



Sensitivity and reproducibility as good as a spin column

To prove consistency of our novel purification chemistry in both the high- and low-throughout formats, human plasma was spiked with Armored RNA[®] HCV, and 200 µl were used for viral nucleic acid purification with either the PureLink[™] Viral RNA/DNA Mini Kit (spin-column format) or the PureLink[™] 96 Viral RNA/DNA Kit. Purified samples from each method were then analyzed by qRT-PCR. Both methods successfully demonstrated scalable qRT-PCR detection analysis profiles (Figure 4). The PureLink[™] 96 Viral RNA/DNA Kit provides linear, scalable viral RNA/DNA purification with sensitivity and efficiency equal to that of the spin-column format.

There are many choices for purification of viral nucleic acids from serum and plasma. However, only the PureLink[™] 96 Viral RNA/DNA Kits provide a solution that offers flexibility in processing both RNA and DNA viruses using centrifugation speeds that allow for more centrifuge options. Experience the highest flexibility, sensitivity, and consistency with your viral nucleic acid isolations with PureLink[™] Viral RNA/DNA Kits.

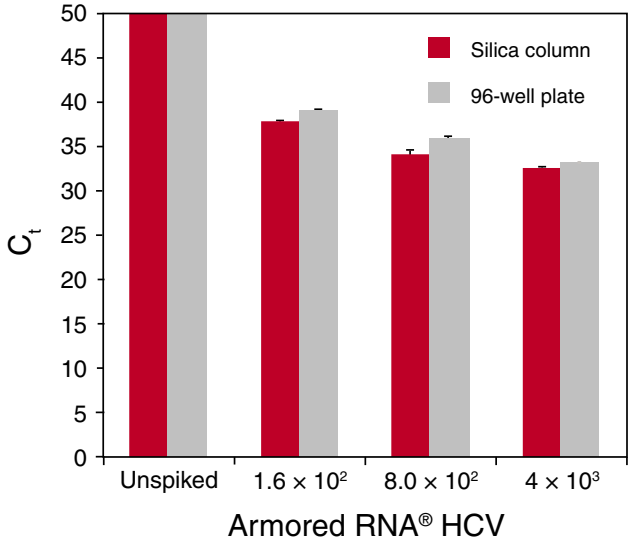
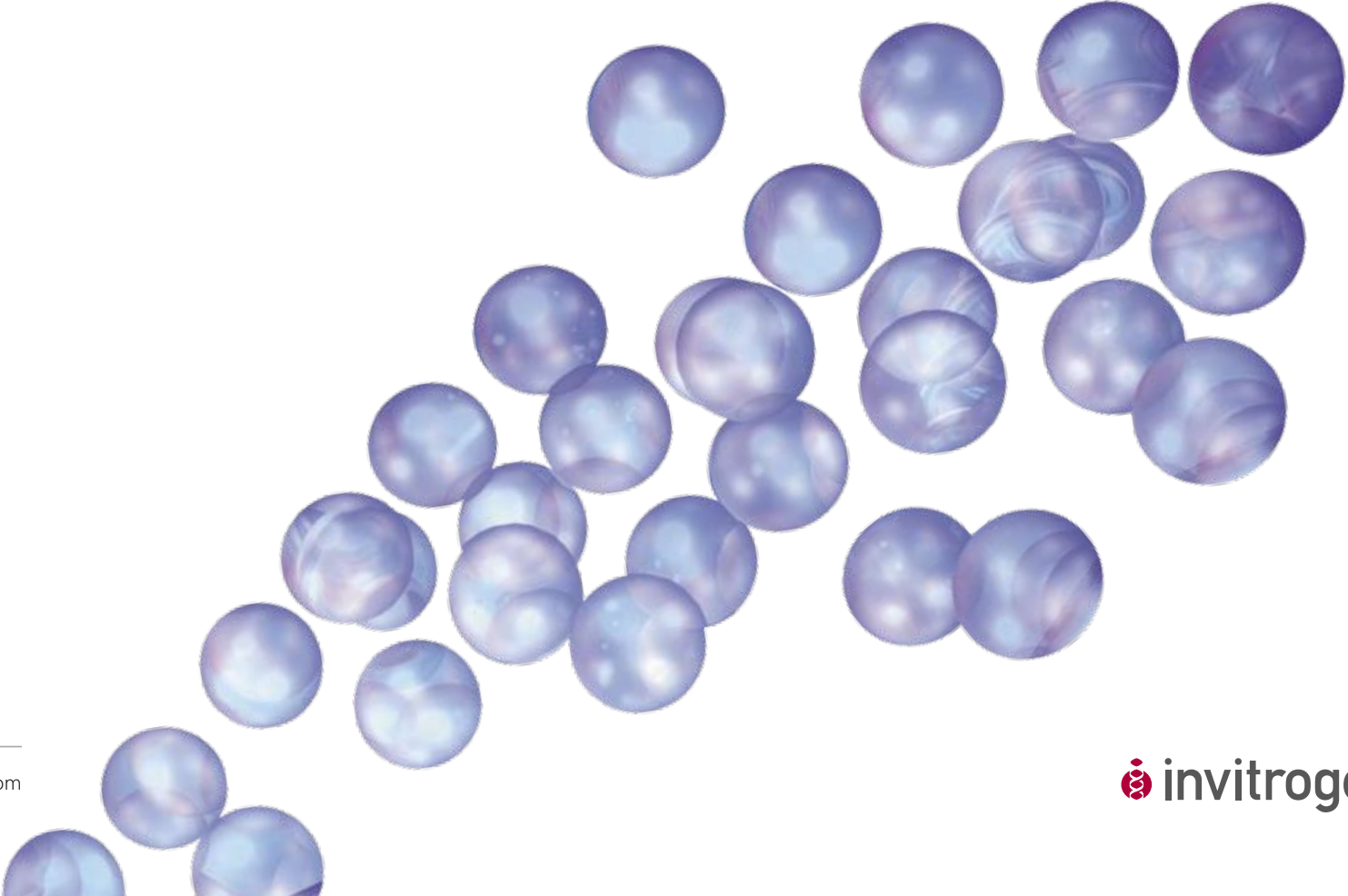


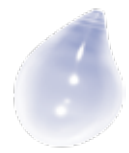
Figure 4—Sensitivity of the PureLink[™] 96 Viral RNA/DNA Kit compared to spin-column purification. Various amounts of Armored RNA[®] HCV were prepared in human plasma, and 200 µl plasma samples were subjected to viral RNA purification using both the PureLink[™] 96 Viral RNA/DNA Kit and the PureLink[™] Viral RNA/DNA Mini Kit (spin-column system). After purification, Armored RNA[®] HCV-specific primers and the SuperScript[®] III Platinum One-Step Quantitative RT-PCR Kit were used for qRT-PCR. Recovery of Armored RNA[®] RNA was nearly identical for the two kits and formats.

Maximize viral nucleic acid purification

Ordering information

Product	Quantity	Cat. no.
PureLink [™] 96 Viral RNA/DNA Kit	4 plates	12280-096
PureLink [™] Viral RNA/DNA Mini Kit	50 preps	12280-050
Related products		
ChargeSwitch [®] EasyPlex [™] Viral RNA/DNA Kit	96 preps	CS12281-01
ChargeSwitch [®] EasyPlex [™] Viral RNA/DNA Kit	384 preps	CS12281-04
SuperScript [®] III First-Strand Synthesis System for RT-PCR	50 rxns	18080-051
Platinum [®] PCR SuperMix	100 rxns	11306-016
RNA UltraSense [™] One-Step Quantitative RT-PCR System	100 rxns	11732-927
SuperScript [®] III One-Step RT-PCR System With Platinum [®] Taq DNA Polymerase	25 rxns	12574-018
	100 rxns	12574-026





The ultimate in viral RNA/DNA purification flexibility

PureLink™ 96 Viral RNA/DNA Kit

- Versatility—one kit for all your samples; the protocol is optimized for both viral RNA and DNA extraction
- Flexibility in centrifuge choice—minimum 2,250 x g for 96-well processing, and a rotor bucket depth of 5 cm, make this kit one of the most adaptable systems for existing laboratory centrifuges (Figure 1)
- Sensitivity and reproducibility as good as a spin column—moving to high throughput is reliable and easy with no loss in accuracy of quantitation

The PureLink™ 96 Viral RNA/DNA Kit is the only 96-well silica plate system that can extract both viral RNA and DNA from 200 µl of cell-free fluid, using a low-depth, 96-well centrifuge bucket for ease of use.

The PureLink™ 96 Viral RNA/DNA Kit is based on conventional silica plate extraction chemistry. Cell-free samples are lysed in guanidine-containing buffers that have been reformulated to increase the recovery of purified nucleic acids, while carrier RNA is used to protect samples from RNase degradation. Binding of lysates to the PureLink™ Viral Filter Plate can be performed with either a vacuum manifold, or by centrifugation using a 96-well plate rotor with buckets having a depth of only 5 cm. After washes with ethanol-based buffers, the viral RNA or DNA is eluted in 100 µl of RNase-free water. The RNA or DNA is ready to use in one-step or two-step RT-PCR and qRT-PCR, qPCR, or other enzymatic amplification procedures.

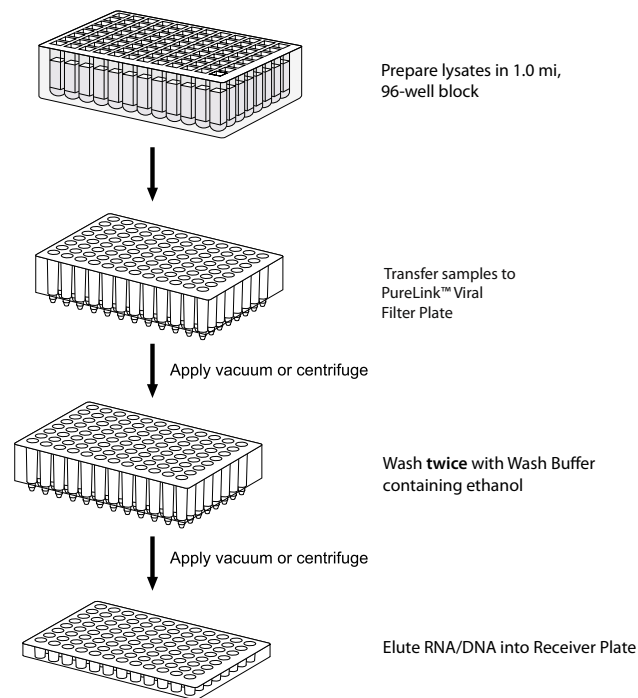


Figure 1—PureLink™ 96 Viral RNA/DNA Kit.

PureLink™ 96 Viral RNA/DNA Kit shows excellent well-to-well consistency

A critical requirement for any 96-well purification system is well-to-well consistency. When using a technique as sensitive as qRT-PCR for detection of viral nucleic acids, which may exist in low amounts in patient samples, consistency between samples becomes even more important. When well-to-well recovery of lentiviral RNA purified using the PureLink™ 96 Viral RNA/DNA Kit was analyzed, consistent C_t values were obtained in qRT-PCR analyses while plasma controls run on the same plate were negative, showing no cross-contamination (Figure 2).

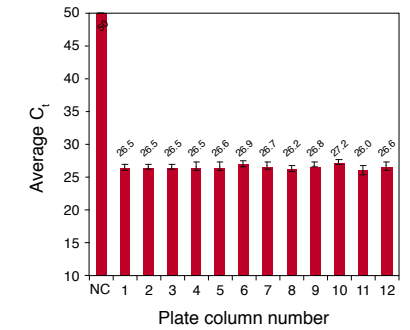


Figure 2—Consistent recovery observed with PureLink™ 96 Viral RNA/DNA Kit plate preparation. The consistency of the 96-well purification was measured by processing all 96 samples with the same viral dose in one plate. Lentivirus containing GFP (2,000 CFU) was spiked into 200 µl of human plasma and the purified viral RNA eluted in 150 µl. For qRT-PCR, 10 µl was used with the SuperScript® III Platinum One-Step Quantitative RT-PCR Kit for analysis of the GFP RNA. Each bar represents the average of 8 samples. The average C_t for all 96 samples was 26.6 ± 0.6. NC: Negative control.

Consistent recovery with no cross-contamination with automated extraction

The ability to automate extraction of nucleic acids on the instrument of choice is a benefit of using PureLink™ 96 kits for purification. Processing cell-free samples for viral RNA or DNA extraction was easily performed on both the Tecan Freedom EVO® and Beckman Biomek® FX robots. Adenoviral DNA was extracted from 48 plasma samples using either the PureLink™ 96 Viral RNA/DNA Kit or the QIAamp Virus BioRobot 9604 Kit on the Tecan Freedom EVO® instrument (Figure 3). Results demonstrate equal performance in recovery of adenoviral DNA between the two methods. In addition, the data demonstrate excellence in both consistency of recovery and absence of cross-contamination, as shown with samples prepared without plasma.

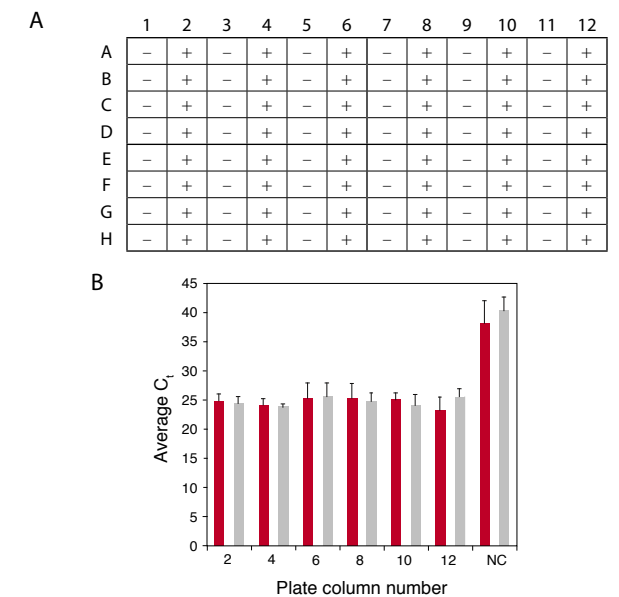


Figure 3—Consistent results without cross-contamination. A. No cross-contamination between positive and negative samples. “+” indicates sample with a C_t value ≤25 and “-” indicates a C_t value ≥40. Even-numbered rows contained human plasma spiked with 2 × 10⁷ adenovirus particles, and odd-numbered rows contained plasma without virus. Extraction was performed with the PureLink™ 96 Viral RNA/DNA Kit on the Tecan Freedom EVO® instrument. For qPCR, 10 µl of the eluate was analyzed using the Platinum® Quantitative PCR SuperMix-UDG with ROX. B. Plasma samples spiked with 2 × 10⁷ adenovirus particles were processed on the Tecan Freedom EVO® instrument using either the PureLink™ 96 Viral RNA/DNA Kit (red bars) or the QIAamp Virus BioRobot 9604 Kit (gray bars). Each bar represents the average of 8 samples. C_t values show comparable recovery of virus between both kits and reproducibility throughout the plate, when performed with automated processing using a vacuum manifold. Platinum® Quantitative PCR SuperMix-UDG with ROX was used for qPCR. NC: Negative control.