

Animal Tissue RNA Purification Kit

Norgen's Animal Tissue RNA Purification Kit provides a rapid method for the isolation and purification of total RNA from all types of animal tissue samples, including fiber-rich tissues such as muscle and heart. Norgen's Animal Tissue RNA Purification Kit is provided with Proteinase K, which aids in the removal of the various proteins present in fiber-rich tissues including collagen, contractile proteins and connective tissues. The kit purifies all sizes of RNA, from large mRNA and ribosomal RNA down to microRNA (miRNA) and small interfering RNA (siRNA), without the use of inhibitory phenol or chloroform. The 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 including real time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays.



Kit Specifications			
Column Binding Capacity	50 µg	Size of RNA Purified	All sizes
Maximum Column Loading Volume	650 µL	Time to Complete 10 Purifications	50 minutes
Average RNA Yield:		Maximum Amount of Starting Material:	
Rat Heart (10 mg)	10 µg	Heart	30 mg
Rat Muscle (10 mg)	5 µg	Kidney	15 mg
Rat Kidney (10 mg)	25 µg	Liver	15 mg
Rat Spleen (10 mg)	15 µg	Muscle	30 mg
Rat Liver (10 mg)	30 µg	Spleen	15 mg

Animal Tissue RNA Purification Kit Benefits

Isolate high quality total RNA from a variety of animal tissues	Total RNA can be isolated and detected from high RNA content tissues such as liver and spleen, as well as fiber-rich tissues such as muscle and heart.
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).
Compatible with RNA preservation reagents	Total RNA can be isolated and detected from tissues stored in <i>RNAlater</i> [®] .
No phenol:chloroform extractions	Total RNA is isolated from animal tissue samples without the use of harmful chemicals such as phenol or chloroform.
Fast and easy processing	Rapid spin-column format allows for the processing of 10 samples in 20 minutes.
Recovered RNA is suitable for downstream applications	Purified RNA can be used in a number of downstream applications including real-time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array analysis requiring the use of intact RNA.

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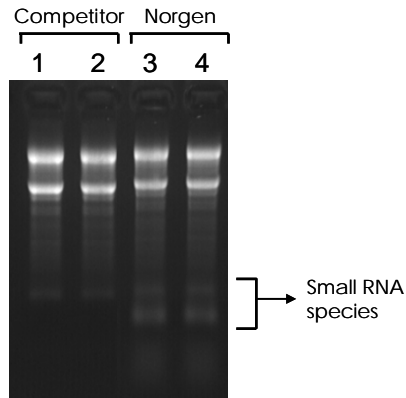


Figure 1. Isolate a Diversity of RNA Species

Total RNA was isolated from 25 mg samples of rat muscle using Norgen's Animal Tissue RNA Purification Kit and a leading competitors kit. The purified RNA was then resolved on a 1.2% formaldehyde-agarose gel. As it can be seen, only Norgen's kit was able to isolate the full diversity of RNA species, including microRNA.

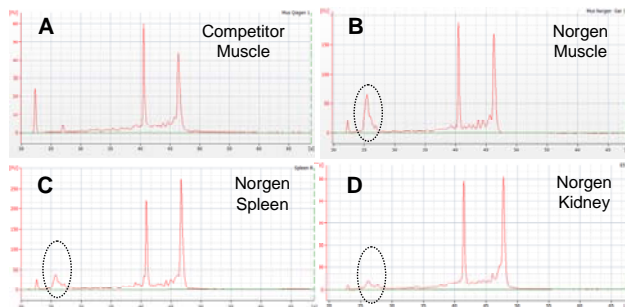


Figure 2. RNA Purification from a Diversity of Tissues

Total RNA was successfully isolated from various tissue samples including spleen (Panel C), kidney (Panel D) and fiber-rich muscle (Panel B) using Norgen's Animal Tissue RNA Purification Kit and a leading competitors kit (Panel A). The purified RNA was then analyzed using an Agilent BioAnalyzer. Small RNA could be observed in all the RNA samples isolated using Norgen's kit (Panels B-D, circled), whereas no small RNA was present in the samples isolated using a competitors kit (Panel A).

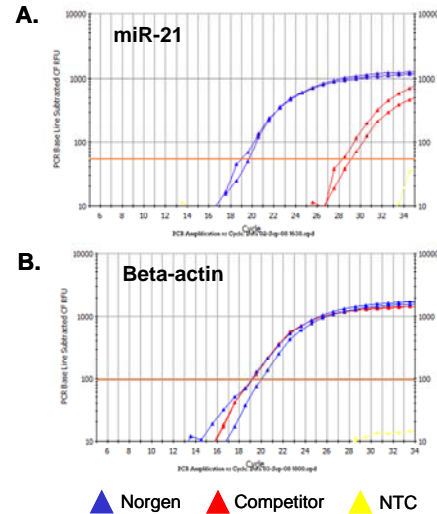


Figure 3. High Yield of microRNA Species

Total RNA was isolated from equal amounts of a rat muscle sample using Norgen's Animal Tissue RNA Purification Kit and a leading competitors kit. The purified RNA was then used as the template in RT-qPCR for detecting miR-21 (Panel A) and the beta-actin gene (Panel B). In both graphs the blue lines correspond to Norgen isolated-RNA and the red lines correspond to competitor-isolated RNA. As it can be seen, Norgen's kit isolated much higher yields of microRNA, as indicated by the lower C_T value of the blue line in Panel A. The kits isolated similar yields of mRNA as seen by the similar C_T values in Panel B. NTC corresponds to non-template control.

Animal Tissue RNA Purification Kit Contents

1. Lysis Solution
2. RNase-Free Water
3. Enzyme Incubation Buffer
4. Wash Solution
5. RNA Elution Buffer
6. Proteinase K
7. DNase I
8. Spin Columns
9. Collection Tubes
10. Elution Tubes
11. Product Insert

Cat #	Description	Quantity
25700	Animal Tissue RNA Purification Kit	50 preps