



**CLARIOstar<sup>®</sup> Plus**  
Effortless luminescence-based detection

- ▶ Greatest sensitivity in glow, flash and BRET assays
- ▶ Excellent flexibility for assay development

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# The right choice for luminescence assays

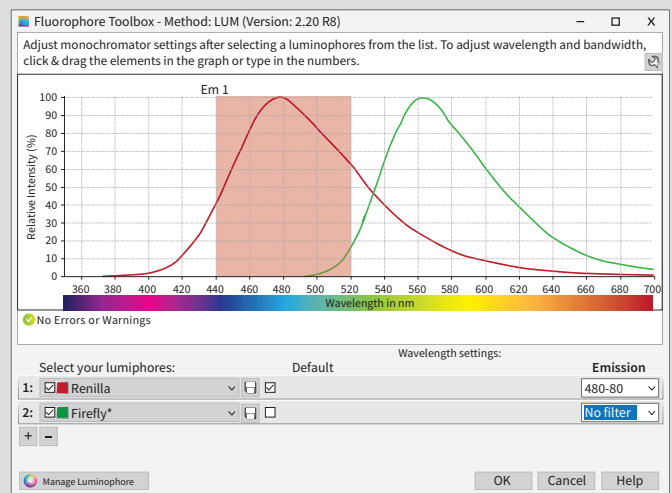
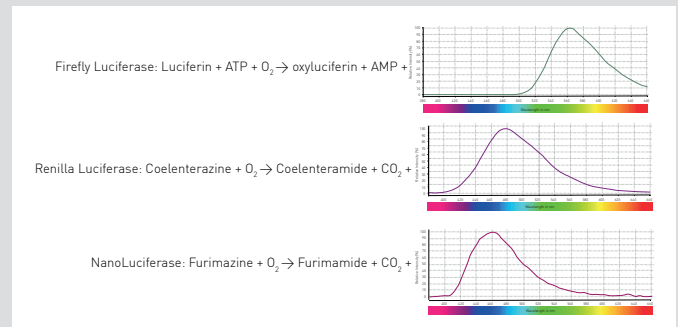
## Flexible monochromator with filter-like performance

The CLARIOstar <sup>Plus</sup> microplate reader provides outstanding flexibility and high performance in all luminescence, BRET and NanoBRET™ assays. The reader comes equipped with our patented LVF Monochromator™ technology combined with an optimised low-noise PMT.

The LVF Monochromator provides highest light transmission for filter-like performance, making it a superior option over conventional monochromator systems.

The optimised low-noise PMT allows detection of low and high signals with minimal background.

With its wavelength range of 320-740 nm, the LVF emission monochromator covers the spectrum of every commercially available lumiphore. The spectral scanning capability allows optimisation of any luminescence assay with unknown emission spectrum, while the lumiphore visualisation tool with integrated library simplifies wavelength and bandwidth optimisation and lumiphore combination.



## Features

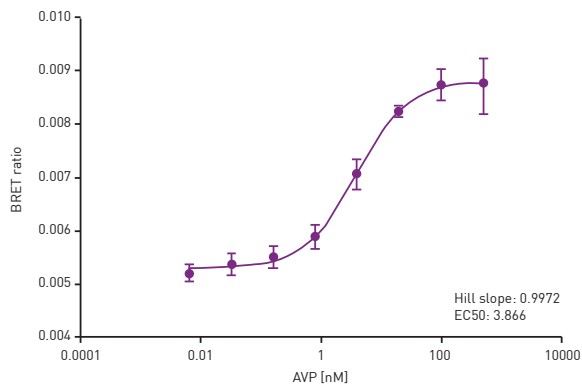
- Patented LVF Monochromator technology for best sensitivity and flexibility
- Dedicated low-noise luminescence detector for highest sensitivity and lowest background
- 8 orders of magnitude dynamic range in one reading
- DLReady™ certified
- Up to two onboard injectors for flash reactions
- Cross-talk reduction for best signal-to-noise in glow assays
- Multiplexing capability: combine luminescence with other read-modes automatically
- Environmental control (temperature and gas) for real-time cell luminescence
- Software-controlled top and bottom detection



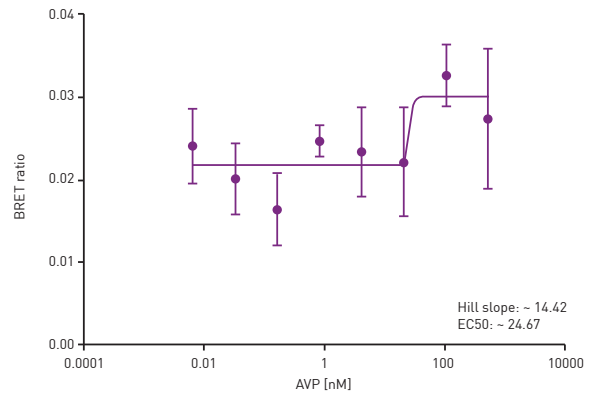
# Broader bandwidths, better sensitivity

On conventional monochromators BRET assays perform poorly as fixed or narrow bandwidths negatively affect light transmission and sensitivity. The CLARIOstar<sup>Plus</sup> is the best monochromator reader for BRET assays. Its continuously adjustable bandwidths from 8 to 100 nm allow broader bandwidths for highest sensitivity.

A



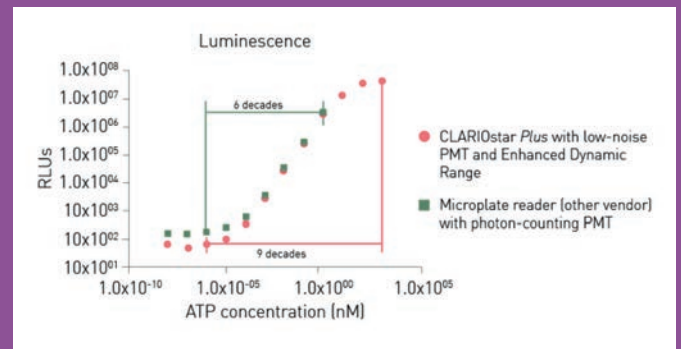
B



Comparison of a BRET assay measured on the CLARIOstar<sup>Plus</sup> with LVF Monochromator (A) and on a microplate reader with conventional monochromator (B). AVPR activation by AVP was detected by BRET. Stimulation with AVP causes an increase in association between AVPR and  $\beta$ -arrestin indicative of receptor activation.

## The largest possible dynamic range

The Enhanced Dynamic Range (EDR) technology significantly simplifies measurement setup and provides an easier solution for assay development. It ensures reliable detection of samples at a large range of concentrations and signal intensities (8 decades) in one measurement with no manual intervention. EDR will save you time and money as it eliminates the need for repeated detection runs to acquire highly divergent samples at different gain settings.

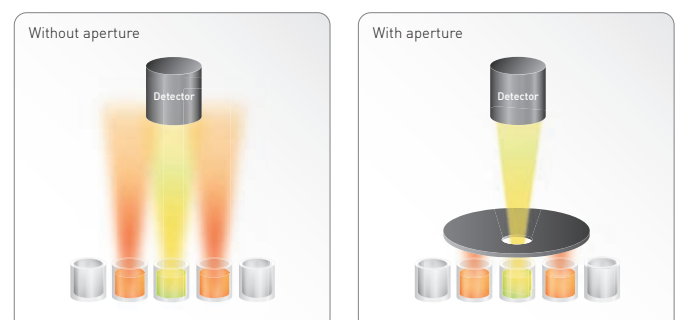


Comparison of luminescence detection on the CLARIOstar<sup>Plus</sup> with EDR and on a plate reader with photon counting PMT. The CLARIOstar<sup>Plus</sup> with EDR provides a broader dynamic range.

## Better data, less cross-talk

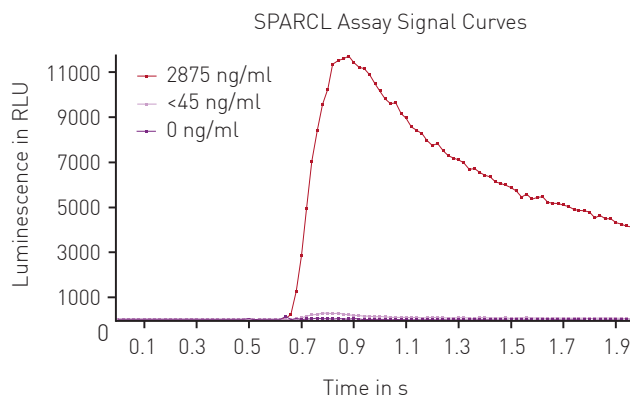
In glow luminescence assays and in high-density microplates, signal cross-talk between wells is a common problem. It increases background and negatively affects data quality.

The CLARIOstar<sup>Plus</sup> comes with aperture spoons to physically reduce signal cross-talk from above the well, and a software-based mathematical correction to adjust for the light cross-talk through the plastic wall of neighbouring wells.



# Never miss a data point in your reaction

When running fast luminescent kinetic assays, it is imperative to collect data as fast as possible upon reaction start. To this purpose, an optimised injection system enables simultaneous reagent injection and signal detection. Even in the fastest of kinetic reactions, all data points will be reliably collected.



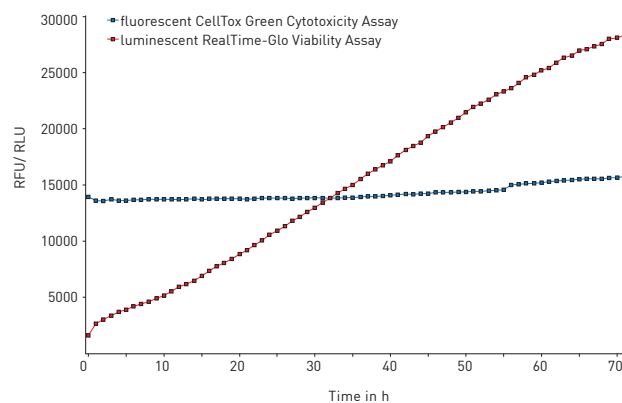
## Keep your cells happy

The CLARIOstar<sup>Plus</sup> can be equipped with the Atmospheric Control Unit (ACU) module. The ACU controls the CO<sub>2</sub> and O<sub>2</sub> gas tension in the microplate reader from 0.1 - 20 %. Combined with our precise temperature incubation, it provides the perfect environment to run cell-based luminescence and BRET assays in real time.



## Get the most out of your samples

Multiplexing is a common tool to get as much biological information as possible from your samples. On the CLARIOstar<sup>Plus</sup> you can easily set up multiplex detection with only a few mouse clicks. The Script Wizard feature enables to effortlessly combine up to 3 different detection modes in one measurement run.



Multiplexed RealTimeGlo® (luminescence) and CellTox™ Green (fluorescence intensity) assays in untreated live cells incubated in the CLARIOstar<sup>Plus</sup> with ACU over 72 hours.

## Contact our team to learn more.

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