

## Urine Total RNA Purification Maxi Kit (Slurry Format)

Norgen's Urine Total RNA Purification Maxi Kit (Slurry Format) provides a rapid method for the isolation and purification of total RNA from 5 – 10 mL of urine. The kit purifies all sizes of RNA, from large mRNA and ribosomal RNA down to small RNAs. These small RNAs include regulatory RNA molecules such as microRNA (miRNA) as well as tRNA and 5S rRNA. Small RNA molecules are often studied due to their ability to regulate gene expression. miRNAs are typically 20-25 nucleotides long, and regulate gene expression by binding to mRNA molecules and affecting their stability or translation. Several recent studies showed that miRNA regulates cell growth



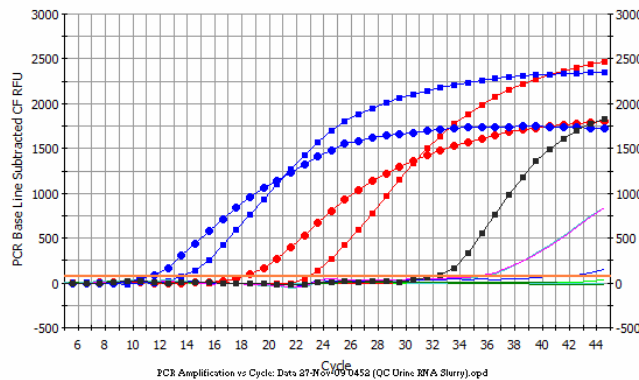
and apoptosis. Furthermore, clinical and experimental analyses suggested that miRNAs may function as a novel class of oncogenes or tumor suppressor genes. MicroRNA expression profiles of different tumor types, relative to their normal tissues, have recently been shown to provide phenotypic signatures for particular cancer types. Unique patterns of aberrant miRNA expression may serve as molecular biomarkers for tumor diagnosis, prognosis of disease specific outcomes, and prediction of therapeutic responses

Kit Specifications			
Minimum Urine Input	5 mL	Time to Complete Purification	< 20 minutes
Maximum Urine Input	10 mL	Size of RNA Purified	All sizes, including < 200 nt

### Urine Total RNA Purification Maxi Kit (Slurry Format) Benefits

Fast and easy processing	Rapid slurry format allows for the processing of multiple samples in under 20 minutes.
Isolate total RNA from large volumes of urine	Isolate and detect total RNA from 5—10 mL of urine
No phenol:chloroform extractions	Norgen's Total RNA Purification Maxi Kit (Slurry Format) isolates RNA without the use of harmful chemicals such as phenol or chloroform.
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).
Isolate inhibitor-free RNA for use in downstream applications	Purified RNA is fully compatible with various downstream applications relating to gene regulation and functional analysis, including RT-PCR, northern blotting and microarray analysis.

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**Figure 1. Isolation and Detection of Total RNA from 10 mL Urine Samples.** Norgen's Urine Total RNA Purification Maxi Kit (Slurry Format) was used to isolate total RNA from 2 different 10 mL urine samples. The purified total RNA was then used as the template in an RT-qPCR reaction to detect the human *miR-21* gene (Red line) and the human *5S* gene (Blue line). Five microlitres of the isolated RNA was used as the template in the RT step, and 5  $\mu$ L from the RT step was used in the qPCR reaction. As it can be seen, the qPCR was able to successfully detect and amplify both the *5S* gene and the *miR-21* gene in all cases, indicating the high quality of the isolated urine total RNA. The black line in the graph above corresponds to the No Template Control.

### Urine Total RNA Purification Maxi Kit Contents

1. Slurry C3
2. Lysis Buffer A
3. Wash Solution A
4. Elution Solution A
5. Mini Filter Spin Columns
6. Collection Tubes
7. Elution tubes (1.7 mL)
8. Product Insert

### Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- 15 mL conical tubes
- 95 – 100% ethanol
- $\beta$ -mercaptoethanol (optional)

### Shipping Conditions

The Urine Total RNA Purification Maxi Kit (Slurry Format) is shipped at room temperature.

### 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
29600	Urine Total RNA Purification Maxi Kit (Slurry Format)	50 preps