

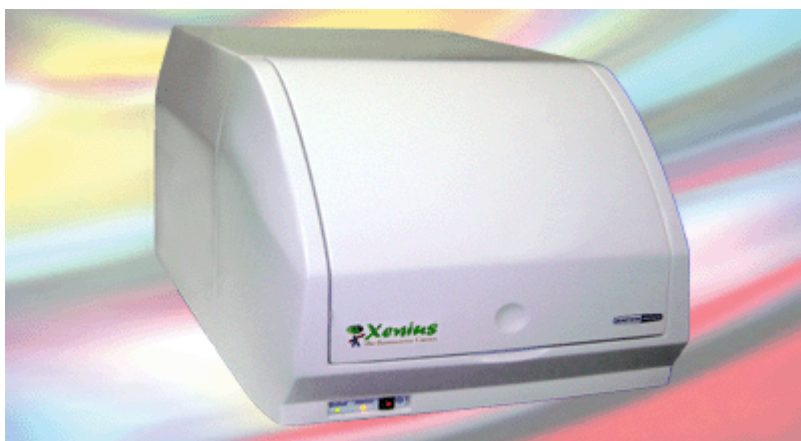


TECHNOLOGICAL LEADER IN SPECTROSCOPY SINCE 1952

... YOUR ANALYSIS DESERVE OUR PERFORMANCES

2-Monochromators multidetection reader for microplates SAFAS Xenius XML : an exceptional sensitivity, multivalence, and evolutivity

SAFAS Xenius XML is a multidetection microplate reader with very high sensitivity on all techniques, thanks to its 100% AIR technology (NO FIBER OPTICS!), superb optics and independent channels and detectors for each application. It is also able to receive optionally 10 stirred and temperature controlled cuvettes; evolutive, it can be fitted later with automatic polarizers for fluorescence anisotropy, fiber optics for external measurements, automatic injectors, absorbance (on cuvettes and microplates), etc...



SAFAS XENIUS XML : Exceptional performances and sensitivity on microplates

European manufacturer, SAFAS introduced in 1959 the world's first grating monochromator spectrofluorometer, and has always been a technological leader in spectroscopy : 62 years of breakthroughs, with commitment to performance, reliability and customer's satisfaction.

Today, these unique experience and know-how are gathered in an outstanding microplate reader, the impressive SAFAS Xenius. Its quality grating monochromators are guaranteed 100%AIR technology (no fiber optics), have ultra-low straylight, 0.2nm accuracy, 0.01nm repeatability and

autocalibration on built-in standard, which is unique on the market, enabling innovative analytical techniques, and providing outstanding sensitivity on cuvettes and microplates. Additional fiber optics enable in situ measurements. Why use old-fashioned filters at fixed wavelengths when you can get the highest sensitivity and reproducibility with quality monochromators, automatically at any wavelength, and without any additional filter to purchase ?

The exclusive SAFAS Double Optical Plane Technology eliminates or reduces interferences, exhausts sensitivity and even enables to measure absorbance and fluorescence with compartment opened, allowing easy micropipette injections during measurements at open sky, and providing full protection of the PM tube.

Many options are available

The Xenius is evolutive and can receive 1 to 15 auto-injectors with 0.1µl accuracy and 6-way automatic valves, enabling to inject in cuvettes as well as in microplates, in measurement position; priming and washing are fully automated.

The 10 aligned and stirred cuvettes are obviously read vertically, with 90° beam geometry. Holder is ultra-fast (5 seconds) and

stirring is software driven. Cuvettes are precious to finely tune the microplate parameters, and also for the most diluted samples. Micro-injection protocols are possible, as low as 0.1µl per injection during measurements in 250µl stirred samples.

Fluorescence excitation, emission, 3D and synchronous spectra are possible, with instrumental correction to draw absolute fluorescence spectra, and steps as small as 0.1nm. Bandwidths and continuously variable from 1 to 30nm by steps of 0.1nm, independently at excitation and emission, which enables fine tuning of experimental conditions. The continuously variable voltage of the high sensitivity PM tube enables to monitor the weakest signals as well as strong lights (like reflectance, absorbance, turbidity), enabling to achieve innovative measurements and corrections. An ingenious integrating sphere enables easy measurements of quantum yields on solids and powders with just one insertion of the sample and without needing any additional attenuator...

Fluorescence, Bioluminescence and Absorbance can now be measured on 1µl in cuvette, as well as on 96x1µl in microplates. These microplates are re-usable but plastic made, they can be replaced at low cost when necessary.

In Bioluminescence, the amazing dynamic linearity up to 100Mcps and dynamic range of 9 decades are coupled to the highest sensitivity and very low cross-talking, providing an amazing performance and flexibility. Bioluminescence spectra can be drawn up to 1000nm, and high sensitivity BRET measurements are available.

Temperature control is possible in cuvettes as well as in microplates, cooling as well as heating, with ingenious solutions to remove condensation. Thermostatisation is homogeneous and maintained even during measurements.

A patented technology enables to measure intracellular parameters on living cells in perfusion, with controlled medium.

Ethernet and USB ports are available for computer connection, and in conformity with SAFAS exclusive Sustainable Spectroscopy™ concept, software updates are free of charge for instrument's life, the Xenon lamp has VERY long life, and spare parts are available for very long time. An innovative Web Service communication is available for easy connection to a robot for HTS.

Cost-effective and reliable, the Xenius is extremely evolutive, and basic versions are affordable even for very low budgets...

An evolutivity and multivalence unique on the market

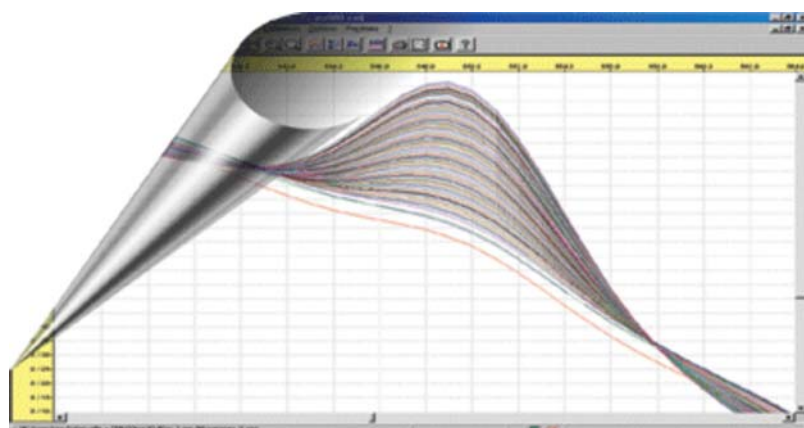
The spectrofluorometer SAFAS Xenius XML can also receive later most of the options, like fiber optics, up to 15 automatic injectors, absorbance mode on cuvettes, etc... All these possibilities are available without any dismantling.

Exceptionally powerful software

Last but not least, the software are intensively developed by SAFAS since 1988, when SAFAS introduced the world's first PC controlled spectrophotometer, button free.

Since then, all our customers have profited by our policy of free software update for instrument's life, making their investment a very long term one and avoiding obsolescence of their equipment.

Among many possibilities, our multiwavelength module for series of samples, our intracellular ions module, and our 3D spectra module are among the most impressive.



Nota:

-most of the possibilities described hereunder are optional: please ask us

-for software updates, a participation to CD and shipment is requested

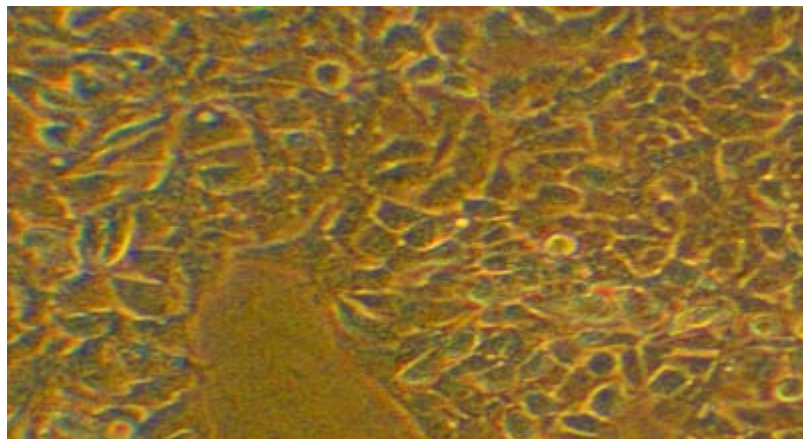
Patented device for spectrofluorescence measurements in perfusion on living cellulas, fixed or grown-up on quartz or glass lamellas, in controlled medium (t°, pCO2, pO2) in microvolumes

Developed in **partnership with the laboratory INRA / UNSA UMR Rose of Nice (France)**, this technology particularly enables to achieve accurate and reproducible measurements of kinetics of intracellular parameters (for example pHi) due to successive modifications of the extracellular media (pO2, pCO2, pH, etc...) at controlled temperature.

The SAFAS Xenius also enables to achieve a fast multiwavelength measurement of fluorescence, for example for intracellular Calcium, as well as to enter all calculation formulas and directly get on your screen all your curves in real time.

This solution is also a **very good substitute to the usual techniques requiring a reversed microscope with filter turret, or a confocal microscope**.

Many applications are possible, particularly in the fields of Cellular Physiology, in Pharmacology, in Toxicology and Ecotoxicology,



as well as in Pharmaceutical, Cosmetics and Veterinary labs.

Obviously, this patented device is compatible with all the other options of the Xenius, and does not require a tedious mounting or dismantling of accessories; it can easily and quickly be inserted, and all the other applications remain available at any moment: measurements on 10 cuvettes, on microplates, in situ by fiber optics, measurements of bioluminescence, absorbance, fluorescence and phosphorescence, as well as BRET, FRET and anisotropy with polarizers, etc...

MAIN TECHNICAL FEATURES

spectral range	200 to 1000nm at excitation and emission, limited by the choice of PMT and source
scan speed	up to 7000 nm/minute
bandwidth	fixed (an be selected at the order), optionally continuously variable from 1 to 30nm on excitation and emission monochromators, by steps of 0.1nm
analytical techniques	Absorbance, Fluorescence, Luminescence, and optionally Anisotropy
fluorescence spectra available, depending on options	excitation, emission, synchronous and 3D, with automatic data processing (even on microplates)
kinds of samples	Cuvettes (10), microplates (without fiber optics, 100% air technology), mesurements in situ with fiber optics, dewar for low temperature measurements, integrating sphere, etc...

SAFAS - MANUFACTURER OF SPECTROPHOTOMETERS (UV, VISIBLE, ATOMIC ABSORPTION, INFRA-RED, FLUORESCENCE), SPECTROFLUOROMETERS, LUMINOMETERS, MULTIDETECTION MICROPLATE READERS, ELISA, ANALYZERS

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