

Smart Notes

Automatic Dynamic Range Selection

Varioskan LUX Multimode Microplate Reader

Q
A

How will automatic dynamic range selection ease workflow and improve the outcome of my microplate assays?

A wide dynamic range provided by a microplate reader enables detection of both low- and high-signal samples within the same microplate assay. Many microplate readers require adjusting the reading range manually for each assay, making the measurement setup often complicated and without assurance you've made the best selection for your samples. Automatic dynamic range eases set-up protocol and helps to ensure optimal settings for sensitivity.

Automatic dynamic range, a feature of the Thermo Scientific™ Varioskan™ LUX, selects the optimal reading range based on signal intensity in the well, using settings to obtain the highest sensitivity from the instrument. Results are comparable from assay to assay—and day to day—providing the instrument's best possible readings even when a single assay exhibits very high and very low signals. You can do away with test runs and restricted concentration ranges, saving you time so you can focus on your research.

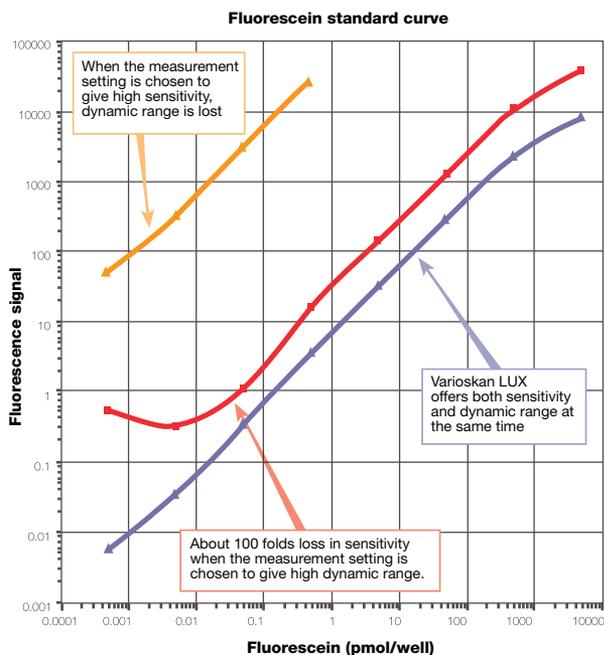


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Overcoming an Inherent Challenge

Most modern microplate readers use a Xenon flash lamp as their light source for wider wavelength range and improved sensitivity over the traditional halogen lamp. However, Xenon lamps reduce dynamic range, requiring manual gain setting adjustments to achieve a wider range—and this can be difficult and time consuming. The Varioskan LUX multimode microplate reader resolves this issue with an automatic gain adjustment feature.

Figure 1. Example of the reached dynamic range and sensitivity in a fluorometric measurement of fluorescein concentration series, performed by Varioskan LUX and a microplate reader from another manufacturer.



Getting Rid of the Guesswork

You no longer have to endure complicated manual dynamic range set-up for your fluorometric, time-resolved fluorometric or luminometric assays. Test runs become a thing of the past. The Varioskan LUX multimode microplate reader does all the work for you, and is designed to choose the best settings no matter what signals you measure in the assay.

Reaching a Wider Range

Automatic dynamic range is designed to ensure that your measurement settings provide results for both ends of the signal range, overcoming a key limitation of manual set-up. There is no restriction to certain concentration ranges; the automatic setting even accounts for samples with extreme high and low signals in the same assay.

Next Generation of Functionality

When sensitivity and consistency is a research priority, you need every advantage you can get. Automatic dynamic range selection chooses the best reading range for the Varioskan LUX based on signal intensity in the well, ensuring optimal sensitivity.

Key

- ▲ Varioskan LUX - automatic dynamic range setting
- Reader X - manual setting optimal for high concentrations
- ◆ Reader X - manual setting optimal for low concentrations

Summary

Compared to a manual range setting, the automatic dynamic range selection feature of the Varioskan LUX multimode microplate reader provides greater convenience and assurance that you're obtaining optimal measurement readings every time.



Learn more about the Varioskan LUX at www.thermoscientific.com/varioskanlux

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