AccuBlue™

High Sensitivity and Broad Range dsDNA Quantitation

Superior sensitivity and broad dynamic range

AccuBlue™ dsDNA quantitation kits offer ultra-sensitive and selective detection of dsDNA with minimal effects from common contaminants. The high sensitivity kit is superior to the PicoGreen™ or Quant-iT™ dsDNA detection kits by having a similar detection limit but with more convenience and better safety. PicoGreen™ and the high sensitivity Quant-iT™ DNA-binding dye readily crosses cell membranes, whereas the AccuBlue high sensitivity reagent is impermeable to cell membranes, decreasing its potential mutagenicity (Fig. 7). Moreover, the AccuBlue™ reagent is extremely stable. Supplied with a 1X aqueous quantitation solution, enhancer, and DNA standards, AccuBlue™ can be conveniently stored at 4°C, unlike PicoGreen™ or the Quant-iT™ reagents, which have to be aliquoted for storage to avoid freeze-thaws. The kits are compatible with microplate readers, spectrofluorometers and hand-held minifluorometers such as the Qubit™ from Invitrogen. The kits provide sufficient reagents to perform 1000 assays based on a 96-well microplate format.

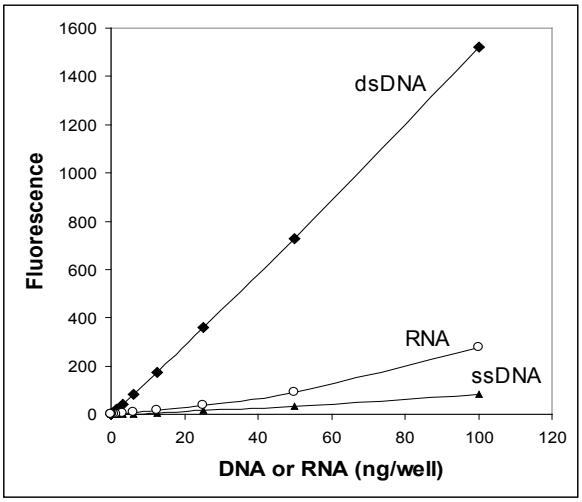

Figure 1: Triplicate samples of calf thymus dsDNA, mouse liver RNA or M13mp18 viral ssDNA were assayed with the AccuBlue High Sensitivity dsDNA Quantitation Kit. Fluorescence was measured at 485/530 nm and plotted vs. the mass of the nucleic acids.

Key features:

High sensitivity: Can reliably detect as little as 200 pg dsDNA (HS) or 2 ng (BR) per well

Safety: High sensitivity reagent is designed to be cell membrane-impermeable to eliminate or reduce any potential genotoxicity

Wide linear detection range: Quantifies dsDNA from 0.2 to 100 ng (HS) or 2 to 2000 ng (BR)

Excellent selectivity: Detection is minimally affected by RNA or ssDNA and many other common contaminants including free nucleotides, proteins, detergents and salts

Superior precision: Less than 5% CVs

Unmatched stability and convenience: Kit contains a stable 1X aqueous quantitation solution, 100X enhancer and dsDNA standards for use at anytime

Compatibility: Can be used on microplate readers or hand-held fluorometers such as the Qubit™ fluorometer from Invitrogen

Ex/Em: High Sensitivity kit: 485/530 nm; Broad Range kit: 350/460 nm

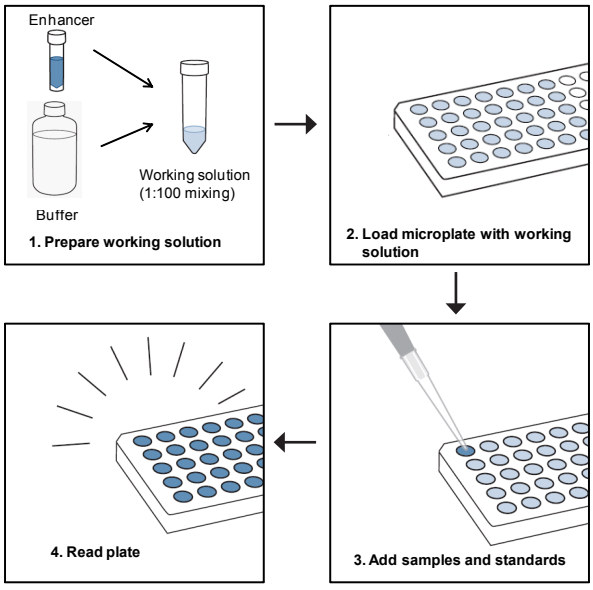

Figure 2: AccuBlue can quantify a large number of dsDNA samples in four easy steps.

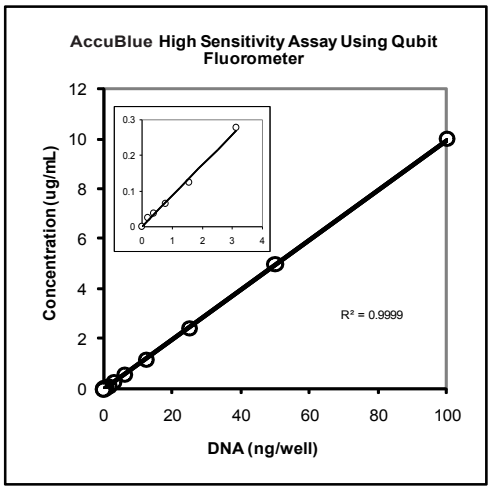

Figure 3: Two-fold dilutions of calf thymus DNA were assayed using the AccuBlue HS kit with the Qubit™ fluorometer. Inset shows the lower end of the titration.

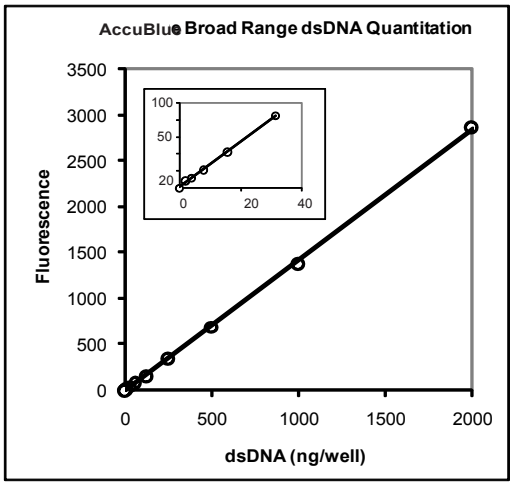

Figure 4: Two-fold dilutions of calf thymus DNA were assayed using AccuBlue BR on a microplate reader. Inset shows the lower end of the titration.

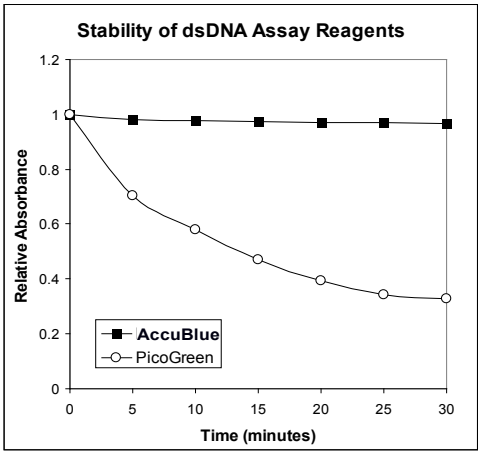

Figure 5: AccuBlue High Sensitivity Reagent and PicoGreen stability was measured by reading absorbance of reagents in aqueous buffer at 5 min intervals at room temperature. The PicoGreen reagent decomposes quickly.

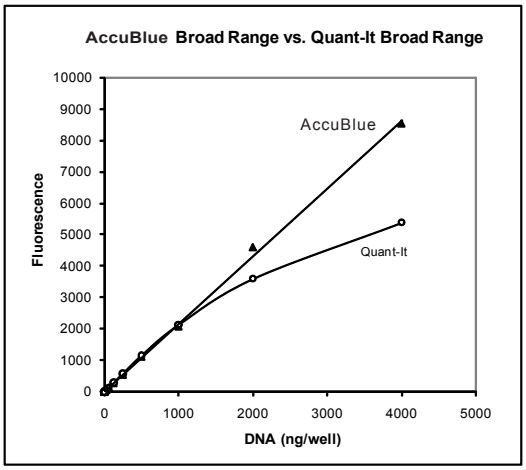

Figure 6: Two-fold dilutions of calf thymus DNA were assayed using AccuBlue or Quant-iT Broad Range assay kits. AccuBlue has improved linearity and wider dynamic range than the Quant-iT Broad Range.

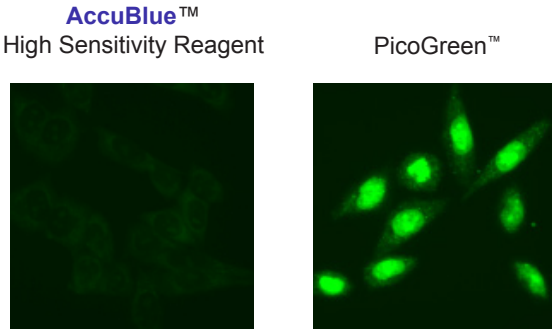

Figure 7: The AccuBlue High Sensitivity reagent and PicoGreen were diluted to working concentrations in HeLa cell cultures and incubated for 30 minutes. PicoGreen and the Quant-iT High Sensitivity reagent (Invitrogen) readily bind nuclear DNA while no nuclear staining is evident with the AccuBlue HS reagent, illustrating its overall safety and lower toxicity due to its membrane impermeability.

Please download the AccuBlue Product Information Sheets from the Biotium website (**www.biotium.com**) for more detailed protocols.