resDNASEQ *E. coli* Residual DNA Quantitation System

Integrated sample preparation and real-time PCR assay for the quantitation of *E. coli* host cell DNA

- Highly sensitive quantitation using proven Applied Biosystems™ TaqMan® real-time PCR technology (Figure 1)
- Manual and automated sample preparation, optimized for quantitative recovery from complex sample matrices (Table 1)
- Consistent performance across the expected range of DNA fragment sizes (Figure 2)
- Integrated system from sample to results, with sample preparation kit, master mix, TaqMan primer/probe mix, and genomic DNA standard

The Applied Biosystems™ resDNASEQ™ *E. coli* Residual DNA Quantitation System is a quantitative PCR (qPCR)-based system for the detection of host cell DNA from *E. coli*, an expression system commonly used for the production of recombinant proteins. Reliable and rapid, the system enables sensitive (limit of quantitation = 15 pg DNA per mL of test sample, Figure 1) and specific (Figure 3) quantitation of *E. coli* DNA, typically in less than 4 hours. This performance helps ensure a high degree of confidence in quantitation data obtained from a broad range of sample types—from in-process samples to bulk drug substance—whether the sample contains high molecular weight or sheared DNA (Figure 2).

Table 1. DNA recovery using the manual protocol for the Applied Biosystems™ PrepSEQ™ Residual DNA Sample Preparation Kit. Assay performance data were determined using 10 pg *E. coli* genomic DNA spike per sample, 3 analysts, and 9 test samples.

Genomic DNA	Mean recovery	Mean CV
E. coli	83%	5.04%

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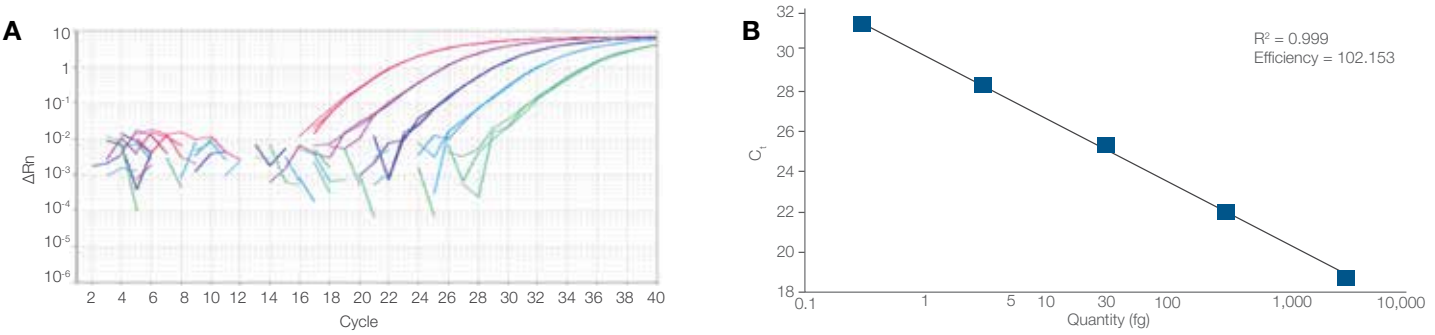

Figure 1. High sensitivity and broad dynamic range using the resDNASEQ *E. coli* Residual DNA Quantitation System. (A) The amplification plot was generated using a 10-fold serial dilution of *E. coli* genomic DNA, provided in the kit. Concentrations range from 3 ng to 300 fg. **(B)** The standard curve of the 10-fold dilution series. Data were analyzed using Applied Biosystems™ AccuSEQ™ Real-Time PCR Software.

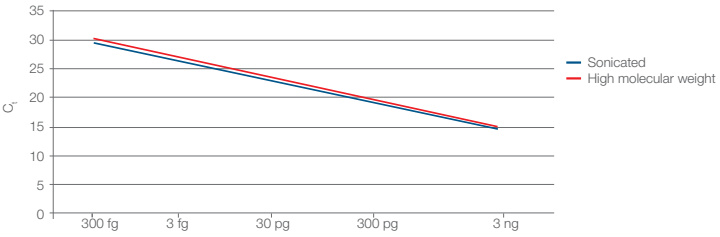

Figure 2. Consistent quantitation across a broad range of fragment sizes. Standard curves were generated using a 10-fold serial dilution of high molecular weight (red) and fragmented (blue) DNA from 3 ng to 300 fg. Fragmented DNA was generated by sonicating total *E. coli* genomic DNA. Fragmentation of the DNA was confirmed by agarose gel analysis.

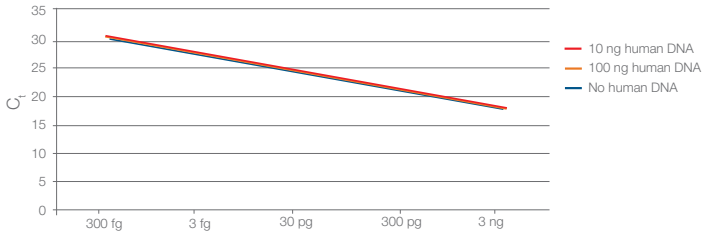

Figure 3. Assay specificity. Standard curves generated using 10-fold serial dilution (3 ng to 300 fg) of *E. coli* genomic DNA (included in the kit) in the presence of 100 ng human DNA (yellow), 10 ng human DNA (red), and no human DNA (blue).

Ordering information

Product	Quantity	Cat. No.
resDNASEQ Quantitative *E. coli* DNA Kit	100 reactions	4458435
resDNASEQ Quantitative *E. coli* DNA Kit with PrepSEQ Residual DNA Sample Preparation Kit	100 reactions	4460366
Sample preparation and automation		
PrepSEQ Residual DNA Sample Preparation Kit	100 reactions	4413686
Pharma KingFisher Flex 96 Deep-Well Magnetic Particle Processor	1 instrument	A31508
System		
7500 Fast Real-Time PCR System	1 instrument	4365464
Software		
AccuSEQ Real-Time PCR Software	1 license	4443420
Service		
7500 Fast IQ/OQ Service		4365572

Find out more at **thermofisher.com/resdnaseq**

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