

resDNASEQ *Pichia pastoris* Residual DNA Quantitation System

Integrated sample preparation and real-time PCR assay for the quantitation of *Pichia pastoris* 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™ *Pichia pastoris* Residual DNA Quantitation System is a quantitative PCR (qPCR)–based system for the detection of host cell DNA from *Pichia pastoris* cells, 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 *Pichia pastoris* cell 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 final product—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 from 1 pg *Pichia pastoris* genomic DNA spiked into 6 test samples.

Genomic DNA	Mean recovery	Mean CV
<i>Pichia pastoris</i>	88%	10%

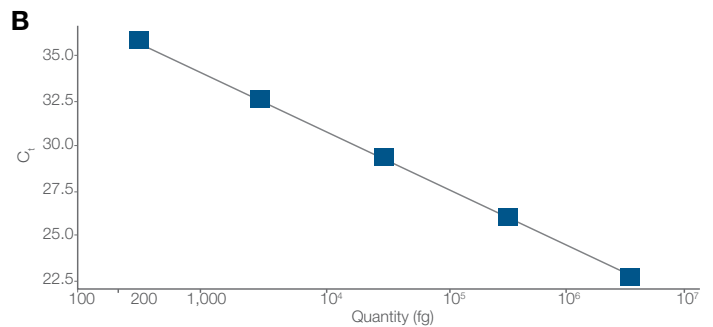
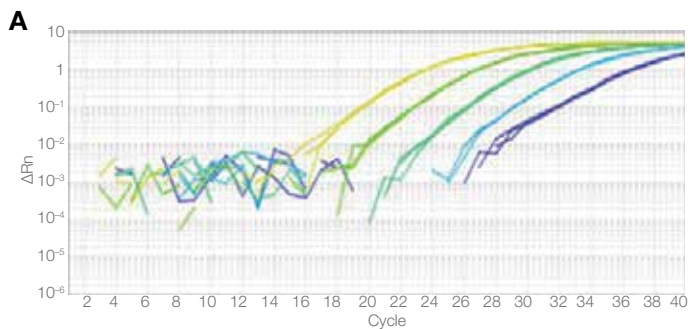


Figure 1. High sensitivity and broad dynamic range using the resDNASEQ *Pichia pastoris* Residual DNA Quantitation System. (A) The amplification plots were generated using 10-fold serial dilutions (containing 3 ng to 300 fg) of *Pichia pastoris* genomic DNA, provided in the kit. (B) Standard curve of the 10-fold dilution series. Data were analyzed using Applied Biosystems™ AccuSEQ™ Real-Time PCR Software.

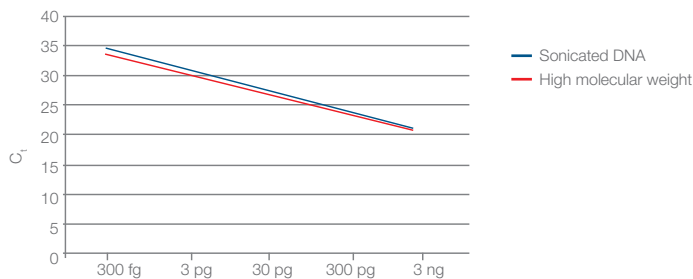


Figure 2. Consistent quantitation across a broad range of fragment sizes. Standard curves were generated using 10-fold serial dilutions of high molecular weight or fragmented DNA, from 3 ng to 300 fg. Fragmented DNA was generated by sonicating total *Pichia pastoris* genomic DNA. Fragmentation of the DNA was confirmed by agarose gel analysis.

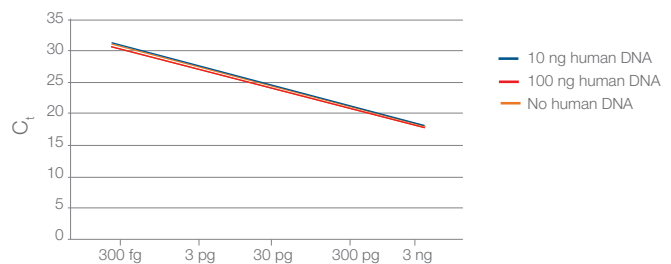


Figure 3. Assay specificity. Standard curves were generated using 10-fold serial dilutions of *Pichia pastoris* genomic DNA in the presence of 100 ng, 10 ng, or no human DNA.

Ordering information

Product	Quantity	Cat. No.
resDNASEQ Quantitative <i>Pichia pastoris</i> DNA Kit	100 reactions	4464336
resDNASEQ Quantitative <i>Pichia pastoris</i> DNA Kit with PrepSEQ Residual DNA Sample Preparation Kit	100 reactions	4464340
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

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