging Microscopy Software
Alba FCS features Vista, a comprehensive, user-friendly software package for the acquisition and analysis of FLIM, FRET, FCS and RICS data. Vista requires Windows® XP operating system.

Data Acquisition & Analysis

Data Acquisition Modes
Alba FCS acquires data in either time mode (photons are counted during fixed, user-defined time intervals), or photon mode (time delay between photons is used to build histograms).

Data Analysis
Vista utilizes the following statistical functions for data analysis:

- Auto-correlation function
- Cross-correlation function
- Photon Counting Histogram (PCH)

Single Set and Global Fitting Models
The following models are available for fitting the molecular dynamics parameters obtained via:

Auto- or cross-correlation function:

- 2D- or 3D-Gaussian PSF
- 3D-Gaussian-Lorentzian PSF
- One-photon excitation
- Two-photon excitation
- Presence of flow
- Input of user-defined equation

Photon Counting Histogram (PCH):

- 2D- or 3D uniform
- 2D- or 3D-Gaussian PSF
- 3D-Gaussian-Lorentzian PSF
- One-photon excitation
- Two-photon excitation

Data Display & Export

- 2D display with user-defined colors palette and threshold
- 2D display with zoom option
- 2D display with image histogram
- 2-channel image overaly option
- Point and line profile at cursor
- Synchronized user interaction with 2-channel image display
- Cursor identification of XY spectra coordinates
- Data generated in ASCII format
- Export to gif, tiff, jpeg, png, bitmap and metafile formats

Instrument Specifications

Light Sources:

- Up to four single photon lasers housed in a laser launcher with laser intensity, shutters and single-mode fiber optic output. Wavelengths: 405, 436, 473, 488, 532, 543, 594, 635 and 690 nm
- Multi-photon excitation with computer-controlled beam expander, laser intensity and shutters.

Microscope: Inverted Nikon Ti-U microscope with lens revolver for objectives, bottom and side ports and computer-controlled XY-stage. Instrument is compatible with Leica, Olympus and Zeiss inverted and upright microscopes.

Optics:
Objectives:

- Air objectives with 20X, 40X, 60X magnification and 1.5-8.1 mm working distances
- Water objectives with 60X magnification and 0.22 mm working distance
- Oil objectives with 60X magnification, 1.4 NA and 0.21 mm working distance

Dichroic Filters:

- For single-photon excitation: 1-, 2-, 3-band filters
- For multi-photon excitation

Polarizer:

- Cube beam splitter, wavelength range: 450-1100 nm; extinction ratio: 10,000:1 at +/- 3 degrees

Confocal Pinholes:

- Separate pinholes for each emission channel

Stage: Large distance movement (100x100x10 mm), stepper motor-controlled XYZ stage

Sample Holders: 8-, 96-, and 384-well plates, petri dishes and coverslips

Light Detectors: Avalanche photodiodes (APDs) standard, upgradable with photomultiplier tubes (PMTs)

Power Requirements: Universal power input of 110-240 V, 50/60 Hz, 400 VAC

Dimensions: 538 mm (L) x 563 mm (W) x 205 mm (H)

Weight: 27 Kg

Information & specifications are subject to change without notice.

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For more information and a complete list of accessories available for Alba FCS please visit www.iss.com.