High Recovery of RNA with Superior Yield and Purity

Agencourt® RNAdvance® Cell v2 System

Total RNA Isolation and Purification from Cultured Eukaryotic Cells

The Agencourt RNAdvance Cell v2 kit is based on patented Solid Phase Reversible Immobilization (SPRI®) paramagnetic bead technology, known for its ability to consistently deliver pure nucleic acids of the highest quality and yield. This system reliably delivers high RNA recovery and purity without the need for filtration or centrifugation. The Agencourt RNAdvance Cell v2 chemistry is an automation friendly process for isolating total RNA for utilization in microarray and real time qPCR[1] applications.

Key Features:

- Extraction and purification of high quality total RNA from cultured cells in a 96-well format
- Efficient removal of genomic DNA and other contaminants
- No centrifugation or vacuum filtration required
- Ideal for gene expression applications
- Scalable: Supports manual processing and full automation methods on Beckman Coulter Biomek® NX^P and FX^P laboratory automation workstations
- Throughput: Two 96-well plates in approximately 2 hours and 15 minutes on the Beckman Coulter Biomek FX^P

High RNA Recovery

The Agencourt RNAdvance Cell v2 extraction method routinely produced higher total RNA recovery in comparison to competitor methods RNeasy[2] and MagneSil[2] from the same number of cells (Figure 1).

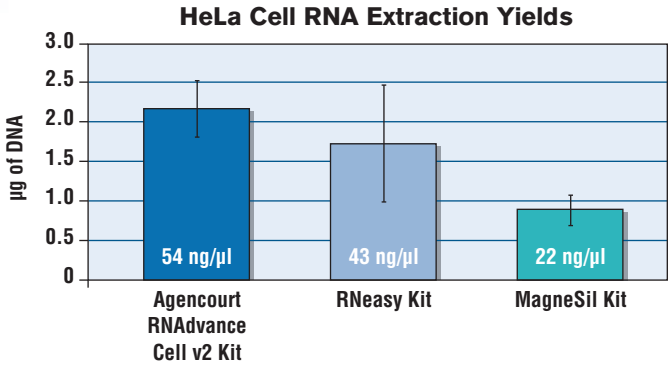

Figure 1. *Total RNA from 5x10⁴ HeLa cells was isolated using the Agencourt RNAdvance Cell v2 system, RNeasy kit, or the MagneSil kit. Quantitation was performed by RiboGreen[2] assay. Agencourt RNAdvance Cell v2 kit consistently produced greater yield than competitors RNeasy and MagneSil.*

Quality RNA Purification

The Agencourt RNAdvance Cell v2 system was compared against RNeasy and MagneSil kits for total RNA quality. Analysis of the samples using the Agilent[2] 2100 bioanalyzer showed that RNA isolated using the Agencourt RNAdvance Cell v2 system had consistently higher RNA Integrity Number (RIN[3]) scores than competitive technologies (Figure 2).

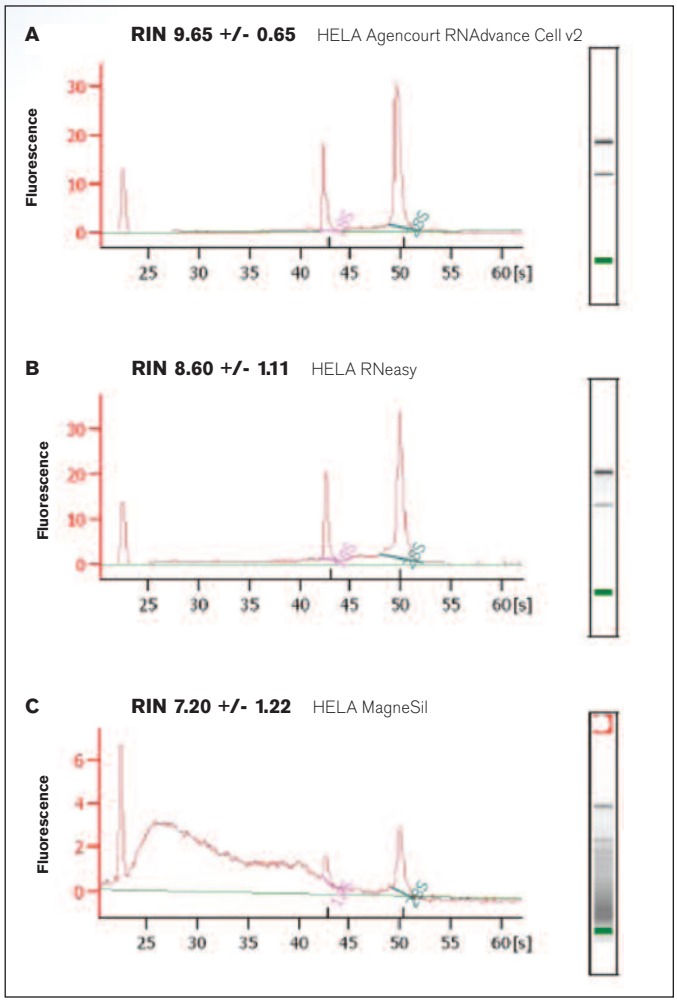

Figure 2. *RNA samples were isolated using the Agilent Bioanalyzer 2100 RNA NanoChip. Total RNA was extracted from 5 x 10⁴ HeLa cells using (A) Agencourt RNAdvance Cell v2, (B) RNeasy, or (C) MagneSil (standard protocols). The average RNA Integrity Number (RIN) as determined from Agilent 2100 bioanalyzer (five replicates of extraction performed on 5 x 10⁴ HeLa cells for each kit).*

Walk Away Automation

The Agencourt RNAdvance Cell v2 process is easily amenable to automation. Automation methods are available for the Biomek NX^P and FX^P fitted with a 96 multichannel head and an orbital shaker. The Beckman Coulter Biomek FX^P is capable of extracting total RNA from two 96-well plates in approximately 2 hours and 15 minutes. Figure 3 shows a real-time PCR amplification plot of RNA extracted using Agencourt RNAdvance Cell v2 manual methods as well as the automated process on the Biomek NX^P (plots are superimposed to show consistency across methods). The reproducibility in the Ct values across samples and methods show how automating SPRI technology in your workflow can improve the consistency of data generated through gene expression experiments (Figures 3 and 4).

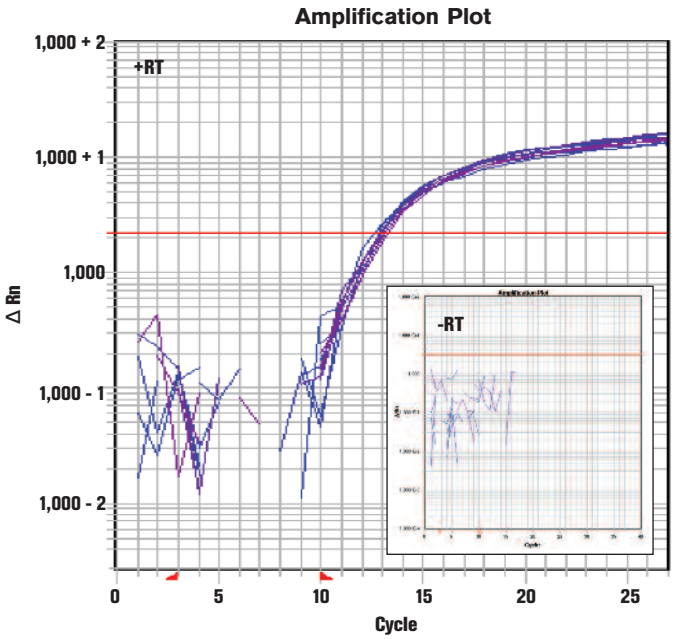

Figure 3. *Amplification plot from qRT-PCR of the 18s housekeeping gene in RNA extracted from 293T cells. No genomic DNA can be detected up to 40 cycles (-RT-qPCR, inset).*

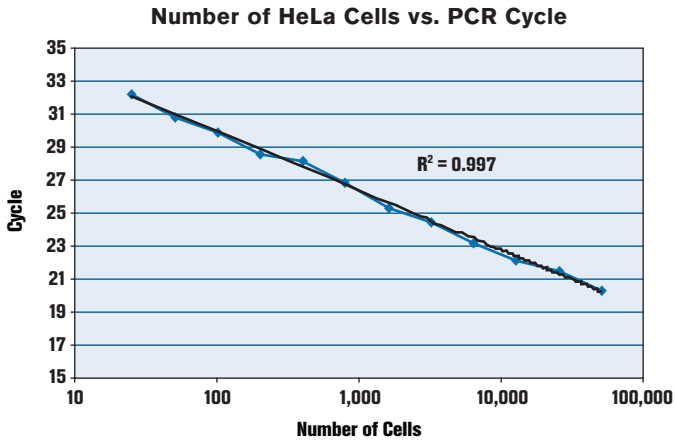

Figure 4. *qRT-PCR for the 18s housekeeping gene shows a linear dependence of cycle threshold values for the number of HeLa cells RNA extracted with the Agencourt RNAdvance Cell v2 system.*

Summary

The Agencourt RNAdvance Cell v2 kit is a simple and highly efficient method for isolating and purifying total RNA from cultured cells. Its superior performance delivers high quality RNA for use in microarray or real-time PCR gene expression applications. With flexibility from manual to fully automated 96-well plate formats, the Agencourt SPRI paramagnetic bead-based technology enables efficient removal of contaminants without the need for filtration or centrifugation. Agencourt RNAdvance Cell v2 system produces higher recovery, better quality, and more consistent results compared to other available RNA isolation and purification technologies with a walk-away automation solution.

Kit Components

- Lysis Buffer
- Wash Buffer
- Bind Buffer
- Proteinase K
- PK Buffer

Ordering Information

For more information, please visit our website at **www.agencourt.com** or contact your local sales representative.

Product	Size	Product #
Agencourt RNAdvance Cell v2 Kit - Small	100 preps (1 x 96)	A47942
Agencourt RNAdvance Cell v2 Kit - Large	960 preps (10 x 96)	A47943

Related Products	Product #
Software - Agencourt RNAdvance Cell v2 96 MC - v 3.x	A47946

[1] The PCR process is covered by patents owned by Roche Molecular Systems, Inc., and F. Hoffman-La Roche, Ltd.
[2] All trademarks are property of their respective owners.
[3] For more information on RIN RNA quality scores refer to Genomics and Proteomics v.4; no 5, pp.14– 21.

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