RNeasy® Plus Kits

For purification of total RNA from cultured cells and tissues using gDNA Eliminator columns

RNeasy Plus Kits integrate fast and convenient RNA purification with effective elimination of genomic DNA contamination. Micro and mini formats of the kit are available for purification of up to 45 µg and 100 µg RNA, respectively. The purified RNA is highly suited for sensitive downstream applications such as quantitative, real-time RT-PCR.

Benefits of RNeasy Plus Kits:

- Unique gDNA Eliminator columns avoid need for DNase
- Optimized protocol for high, reproducible RNA yields
- Fast procedure providing high-quality RNA in minutes
- Ready-to-use RNA for sensitive downstream applications

Unique genomic DNA elimination step

Cells and easy-to-lyse tissues are lysed in Buffer RLT Plus, which provides optimal conditions for sample lysis and binding of genomic DNA to gDNA Eliminator spin columns. This allows high, reproducible RNA yields and effective elimination of genomic DNA contamination for sensitive applications (Figures 1–3).

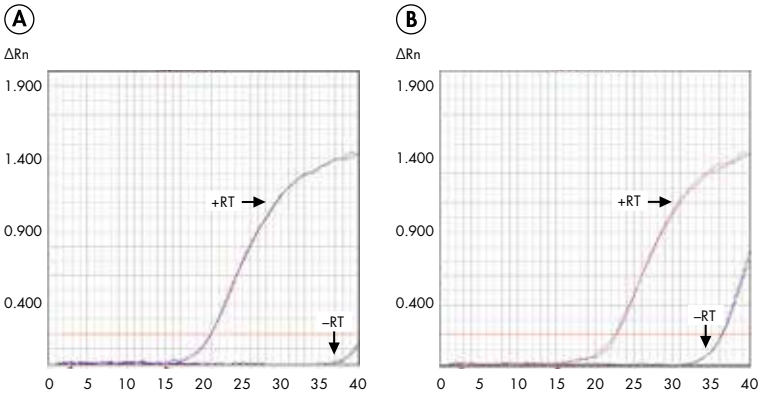


Figure 1. Effective elimination of genomic DNA contamination. Total RNA was purified from Jurkat cell samples (1 x 10^6 cells per sample) using **A** the RNeasy Plus Mini Kit or **B** an RNA purification kit with integrated genomic DNA removal from Supplier A_V. Duplicate real-time RT-PCR assays for β-actin were performed with (**+RT**) or without (**–RT**) reverse transcriptase. The **–RT** curves demonstrate that RNA purified using the RNeasy Plus Mini Kit was virtually free of genomic DNA.

RNeasy Plus Mini Procedure

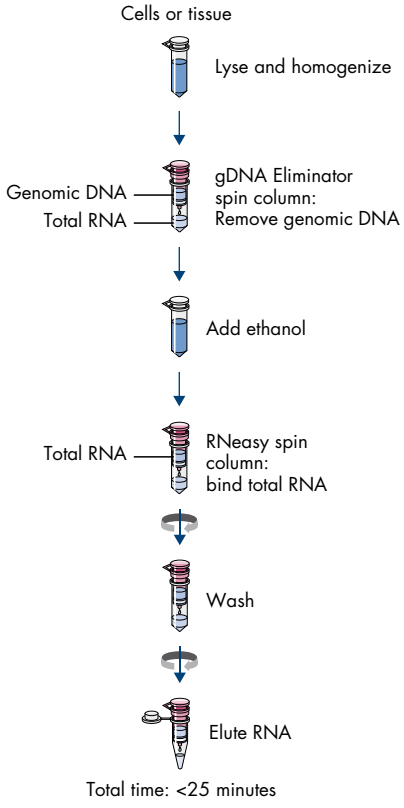


Table 1. High-quality RNA from Jurkat cells

RNA purification method	RIN value
RNeasy Plus Mini Kit	10
Kit from Supplier AV	8.7

Total RNA was analyzed on the Agilent® 2100 Bioanalyzer.

High-quality RNA in minutes

A short workflow enables RNA purification with genomic DNA removal in less than 25 minutes (see flowchart, front page). The purified RNA is of high quality (Table 1) and ready to use in any downstream application, such as array analysis (Figure 4).

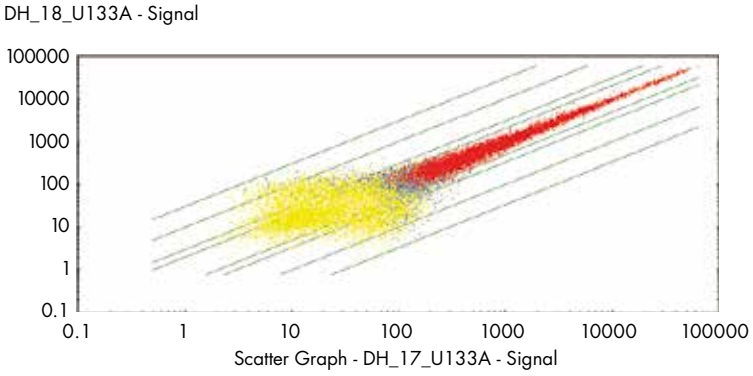


Figure 4. Array-ready RNA. Total RNA was purified in duplicate from 1 x 10^6 HeLa cells using the RNeasy Plus Mini Kit. cRNA was prepared from the duplicate RNA samples (3.5 µg each) using the GeneChip® IVT Labeling Kit. The cRNA samples (15 µg each) were analyzed on GeneChip Human Genome U133A probe arrays. The scatter plot shows the correlation between the two samples (Pearson correlation coefficient [r] is 0.996). **Red**: gene present in both samples; **Blue**: gene absent or marginal in one sample; **Yellow**: gene absent or marginal in both samples.

Figure 3. Effective genomic DNA removal. Total RNA was purified in duplicate from various mouse tissues (10 mg per sample) using the RNeasy Plus Mini Kit or kits from other suppliers. Real-time PCR assays for c-jun were performed to determine the amount of DNA contamination in the purified RNA.

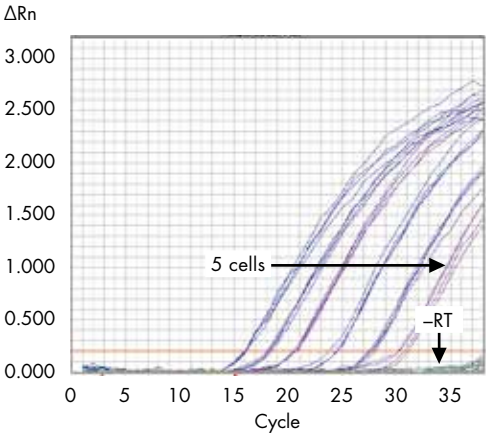
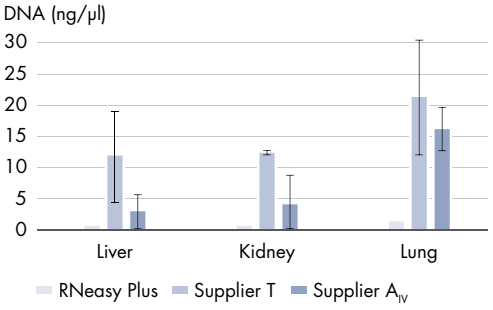


Figure 2. High, reproducible RNA yields from small samples. Total RNA was purified from 10-fold serial dilutions of Jurkat cells (5 x 10^5 to 5 cells) using the RNeasy Plus Micro Kit; at each dilution, RNA was purified from 4 replicates. β-actin transcript was detected in down to 5 cells by real-time RT-PCR, and reproducible C_T values were observed at each dilution. In control reactions without reverse transcriptase (**–RT**), β-actin DNA was not detected after 38 cycles, indicating the absence of genomic DNA contamination.



Ordering Information

Product	Contents	Cat. no.
RNeasy Plus Micro Kit (50)	For 50 RNA micropreps: RNeasy MinElute® Columns, gDNA Eliminator Columns, Collection Tubes, Buffers	74034
RNeasy Plus Mini Kit (50)	For 50 RNA minipreps: RNeasy Columns, gDNA Eliminator Columns, Collection Tubes, Buffers	74134

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