

Smart Notes

Integrated Gas Module

Varioskan LUX Multimode
Microplate Reader

Q
A

Why should my microplate reader include gas control?

Cell-based assays are widely used in pharmaceutical and academic research, requiring precise control over carbon dioxide and oxygen concentrations. Gas control in the microplate reader replaces the need for constant handling of plates between the incubator and reader, and helps to ensure that cells remain alive throughout the experiment.

Nearly all cell-based cultures are kept alive by means of a bicarbonate buffering system, which keeps acidity of the culture medium at an optimal level. Should the carbon dioxide supply fail, the pH value in the culture medium would quickly drop, putting the sample at risk. Maintaining the right gas atmosphere between measurements requires continuous shuttling of microplates between incubator and reader. An integrated gas module enables simultaneous incubation and measurement, saving time and labor—no more shuttling.



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How does an integrated gas module help me produce better outcomes with cell-based assays?

Incubate and Measure With One Instrument

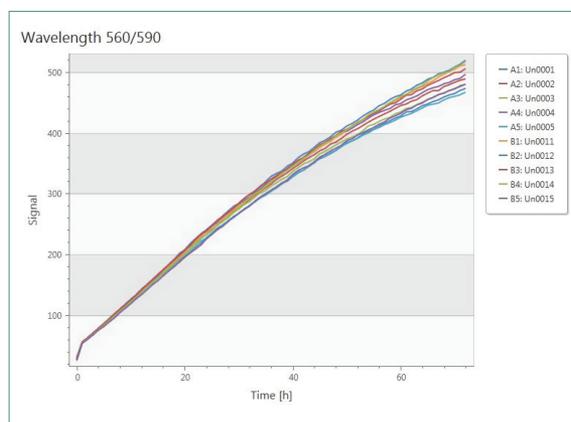
The Thermo Scientific™ Varioskan™ LUX Multimode Microplate Reader can be equipped with an Integrated Gas Module for researchers who rely on cell-based assays for discovery. The gas control module is designed to provide consistent physiological conditions in your cultures; the plate remains in the instrument, where automatic kinetic measurements are taken. The plate is in and out only once. The Thermo Scientific™ SkanIt™ software lets you set the gas levels for your assay, and then records gas levels throughout the run for traceability.

Control CO₂ and O₂ Simultaneously

Gas control is well-suited for a wide range of cell-based applications, including studies involving long-term cell proliferation, induction and detection of hypoxia (such as in cancer research), and growth of anaerobic bacteria. Each cell-based assay requires its own gas concentrations, which are easy to regulate through SkanIt software. The Integrated Gas Module can simultaneously control carbon dioxide levels from 0.1% to 15% and oxygen concentrations from 1% to 21%, and can mimic physiological conditions such as low blood-oxygen.

More Data, No Gaps

The Integrated Gas Module on the Varioskan LUX helps eliminate gaps in data during kinetic microplate reader experiments. Even with your longest runs, you will have the freedom to walk away while the experiment is in progress, knowing that cells are thriving under the appropriate gas conditions. You also will be able to access gas-level tracking information throughout the run, providing additional integrity to your research.



Growth of HeLa cells in a 96-well microplate within Varioskan LUX for 72 hrs, 37C, 5% CO₂. Cell proliferation was followed by measuring fluorescence from the Life Technologies™ PrestoBlue™ Cell Viability Reagent.

Summary

Reduce time and labor of cell-based assays by automatically regulating carbon dioxide and oxygen within the microplate reader. The Varioskan LUX uses smart technology to help keep gas levels where they need to be.



Learn more at www.thermoscientific.com/varioskanlux.

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