SmartNotes

How can low DNA concentrations be reliably measured in microplate format?

Quant-iT™ reagents in combination with the Thermo Scientific™ Varioskan™ LUX Multimode Microplate Reader provide rapid, specific and accurate determination of nucleic acid concentrations in a wide range.

Fluorescent detection of nucleic acids is much more sensitive than the most commonly used absorbance measurement at 260 nm (A_{260}). The Quant-iT™ dsDNA Assay is well-adapted to high-throughput use, typically in 96-well or 384-well plates. Samples processed using the Quant-iT dsDNA Assay Kit are read with a fluorescence microplate reader, like Varioskan LUX. Data can be easily analyzed and graphically visualized in the SkanIt™ software.

Quant-iT™ dsDNA Assay
cat nr Q33120

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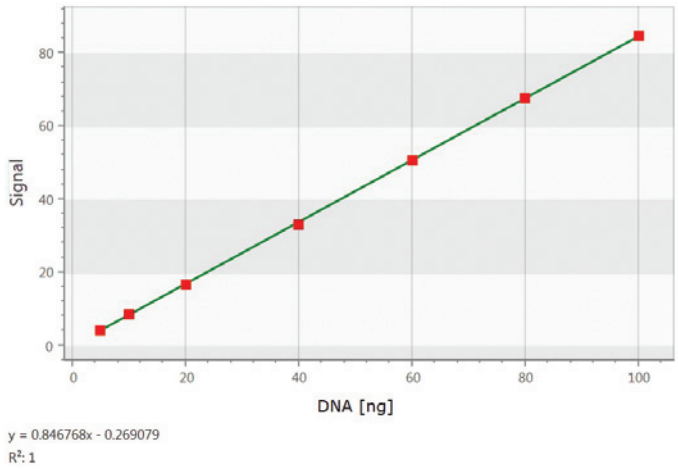
How to use the Quant-iT dsDNA High-Sensitivity Assay Kit with the Varioskan LUX Multimode Microplate Reader?

Highly selective and sensitive assay

The Quant-iT™ dsDNA High-Sensitivity Assay Kit makes DNA quantification easy and accurate.

The kit provides all the needed assay reagent, dilution buffer and prediluted DNA standards. Simply dilute the reagent 1:200, load 200 µL into the wells of a 96-well microplate, add 1–20 µL of standards and samples, mix, then read the fluorescence. Even more samples can be measured on a 384-well microplate and the reaction volume can be proportionally decreased to 40-50 µL.

The assay is highly selective for double-stranded DNA over RNA, and in the range of 0.2–100 ng, the fluorescence signal is linear with the amount of DNA. The assay is performed at room temperature, and the signal is stable for 3 hours. Common contaminants, such as salts, solvents, detergents or proteins are well tolerated in the assay.



The Quant-iT High-Sensitivity dsDNA Assay Kit with Varioskan LUX gives a linear standard curve (0-100 ng of λ DNA).

Great reader with intuitive software

When quantifying nucleic acids from tens to thousands of samples, the upgrade from a single-cuvette photometer or single-tube fluorometer to a microplate reader is a natural trend. In a multimode reader one can measure UV absorbance and fluorescence intensity in parallel according to concentration range and accuracy required. Accurate quantification of low DNA concentrations demands ideal experimental circumstances including calibrated pipettes, a number of technical repeats and the best microplate readers. With Varioskan LUX, highly accurate determinations of DNA down to 0.01 ng and below were attained, using the standard curve provided by the SkanIt software (in 384 plate format, 40 µL total reaction volume).

Summary

The Thermo Scientific™ Varioskan™ LUX Multimode Microplate Reader performs excellently when low DNA concentrations are measured with the Quant-iT fluorescent reagent.

Learn more at **thermofisher.com/varioskanlux**
thermofisher.com/quantit

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