Soil Total RNA Purification Kit

Norgen's Soil Total RNA Purification Kit provides a convenient and rapid method to purify total RNA from small amounts of soil samples. All types of soil samples can be processed with this kit, including common soil samples and difficult soil samples with high humic acid content such as compost and manure. The kit removes all traces of humic acid using the provided Bead Tubes and a combination of chemical and physical homogenization and lysis. A simple and rapid spin column procedure is then used to further purify the RNA. The kit purifies all sizes of RNA, from large mRNA and ribosomal RNA down to microRNA and small interfering RNA. The protocol does not rely on the use of phenol or chloroform, thereby providing a user friendly procedure and allowing high-throughput analysis on the lab bench. The purified RNA is of the highest integrity, and can be used in a number of downstream applications including real time PCR and reverse transcription PCR for gene expression analysis.

Kit Specifications			
Suggested Soil Input	500 mg	Type of Soil Processed	All types, including common soil, compost and manure
Maximum Column Loading Volume	650 µL	Time to Complete 10 Purifications	30 minutes

Soil 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).
Process all types of soil	All types of soil samples can be processed with this kit, including common soil samples and difficult soil samples with high humic acid content such as compost and manure.
Remove all humic acid from RNA samples	The kit removes all traces of humic acid using the provided Humic Acid Removal Columns and a combination of chemical and physical homogenization and lysis. Remove all brown colour from the samples.
Fast and easy processing	Rapid spin column format allows for the isolation of RNA in under 30 minutes.
Isolate high quality total RNA	The purified RNA is free from all inhibitors including humic acid, and can be used directly in a number of downstream applications including real time PCR and reverse transcription PCR for gene expression analysis.

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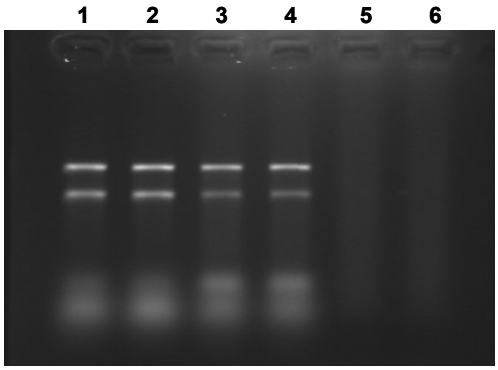

Figure 1. Isolate Total RNA from Bacteria in Soil
Pseudomonas fluorescens was spiked into 250 mg samples of autoclaved soil and total RNA was isolated using Norgen's Soil Total RNA Isolation Kit. RNA was visualized by running 7.5 µL of each 75 µL elution on a 1.2% agarose-formaldehyde RNA gel. Total RNA (large and small) of *Pseudomonas fluorescens* was recovered from the autoclaved spiked soil without any significant degradation, indicating that RNA can be purified from the microorganisms in the soil with high integrity. Lanes 1 and 2 contain total RNA from *Pseudomonas fluorescens*, Lanes 3 and 4 contain total RNA purified from the autoclaved soil spiked with *Pseudomonas fluorescens*, Lanes 5 and 6 contain RNA purified from the autoclaved soil (no RNA was found).

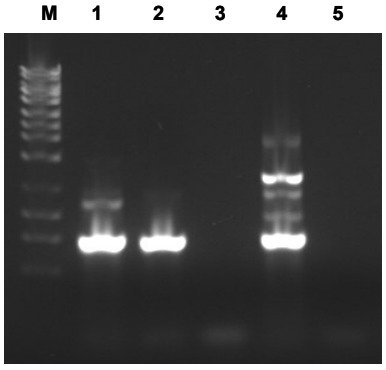

Figure 2. High Quality RNA Free from PCR Inhibitors
Pseudomonas fluorescens was spiked into 250 mg samples of autoclaved soil and total RNA was isolated using Norgen's Soil Total RNA Isolation Kit. One microliter of each elution was then used as the template in a 20 µL RT-PCR reaction to detect the 16s rRNA. Lane 1 contains the results when total RNA from *Pseudomonas fluorescens* was used as the input, Lane 2 is the results when total RNA from the autoclaved soil spiked with *Pseudomonas fluorescens*, was used as the input, Lane 3 is the results when RNA purified from non-spiked autoclaved soil was the input, Lane 4 is a positive control and Lane 5 is the Negative control. Therefore the purified RNA was of a high quality and can be used in sensitive downstream applications.

Soil RNA Purification Kit Contents

1. Lysis Buffer I
2. Binding Buffer E
3. Solution BX
4. Wash Solution A
5. Elution Solution A
6. Bead Tubes
7. Spin Columns
8. Humic Acid Removal Columns
9. Collection Tubes
10. Elution tubes (1.7 mL)
11. Product Insert

Shipping Conditions
The Soil Total RNA Purification Kit is shipped at room temperature.

Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- DNase-free microcentrifuge tubes
- Flat bed vortex or bead beater equipment
- 96 - 100% ethanol
- 70% ethanol

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

Cat #	Description	Quantity
27750	Soil Total RNA Purification Kit	50 preps

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