

Detection of DNA with the Thermo Scientific Fluoroskan Ascent microplate fluorometer

The Quant-iT™ PicoGreen® dsDNA Quantitation Reagent from Invitrogen Molecular Probes is an ultrasensitive fluorescent stain used for the quantitation of double-stranded DNA in a solution. In many molecular biology applications the detection and quantitation of small amounts of dsDNA is very important. In combination with Thermo Scientific Fluoroskan Ascent or Fluoroskan Ascent FL, the PicoGreen reagent provides rapid and easy determination of dsDNA, offering a wide dynamic range.

The Quant-iT™ PicoGreen® reagent is much more sensitive than the most commonly used absorbance measurement at 260 nm (A260). When measuring the absorbance, single-stranded nucleic acids and nucleotides interfere with the obtained signal. The commonly used bisbenzimidazole dyes of Hoechst, 33258 and 33342, are affected less by interfering substances than the absorbance measurement but the sensitivity is not as good as with PicoGreen. Only one dilution of the reagent is needed for the whole dynamic range instead of two different fluorochrome dilutions, which are generally needed with the Hoechst dye.

The PicoGreen assay combined with the Fluoroskan Ascent or Fluoroskan Ascent FL showed perfect linearity over a wide concentration range, resulting in reliable determination of DNA concentration in both low- and high-concentration samples. Calculated detection limits (based on the IUPAC standard 3*SD method) for the assay are 0,02 ng/ml with a 96 well plate and 0,07 ng/ml with a 384 well plate. These results show that this assay combination is by far the most sensitive that is available at the moment.

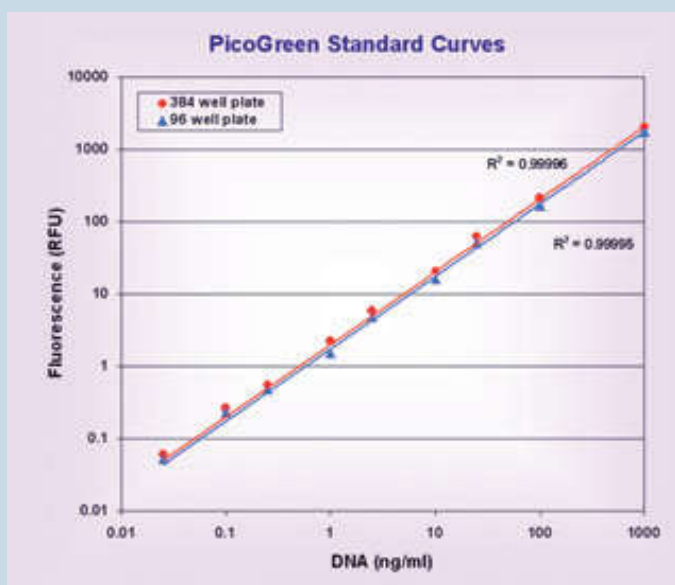


Figure 3. Detection of dsDNA with the PicoGreen reagent and Fluoroskan Ascent using the filter combination Ex 485/Em 538. The assay was performed using either white 96 well strip plates (total volume 200 µl/well) or white 384 well plates (total volume 50 µl/well).

Thermo Scientific White Microtiter Plates for Luminescence

- White Universal Binding surface has lowest phosphorescence background and lowest well-to-well cross talk in the market -> improves sensitivity of your ATP Assay or other luminometric assay
- White universal binding surface is available in 96 well solid plate and 12x8 strip plate format

Description	Qty/Pk	Cat. No.
White Cliniplate 96, universal binding	50	735-0535
White Cliniplate 96, sterile+ lid, individually wrapped	40	735-0624
White breakable 1x8 strip plate, universal binding	50	735-0568

Thermo Scientific White Microlite + Plates for Fluorescence

- Microlite+ surface has low background and low well-to-well cross talk -> improves sensitivity of your PicoGreen or other fluorometric assay
- Microlite + binding surface is available in 96 and 384 well solid plate and 8x12 strip plate format
- Medium and high binding surfaces

Description	Qty/Pk	Cat. No.
Microlite 1+ 96 Plate, medium binding	50	735-0525
Microlite 2+ 96 Plate, high binding	50	735-0526
Microlite 1+, 12 strip plate, medium binding	100	735-0521
Microlite 2+, 12 strip plate, high binding	100	735-0522
Microlite 1 384 Plate, medium binding	50	735-0258

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