

## Urine Bacteria RNA Purification Kit

Norgen's Urine Bacteria RNA Purification Kit is designed for the rapid preparation of bacterial RNA from urine samples. Bacterial RNA can be isolated from both human urine samples and urine samples from animals in order to study the levels and types of bacteria that are present, as well as to study the stage of bacterial pathogenesis through the use of RNA biomarkers. The kit allows for the isolation of genomic DNA from both Gram negative and Gram positive bacteria, including *E. coli*, *Proteus* spp., *Klebsiella* spp., *Enterobacter* spp., *Serratia* spp., *Pseudomonas* spp., *Clostridial* ssp. and *Leptospirosis* spp., as well as *Chlamydia trachomatis* and *Neisseria gonorrhoeae*. Purification is based on spin column chromatography using Norgen's proprietary resin as the separation matrix. The kit preferentially purifies RNA from other cellular proteinaceous components, as well as from the contaminating species found in urine such as glucose and salts.



The Urine Bacteria RNA Purification Kit allows for the isolation of total RNA from bacteria present in 10 to 50 mL of urine. The kit purifies all sizes of RNA, from large mRNA and ribosomal RNA down to microRNA (miRNA) and small interfering RNA (siRNA). Typical yields of RNA will vary depending on the urine sample and the bacterial species, if any, present in the urine. The purified urine RNA is of the highest integrity, and can be used in a number of downstream applications.

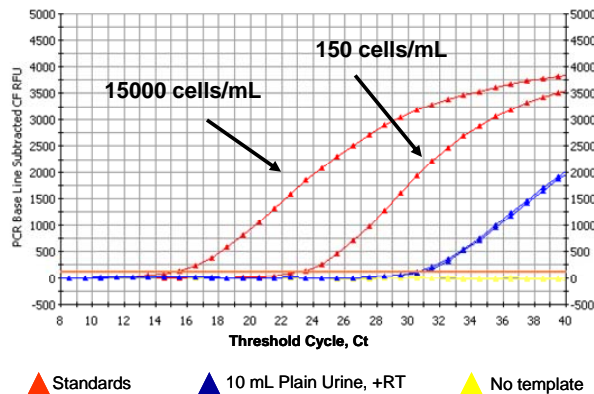
Kit Specifications			
Volume of Urine Processed	10 - 50 mL	Bacterial Species Processed	Gram positive and Gram negative
Average Yield*	~ 0.5 µg RNA per 1 x 10 <sup>7</sup> cells	Time to Complete 10 Purifications	30 minutes

\* Yield varies due to level of bacteria in urine

### Urine Bacteria RNA Purification Kit Benefits

Fast and easy processing	Rapid spin-column format allows for the processing of multiple samples in 30 minutes.
Isolate diversity of RNA species	All RNA species can be isolated, from large mRNA and ribosomal RNA down to microRNA and small interfering RNA.
Isolate RNA from all types of bacteria found in urine	Bacterial RNA can be isolated from both Gram negative and Gram positive bacteria found in urine using the kit.
No phenol:chloroform extractions	Urine bacterial RNA is isolated without the use of harmful chemicals such as phenol or chloroform.
Recovered RNA is suitable for downstream applications	Purified RNA is fully compatible with real time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays.

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**Figure 1. Isolation and Detection of RNA from the Bacterial Cells in 10 mL of Urine**

RNA was isolated from the bacteria found in a 10 mL urine sample obtained from a healthy male using Norgen's Urine Bacteria RNA Purification Kit. The isolated RNA was then subjected to reverse transcription and real-time PCR using primers to detect the *E. coli* 16S rRNA gene. The red lines in the PCR baseline graph above correspond to RNA standards, while the blue lines correspond to the successful PCR results when bacterial RNA was isolated from the 10 mL urine samples.

### Shipping Conditions

The Urine Bacteria RNA Purification Kit is shipped at room temperature.

### Urine Bacteria RNA Purification Kit Contents

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

### Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- Swinging bucket centrifuge
- 96 – 100% ethanol
- β-mercaptoethanol
- 50 mL conical tubes
- Microcentrifuge tubes
- Lysozyme-containing TE Buffer:
  - 3 mg/mL lysozyme in TE Buffer

### Storage Conditions

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

Cat #	Description	Quantity
23400	Urine Bacteria RNA Purification Kit	20 preps