RUBYstar+

High-Performance Time-Resolved Fluorescence Microplate Reader

- Highest sensitivity with high-energy LASER
- Fast reading times
- Single photon counting for widest dynamic range
- Simultaneous dual emission measurements
- Real time quenching correction by ratio calculation *(US patent 5,527,684)*
- Research mode for assay development and Routine mode for HTS
- Unique decay curve monitoring with a resolution of micro seconds

The RUBYstar is designed to perform homogeneous time resolved fluorescence measurements based on CIS bio international proprietary TRACE® technology.

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BMG Labtechnologies

RUBYstar

BMG Labtechnologies´s RUBYstar is a high performance microplate reader specifically designed for homogenous time-resolved fluorescence assays.

The noise from background fluorescence usually arises between 350 nm and 600 nm and decays within measurements. This background fluorescence overlaps extensively with the emission spectrum of many fluorophores and in the low concentration range these effects cannot be compensated sufficiently with standard fluorescence readers.

The RUBYstar enables highly sensitive time-resolved fluorescence detection by applying europium chelate or cryptate fluorophores. These compounds are excited with the high-energy laser and show long fluorescence lifetimes (several hundred µs), large Stoke´s shifts and sharp and intensive fluorescent peak profiles at 620 nm. Thus with the RUBYstar backgrounds are reduced and the signal-to-noise ratio increased so giving maximum sensitivity.

An additional and exclusive advantage of the instrument can be achieved through the patented real time quenching correction by ratio calculation (at 620 nm and 665 nm) and use of cryptate based reagents from CIS bio international.

The RUBYstar reader can be used for both assay development and high throughput screening for a wide range of applications e.g. biomolecular interactions, receptor binding assays and molecular biological applications. For more information please contact any BMG office.

Technical Specifications

Measurement Principle	Homogenous Time-Resolved Fluorescence
Light Source	High-energy nitrogen laser (337 nm)
Detection System	Lens based dual channel photomultiplier system for simultaneous dual emission at 620 nm and 665 nm Single photon counting
Microplate formats	6-384 well plates
Reading time	With 5 flashes per well: 55 s for 96 well plates, 170 s for 384 well plates With 20 flashes per well: 130 s for 96 well plates, 475 s for 384 well plates
Dimensions	Width: 44 cm, length 48 cm and height 29.5 cm Weight: 29 kg
Stacker	For automatic plate handling a Stacker is available with magazines for up to 25 plates (96-384 well plates) and barcode reader with flexible barcode handling

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