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AccuBlue® NextGen dsDNA Quantitation Solution



A fluorescent dsDNA quantitation solution with a linear range of 1-3,000 pg DNA, an unprecedented level of sensitivity in dsDNA detection. Designed for use in a fluorescence microplate reader.

Product attributes

Excitation/Emission	468/507 nm (with DNA)
Storage Conditions	Store at 2 to 8 °C

Product Description

The AccuBlue® NextGen dsDNA Quantitation assay is the most sensitive and accurate DNA quantitation method for ultra low amounts of DNA, with a linear range from ~1 – 3,000 pg (depending on instrument capability). This assay is designed for use with fluorescence microplate readers. This solution does not come with a DNA standard; see the AccuBlue® NextGen Kit ([31060](#)), which contains a calf thymus DNA standard.

With a detection limit as low as 1 pg DNA in a 96-well plate reader assay (see Table 1), AccuBlue® NextGen outperforms rivals such as PicoGreen® in sensitivity and accuracy. Specially designed for scientists who need to quantify extremely dilute or precious DNA, AccuBlue® NextGen is ideal for use in preparing samples for applications such as Next Generation Sequencing (NGS) and digital PCR.

Because the AccuBlue® NextGen assay is so sensitive, results will vary depending on many factors, such as microplate reader (see table below), assay volume, and pipet accuracy.

Plate Reader Detection Limits

Plate reader	Assay format (assay volume)	Lowest DNA detected
BMG CLARIOStar	96-well (200 uL)	1 pg
BMG CLARIOStar	384-well (50 uL)	0.6 pg
Biotek Synergy H1m	96-well (200 uL)	5 pg
SpectraMax Gemini XS	96-well (200 uL)	5 pg
SpectraMax i3	384-well (50 uL)	1.25 pg

Fluorescence-Based dsDNA Quantitation

AccuBlue®, AccuClear® and AccuGreen™ dsDNA quantitation assays allow precise quantitation of purified dsDNA samples across a wide range of concentrations and a variety of fluorescence detection instruments. Unlike absorbance-based nucleic acid quantitation, fluorescent DNA binding dyes are highly sensitive and selective for double-stranded DNA and provide a more accurate DNA concentration in the presence of contaminating RNA and other common contaminants including free nucleotides, protein, detergents and salts.

Biotium offers dsDNA quantitation kits and solutions for different instruments and sample concentration ranges. See the table below and visit the [DNA & RNA Quantitation Technology Page](#) for details on our full line of dsDNA and RNA quantitation kits.

All DNA & RNA Quantitation Kits

Kit	DNA or RNA	Detection range (in assay)*	Dye Ex/Em (nm)	Suggested instrument	Features
AccuGreen™ High Sensitivity DNA	DNA	0.1-100 ng	502/523	Qubit® fluorometer	Compare to the Qubit® dsDNA HS assay from Thermo Fisher
AccuGreen™ Broad Range DNA	DNA	2-1000 ng	500/530	Qubit® fluorometer	Compare to the Qubit® dsDNA BR assay from Thermo Fisher Non-toxic & non-mutagenic DNA quantitation dye
AccuBlue® NextGen DNA	DNA	1-3000 pg**	468/507	Fluorescence microplate reader	Most sensitive assay available for quantitation of precious or dilute samples Optimal for sensitive applications such as NGS or digital PCR
AccuClear® Ultra High Sensitivity DNA	DNA	0.03-250 ng	468/507	Fluorescence microplate reader	Versatile kit with high sensitivity and wide linear range
AccuBlue® High Sensitivity DNA	DNA	0.2-100 ng	485/530	Fluorescence microplate reader	Non-toxic & non-mutagenic DNA quantitation dye
AccuBlue® Broad Range DNA	DNA	2-2000 ng	350/460	Fluorescence microplate reader	Broad linear range with blue fluorescence
AccuBlue® Broad Range RNA	RNA	5-1000 ng	650/670	Fluorescence microplate reader or Qubit® fluorometer	The widest linear range of available RNA quantitation kits Exceptional accuracy, sensitivity, and high RNA selectivity

* Standard assay volume is 200 uL

** AccuBlue® NextGen limit of detection is in the range of 1 pg to 5 pg depending on instrument sensitivity

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References

1. Analytical Biochemistry (2016) 15 Oct pp74-79 [doi:10.1016/j.ab.2016.07.022](https://doi.org/10.1016/j.ab.2016.07.022)
2. J Assist Reprod Genet (2018) 35, 1497-1501 [doi:10.1007/s10815-018-1223-4](https://doi.org/10.1007/s10815-018-1223-4)

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