

Total RNA Purification Kit

Norgen's Total RNA Purification Kit provides a rapid method for the isolation and purification of total RNA from cultured animal cells, small tissue samples, blood, plasma, serum, bacteria, yeast, fungi, plants and viruses. The kit purifies all sizes of RNA, from large mRNA and ribosomal RNA down to microRNA (miRNA) and small interfering RNA (siRNA), without the use of phenol or chloroform.

Purification is based on spin column chromatography using Norgen's proprietary resin as the separation matrix. The RNA is preferentially purified from other cellular components such as proteins. The purified RNA is of the highest integrity, and can be used in a number of downstream applications including real time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays.



Kit Specifications			
Column Binding Capacity	50 µg	Maximum Amount of Starting Material:	
Maximum Column Loading Volume	650 µL	Animal Cells	3 x 10 ⁶ cells
Size of RNA Purified	All sizes	Animal Tissues*	10 mg
Time to Complete 10 Purifications	20 minutes	Blood	100 µL
Average RNA Yield:		Bacteria	1 x 10 ⁹ cells
HeLa Cells (1 x 10 ⁶ cells)	15 µg	Yeast	1 x 10 ⁸ cells
<i>E. coli</i> (1 x 10 ⁹ cells)	50 µg	Fungi	50 mg
<i>S. cerevisiae</i> (1 x 10 ⁷ cells)	30 µg	Plant Tissues	50 mg
		Plasma/Serum	200 µL

* Maximum recommended input of tissue varies depending on the type of tissue being used. For isolating total RNA from larger amounts of tissue, please use Norgen's Animal Tissue RNA Purification Kit (Cat # 25700)

Total RNA Purification Kit Benefits

Isolate a diversity of RNA species	All RNA species can be isolated, from large mRNA and ribosomal RNA down to microRNA (miRNA) and small interfering RNA (siRNA) (Figure 1).
Fast and easy processing	Rapid spin-column format allows for the processing of 10 samples in 20 minutes.
No phenol:chloroform extractions	Total RNA is isolated without the use of harmful chemicals such as phenol or chloroform.
Isolate total RNA from very small samples	Total RNA has been isolated and detected from as little as a single animal cell (Figure 2).
Recovered RNA is suitable for downstream applications	Purified RNA can be used in a number of downstream applications including real-time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array analysis requiring the use of intact RNA.

Total RNA Purification Kit

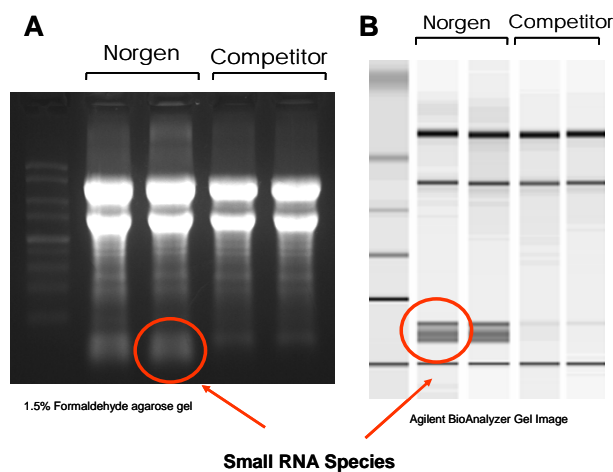


Figure 1. Isolate a Diversity of RNA Species

Total RNA was isolated from 1×10^9 *E. coli* cells using Norgen's Total RNA Purification Kit and a competitor's kit. Five microliters and 1 μ L of the 50 μ L isolated RNA was analyzed on an agarose gel (Panel A) and the Agilent® 2100 BioAnalyzer RNA Nano 6000 chip (Panel B), respectively. Note the presence of small RNA species (red circle) in the samples isolated via Norgen's kit and the absence of these RNA species in the competitor RNA preparation.

Total RNA Purification Kit Contents

1. Wash Solution
2. Elution Solution
3. Lysis Solution
4. Micro Spin Columns
5. Collection Tubes
6. Elution Tubes
7. User Manual

Shipping Conditions

The Total RNA Purification Kit is shipped at room temperature.

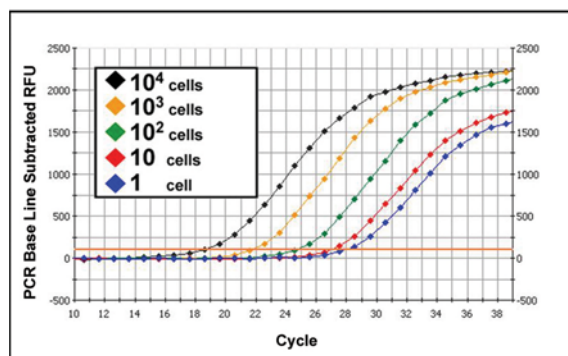


Figure 2. Isolation and Detection of RNA from as Little as a Single Animal Cell

Norgen's Total RNA Purification Kit was used to isolate total RNA from decreasing numbers of HeLa cells, and qPCR was then used to detect the RNA. Total RNA was isolated and detected all the way down to a single cell using Norgen's kit.

Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- 95% ethanol
- β -mercaptoethanol
- Mortar and pestle, liquid nitrogen, 70% ethanol (Tissue, fungi, plant)
- TE Buffer and lysozyme (Bacteria)
- Resuspension buffer with lyticase (Yeast)
- Sterile, single-use cotton swabs (Nasal or throat swabs)
- MS2 RNA (Plasma/Serum)

Storage Conditions

All solutions should be kept tightly sealed and stored at room temperature. These reagents should remain stable for 1 year in their unopened containers.

Cat #	Description	Quantity
17200	Total RNA Purification Kit	50 preps