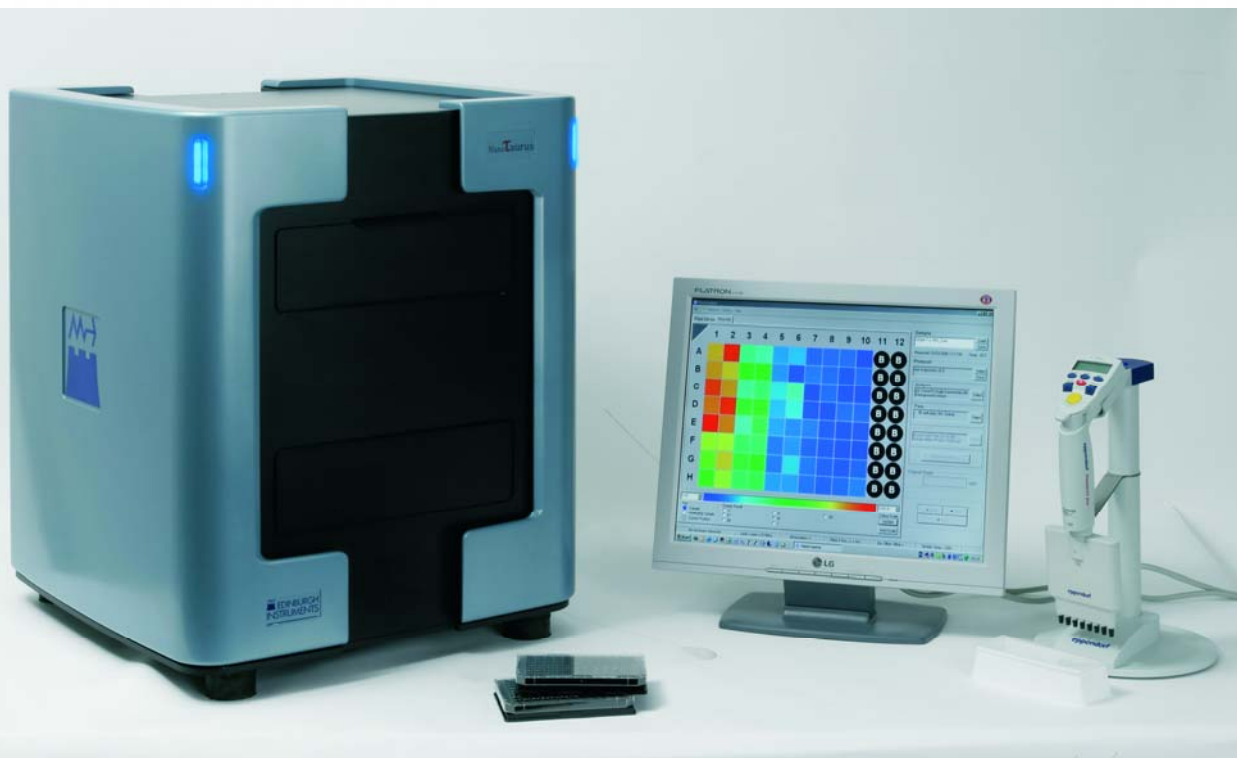


Ultimate
Fluorescence
Lifetime
Platereader

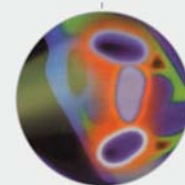
NanoTaurus



The Complete Bench-Top Fluorescence Lifetime Laboratory for Biotechnological Applications



GAS SENSORS



ANALYTICAL
INSTRUMENTS



LASERS AND
ELECTRO-OPTICS



QUANTUM DIVISION

Edinburgh Instruments presents the NanoTaurus. A new fluorescence lifetime laboratory utilising the Time Correlated Single Photon Counting (TCSPC) technique for picosecond resolution of assay based lifetime measurements.

- Greater discrimination for biological assays
- Fewer false positives
- Independent of sample volume and concentration

Features

Assay based lifetime measurements with up to 1536 wells.
Higher information content in a single measurement.
Auto-fluorescence suppression and background discrimination provides a highly precise detection platform.
Monitors multi-events simultaneously.

Techniques

TCSPC measurements are performed and observe the behaviour of intra-dye properties or the presence of a FRET reporter.

Applications

High Throughput dyes or FRET pair testing
Drug Screening: HTS / MTS solutions, cell based assay studies
Pre-validation of FLIM Application: Spectroscopy approach
Dye Environment Events: pH and ion concentration changes
Extra-cellular Events: Enzymatic assays and cell environment changes

 EDINBURGH
INSTRUMENTS



SPECIFICATIONS

FLUORESCENCE LIFETIME (FLT)	
Standard Range	1 ns - 20ns
Lifetime Resolution	0.1ns
Extended Lifetime Range Option	up to 1000ns
FLUORESCENCE LIFETIME SENSITIVITY AND DYNAMIC RANGE	
Lowest Dye Concentration	1 nM, Fluorescein
Dynamic Range	> 10 ⁶
DATA ACQUISITION	
Technique	Time Correlated Single Photon Counting
Speed	~ 1s per well (96 and 384 well plates)
EXCITATION	
Laser	Maximum of 2 Picosecond Pulsed Diode Lasers
Excitation Intensity	Computer controlled
	4 orders of magnitude
Excitation Wavelengths Available	375nm, 405nm, 440nm, 470nm, 635nm
FLUORESCENCE DETECTION	
Photomultiplier	Single Photon Detection
Spectral Range of Fluorescence Detection	425nm - 700nm
Detection Range with Alternative Laser Excitation	Laser Wavelength + 25nm - 700nm
ADDITIONAL FEATURES	
automatic Z-Adjustment	yes
automatic Filter Exchange	yes
Stacker Compatibility	yes
SOFTWARE	
User Interface	Microsoft Windows Application
Analysis Routines	Maximum Likelihood Curve Fitting
File Format	XML or ASCII text (Microsoft Excel compatible)

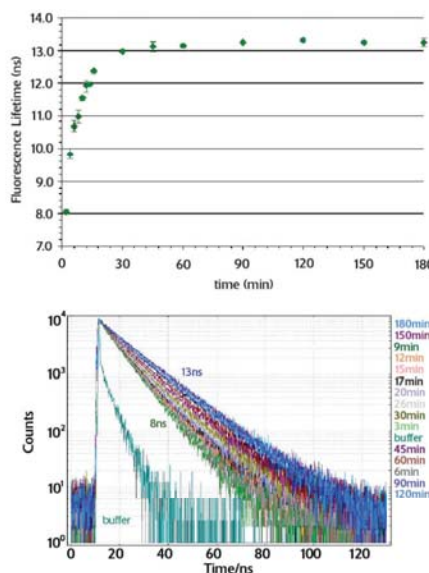
Edinburgh Instruments has a policy of continuing product development and reserve the right to amend specifications without prior notice. October 2005

Fluorescence Lifetime Assay: Cytotoxicity: Measuring Caspase-3 Activity

Substrate cleavage can be measured directly using the fluorescence lifetime technique.

A peptide substrate was synthesised for caspase-3, with a natural lifetime quencher attached at one end of the sequence and a known lifetime dye on the other end.

The quencher causes the peptide's fluorescence to be quenched with a short fluorescence lifetime. When the enzyme cleaves the peptide, the fragment with the dye termination is separated from the natural quencher and fluoresces with a longer lifetime, thus the rate of peptide cleavage can be established.



Assay performance indicates suitability for High Throughput Screening. Z'-Value is 0.9