

# RNeasy® Mini, Midi and Maxi Kits

For purification of total RNA from cells, tissues, and yeast, and for RNA cleanup\*

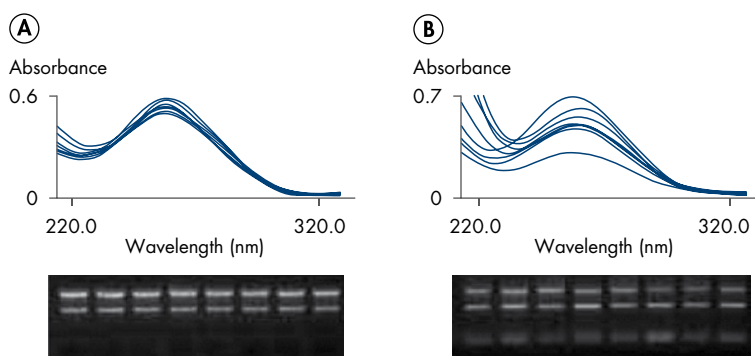
RNeasy Mini, Midi and Maxi Kits provide a fast and convenient procedure for RNA purification, delivering high-quality RNA for use in many downstream applications. RNA is isolated on the silica membrane in trusted RNeasy spin columns, which have binding capacities of 100 µg (mini), 1 mg (midi) and 6 mg (maxi) RNA.

Benefits of RNeasy Mini, Midi and Maxi Kits:

- Fast procedure delivering high-quality total RNA in minutes
- Ready-to-use RNA for use in many downstream applications
- Consistent RNA yields from small to large samples
- No phenol/chloroform extraction or LiCl or ethanol precipitation

## Fast, reproducible RNA purification

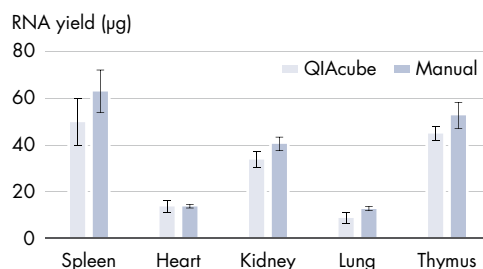
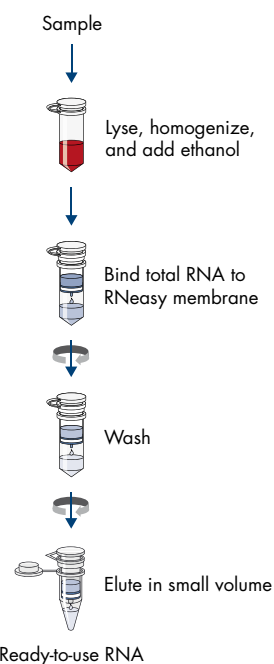
RNA purification with the RNeasy Mini Kit takes just 20 minutes, and can be performed using a microcentrifuge or QIAvac vacuum manifold or fully automated on the QIAcube®. With RNeasy Midi and Maxi Kits, RNA is purified in less than 1 hour using a centrifuge. All kits deliver reproducible yields of intact RNA with high RIN values and  $A_{260}/A_{280}$  ratios of 1.9–2.1 (Figures 1 and 3). Safe and convenient analysis of RNA integrity can be achieved using the QIAxcel® system (Figure 3A), which analyzes up to 96 samples on ready-to-use gel cartridges.



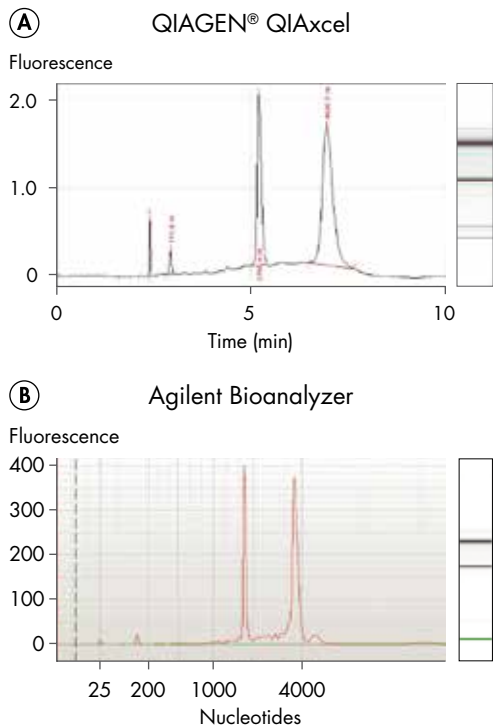
**Figure 1. Reproducible RNA yields with RNeasy Kits.** RNA was purified from eight HeLa cell samples ( $10^6$  cells each) using either the RNeasy Mini Kit (**RNeasy**) or acid-phenol-extraction (**Acid Phenol**). **A** UV spectrophotometry of samples diluted in 10 mM Tris-Cl, pH 7.5. **B** Formaldehyde agarose gel analysis of 10 µg of each sample, based on  $A_{260}$  readings in **A**.

\* For difficult-to-lyse tissues, specialized RNeasy Kits are available. For details, visit [www.qiagen.com/RNA](http://www.qiagen.com/RNA).

## RNeasy Procedure



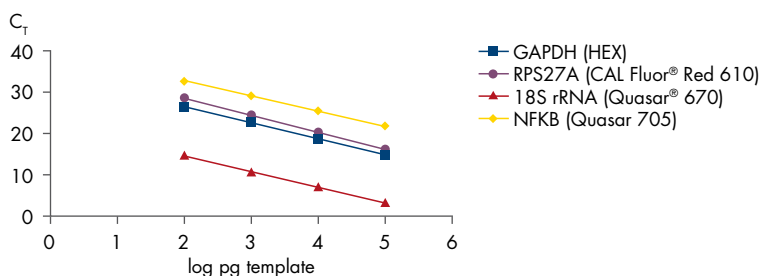
**Figure 2. High RNA yields from various tissues.** Rat tissues (15 mg) were stabilized in RNA/later® RNA Stabilization Reagent and disrupted using the TissueLyser II. RNA was purified using the RNeasy Mini Kit, either manually (**Manual**) or on the QIAcube (**QIAcube**).



**Figure 3. Highly intact RNA.** RNA was purified from Jurkat cells using the RNeasy Mini Kit. The purified RNA was analyzed on the **A** QIAxcel system (ratio of 28S to 18S rRNA: 1.55) and **B** Agilent® 2100 Bioanalyzer (ratio of 28S to 18S rRNA: 1.7). A high RNA Integrity Number (RIN) of 9.6 was obtained, indicating highly intact RNA.

## High performance in downstream applications

Ready-to-use RNA can be purified from a variety of sample types using RNeasy Kits, and yields are comparable when purification is either carried out manually or automated on the QIAcube (Figure 2). The innovative QIAcube automates the binding, washing, and elution of RNA, and can process up to 12 samples per run. RNA purified using RNeasy Kits is longer than 200 nucleotides and performs well in a wide range of applications, including RT-PCR and real-time RT-PCR (Figure 4).



**Figure 4. Reliable multiplex real-time RT-PCR.** RNA was purified from HeLa cells using the RNeasy Mini Kit. 4-plex, real-time one-step RT-PCR was then performed on the Rotor-Gene® Q using the Rotor-Gene Multiplex RT-PCR Kit and self-designed TaqMan® assays for the indicated targets. The plots of  $C_t$  value versus log template amount were parallel, indicating all 4 targets were amplified with the same high efficiency.

## Ordering Information

Product	Contents	Cat. no.
RNeasy Mini Kit (50)*	50 Spin Columns, Collection Tubes, Reagents, Buffers	74104
RNeasy Midi Kit (10)*	10 Spin Columns, Collection Tubes, Reagents, Buffers	75142
RNeasy Maxi Kit (12)*	12 Spin Columns, Collection Tubes, Reagents, Buffers	75162

\* Mini and midi kits are available in larger kit sizes; for details, visit [www.qiagen.com](http://www.qiagen.com). Midi and maxi kits require use of a centrifuge capable of attaining 3000–5000 x g and equipped with a swing-out rotor for 15 ml (midi) or 50 ml (maxi) centrifuge tubes.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at [www.qiagen.com](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor. “RNA/ater®” is a trademark of AMBION, Inc., Austin, Texas and is covered by various U.S. and foreign patents.

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