

## RNA Clean-Up and Concentration Micro Kit

Norgen's RNA Clean-Up and Concentration Micro Kit provides a rapid method for the purification, cleanup and concentration of up to 35 µg of RNA isolated using various methods, including phenol/guanidine-based protocols, and from upstream enzymatic reactions such as DNase treatment, labeling and *in vitro* transcription. The kit purifies all sizes of RNA, from large mRNA and ribosomal RNA down to microRNA (miRNA) and small interfering RNA (siRNA).

Purification is based on spin column chromatography using Norgen's proprietary resin as the separation matrix. The RNA is preferentially purified from other reaction components such as proteins, RNases and nucleotides, without the use of phenol or chloroform. The purified RNA is of the highest integrity, and can be used in a number of downstream applications including end-point or quantitative reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays.

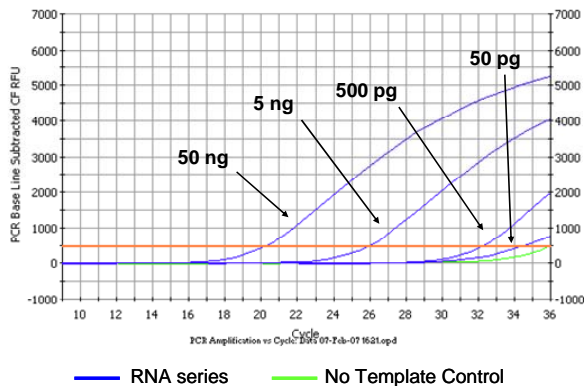


Kit Specifications			
Column Binding Capacity	35 µg	Size of RNA Purified	All Sizes
Maximum Amount of Starting Material	35 µg of RNA	Average Recovery	≥ 90%
Minimum Elution Volume	20 µL	Time to Complete 10 Purifications	20 minutes

### RNA Clean-Up and Concentration Micro Kit Benefits

Efficient clean-up from various enzymatic reactions	RNA clean-up from upstream enzymatic applications such as labeling, DNase treatment and <i>in vitro</i> transcription. Remove proteins, RNases, DNases, nucleotides, etc.
Clean-up and concentration of RNA isolated by different methods	RNA that has been isolated using various methods, including phenol-chloroform extractions or alcohol precipitations, can be processed with this kit.
Fast and easy processing	Rapid spin-column format allows for the processing of 10 samples in 20 minutes.
No phenol:chloroform extractions	Norgen's RNA Clean-Up and Concentration Micro Kit purifies RNA without the use of harmful chemicals such as phenol or chloroform.
Isolate all small RNA molecules	All small RNA species can be isolated including miRNA, siRNA, tRNA, and 5S rRNA.
Recovered RNA is suitable for downstream applications	Purified RNA can be used in a number of downstream applications including end-point or quantitative reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array analysis.

## RNA Clean-Up and Concentration Micro Kit



**Figure 1. Concentration and Detection of Increasing Amounts of HeLa RNA**

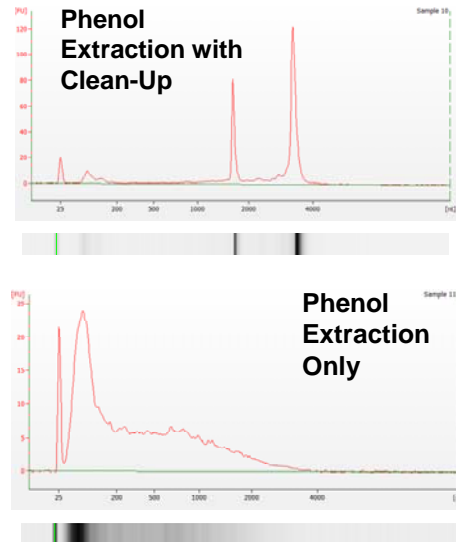
Increasing amounts of HeLa RNA in 50  $\mu$ L input volumes were concentrated to 20  $\mu$ L using Norgen's RNA Clean-Up and Concentration Micro Kit. A 10  $\mu$ L aliquot of the purified RNA was then used as the template in a qRT-PCR reaction to detect the S14 gene. The amounts indicated on the graph correspond to the amount of RNA that was used as the input for the qRT-PCR reaction, demonstrating the consistent performance of the kit even in the picogram range.

### RNA Clean-Up and Concentration Kit Contents

1. Binding Solution
2. Wash Solution
3. Elution Solution
4. Micro Spin Columns
5. Collection Tubes
6. Elution Tubes
7. Product Insert

### Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- $\beta$ -mercaptoethanol (Protocol A)
- 95-100% ethanol (Protocol A)
- 70% ethanol (Protocol B)



**Figure 2. Effective Clean-Up to Produce High Quality Total RNA Compatible to Bioanalyzer Analysis.**

Total RNA was isolated from HeLa cells using a competitor's phenol-based RNA extraction reagent. The resulting RNA was then purified using Norgen's RNA Clean-Up and Concentration Kit. Resolution of 1  $\mu$ L of the 50  $\mu$ L purified RNA on an Agilent RNA Nano 6000 Chip showed that without clean-up, the RNA sample isolated using the phenol-based RNA extraction reagent only resolved poorly on a bioanalyzer. In contrast, RNA extracted with the phenol-based RNA extraction reagent followed by clean-up by Norgen's RNA Clean-Up and Concentration Kit resolved properly on the bioanalyzer showing excellent quality.

### 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.

### Shipping Conditions

The RNA Clean-Up and Concentration Micro Kit is shipped at room temperature.

Cat #	Description	Quantity
23600	RNA Clean-Up and Concentration Micro Kit	50 preps