DNA & RNA

PowerClean® Pro
DNA and RNA Clean-Up Kits

Reclaim the possibilities

✓ **Efficient secondary purification** – Fast and easy 7 minute protocol to clean up your problematic DNA or RNA

✓ **Removes challenging impurities** – Purifies nucleic acids containing humic substances, polyphenolics, polysaccharides and other PCR inhibitors

✓ **Successful amplification** - High purity nucleic acids for use in PCR, qPCR and next generation sequencing

中国区总代理

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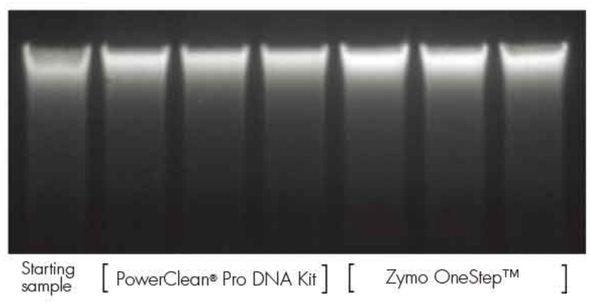
PowerClean® Pro DNA and RNA Kits

Reclaim the possibilities

The PowerClean® Pro DNA and RNA Clean-Up Kits utilize our patented Inhibitor Removal Technology® (IRT) to provide researchers with a novel and proprietary method for cleaning up previously isolated DNA and RNA. The PowerClean® Pro DNA Clean-Up Kit is a significantly streamlined improvement over the original PowerClean® DNA Clean-Up Kit, including fewer steps for a protocol that is twice as fast. The PowerClean® Pro RNA Clean-Up Kit is the only commercially available kit dedicated to secondary RNA purification. The kits will remove PCR inhibitors including humic substances, heme, polysaccharides, polyphenols, fulvic acids, lipids and dyes. The resulting high purity nucleic acids are ready to use in the most demanding downstream applications, including PCR, qPCR and next generation sequencing.

Figure 1. Higher purity by elimination of humic substances from DNA. Samples cleaned up with either the PowerClean® Pro DNA Clean-Up Kit or the Zymo Research OneStep™ PCR Inhibitor Removal Kit were examined on a 1.2% TAE gel (A). The amount, quality and molecular weight of DNA was similar for all samples, regardless of clean-up method. DNA quantification was performed using a NanoDrop 1000 Spectrophotometer (B). The concentration of the starting sample was observed to be artificially high, with low 260/280 and 260/230 ratios, indicating the presence of contaminants that absorb at A230, such as humic substances. Following clean-up with the PowerClean® Pro DNA Kit, the 260/280 and 260/230 ratios increased to levels consistent with pure DNA and the concentration of the DNA decreased to an average of 76.85 ng/µl, a value that was confirmed by quantitation using a Qubit PicoGreen Assay (data not shown). For samples cleaned-up with the OneStep™ Kit, the 260/280 and 260/230 ratios remained low, indicating that inhibitors were still present.

A



B

Sample ID	ng/µl	A260	A280	260/280	260/230	Cursor abs	340 raw
Starting Sample	311.27	6.225	4.565	1.36	0.84	7.450	3.834
PowerClean® Pro DNA	76.85	1.540	0.790	1.95	2.04	0.750	0.030
Zymo OneStep™	143.24	2.860	1.850	1.55	1.18	2.430	0.730

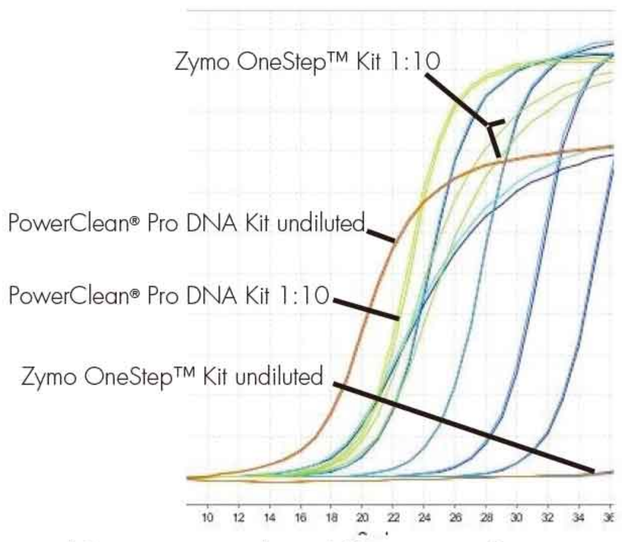
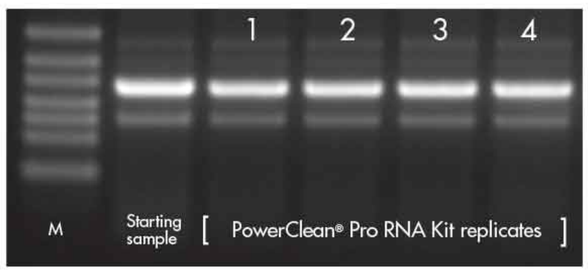


Figure 2. Successful qPCR amplification. DNA described in Fig. 1 was examined via qPCR with a *Bacillus* 16S assay (1µl of undiluted DNA cleaned up using two different methods, or 1:10 dilution). Samples cleaned up with the PowerClean® Pro DNA Kit were free of inhibitors, as indicated by successful amplification and a difference of approximately 3 cycles between the undiluted DNA and the 1:10 dilution. Undiluted samples cleaned up with the Zymo OneStep™ Kit failed to amplify, and 1:10 dilutions amplified with a higher Cq value than the PowerClean® Pro 1:10 dilution, indicating that PCR inhibitors remained in the samples.

Figure 3. Elimination of humic acids from RNA. The amount, quality and molecular weight of RNA visualized on the gel was similar for the starting sample and the samples following clean up (A). The starting sample contained humic acids, which absorb at A230. Following clean-up, the 260/280 and 260/230 ratios increased to levels consistent with pure RNA and the concentration of the RNA decreased to an average of 129.93 ng/µl, a value that was confirmed by quantitation using a Qubit PicoGreen Assay (data not shown).

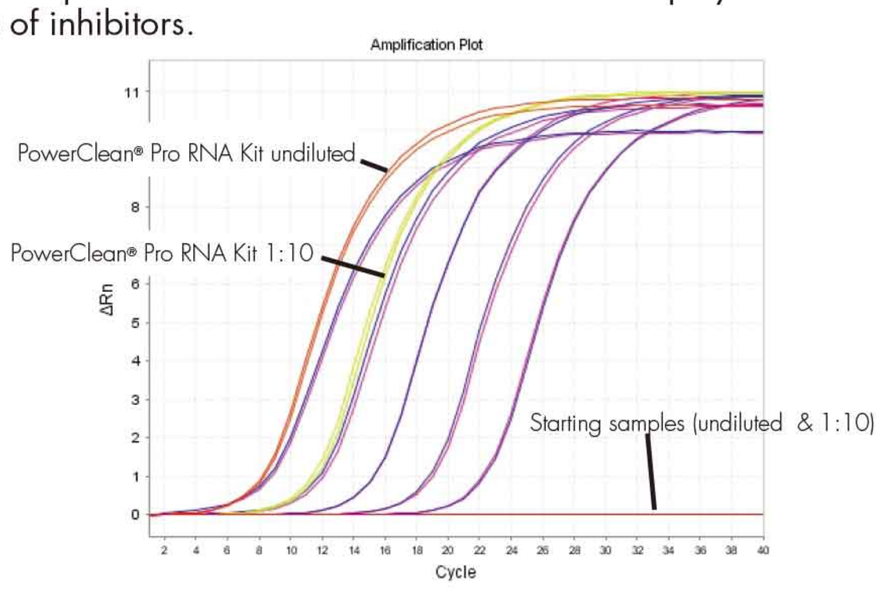
A



B

Sample ID	ng/µl	A260	A280	260/280	260/230	Cursor abs	340 raw
Starting Sample	292.85	7.321	3.902	1.88	0.56	12.990	2.385
1	126.60	3.165	1.512	2.09	2.35	1.349	0.079
2	130.36	3.259	1.567	2.08	2.36	1.383	0.070
3	129.14	3.229	1.528	2.11	2.37	1.361	0.084
4	133.63	3.341	1.598	2.09	2.35	1.424	0.111

Figure 4. Successful RT-qPCR. RNA described in Fig. 3 was examined via RT-qPCR with a *Bacillus* 16S assay (1µl of undiluted RNA or a 1:10 dilution). Samples were free of inhibitors, as indicated by successful amplification of the undiluted RNA and a difference of approximately 3 cycles between the undiluted and the 1:10 dilution. Starting samples and 1:10 dilutions failed to amplify due to the presence of inhibitors.



Specifications	PowerClean® Pro DNA Kit	PowerClean® Pro RNA Kit
Format	Silica Spin Filter Tubes	Silica Spin Filter Tubes
Binding Capacity	Up to 20 µg per filter	Up to 40 µg per filter
Sample Size	Up to 100 µl of purified DNA	Up to 100 µl of purified RNA
Nucleic Acids	100bp-50kb, including genomic DNA	Total RNA, with protocol modification for clean-up of small RNA
Throughput	1 - 24 samples	1 - 24 samples
Time	7 minutes	7 minutes
Equipment Required	Vortex & microcentrifuge	Vortex & microcentrifuge

Catalog No.	Description	Units
12997-50	PowerClean® Pro Clean-Up DNA Kit	50 Preps
13997-50	PowerClean® Pro Clean-Up RNA Kit	50 Preps

中国区订购联系信息

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