

## Stool Total RNA Isolation Kit

Norgen's Stool Total RNA Purification Kit provides a convenient and rapid method to purify total RNA from small amounts of stool samples. All types of stool samples can be processed with this kit, including animal fecal samples 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



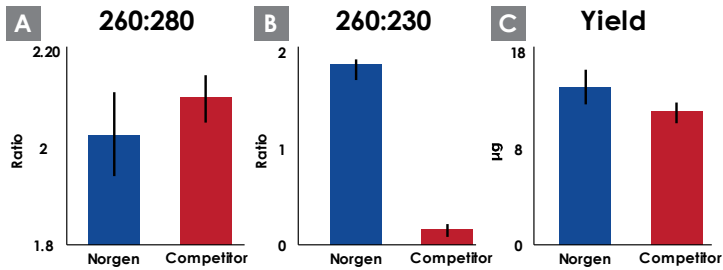
analysis on the lab bench. The purified RNA is of the highest integrity, and can be used in a number of downstream applications including real time PCR and reverse transcription PCR for gene expression analysis. Purification is based on spin column chromatography using Norgen's proprietary resin as the separation matrix. The purified RNA is of the highest integrity, and can be used in a number of downstream applications.

Kit Specifications			
Maximum Stool Input (Fresh or Frozen Stool)	200 mg	Maximum Column Binding Capacity	50 µg
Types of Stool Processed	All types of feces from humans and animals	Maximum Column Loading Volume	650 µL

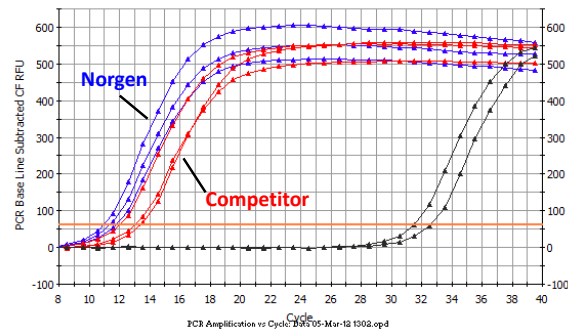
### Stool Total RNA Isolation Kit Benefits

Universal procedure	Simultaneous isolation of both host and microbial RNA using a single convenient procedure.
Remove all humic acid from RNA samples	The kit removes all traces of humic acid using the provided Bead Tubes and a combination of chemical and physical homogenization and lysis.
No organic extractions	Isolated high quality RNA without the use of phenol or chloroform.
Fast and easy processing	Rapid and convenient spin column format allows for the isolation of total stool DNA in 30 minutes.
Isolate high yields of total RNA	Isolate consistent, high yields of RNA free from all inhibitors including humic acid, that can used directly in downstream applications including real time PCR and reverse transcription PCR for gene expression analysis .

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**Figure 1. Yield and Quality of Purified Stool RNA Measured Using Nanospectrophotometry.** Norgen's Stool RNA Purification Kit was compared to a competitor kit using 200mg of stool. Comparisons were based on yield, and A260:A280/ A260:A230 ratios measured using the NanoVue Plus™. A) Both kits isolated RNA with high A260:A280 ratios (all samples were found to be above 1.8 and below 2.2). B) Norgen's kit was found to isolate RNA with a high A260:A230 (with all samples falling in the 1.8-2.2 range). The competitor kit, however, was found to isolate RNA with extremely low A260:A230 ratios, with none of the samples displaying a A260:A230 ratio higher than 0.20. C) Norgen's kit was found to isolate higher amounts of RNA, with an average yield of 14.58 µg, compared to the competitor's average of 12.26 µg.



**Figure 2. Detection of Bacterial Stool RNA using 16S Primers.** Total stool RNA was isolated from 200 mg human stool samples using Norgen's Stool Total RNA Purification Kit and a leading competitor's kit. Five microliters of purified RNA was used in a 20 µL reverse-transcription reaction using Invitrogen's Superscript III system with 16S reverse primers. The cDNA generated was then used in a qPCR reaction involving Norgen's 2X PCR Mastermix spiked with SYBR green (Bio-Rad), using 0.3µM of primers against bacterial 16S. As can be seen in the amplification plot, Norgen's kit outperformed the leading competitor's kit by an average of 1.5 Ct values. This indicates that Norgen isolated higher quality and yields of RNA from stool, and that the RNA can be used in an array of downstream applications.

### Stool Total RNA Isolation Kit Contents

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

### Shipping Conditions

The Stool RNA Isolation Kit is shipped at room temperature.

### Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- RNase-free microcentrifuge tubes
- Flat bed vortex or bead beater equipment
- 95-100% 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
49500	Stool Total RNA Isolation Kit	50 preps