Plant RNA/DNA Purification Kit

Norgen's Plant RNA/DNA Purification Kit provides a rapid method for the isolation and purification of total RNA and genomic DNA simultaneously from a single sample of plants. The total RNA and genomic DNA are both column purified in under 30 minutes using a single column. It is often necessary to isolate total RNA and genomic DNA from a single plant sample, such as for studies of gene expression, mutant or transgenic plant characterization, and host plant-pathogen characterization. Traditionally the RNA and DNA would be isolated from different aliquots of a sample, however this novel technology will allow for their simultaneous isolation from the same sample. This will not only save time, but will also be of a great benefit when isolating RNA and DNA from precious, difficult to obtain or very small samples. Furthermore, gene expression analysis will be more reliable since the RNA and DNA are derived from the same sample, therefore eliminating inconsistent results.

With Norgen's Plant RNA/DNA Purification Kit, the purification is based on spin column chromatography using Norgen's proprietary resin as the separation matrix. Norgen's 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 phenol or chloroform. The purified RNA and genomic DNA are of the highest integrity, and can be used in a number of downstream applications.

Kit Specifications			
Column Binding Capacity (RNA)	50 µg	Maximum Amount of Staring Material:	
Column Binding Capacity (gDNA)	15 µg	Plant Tissues	100 mg
Maximum Column Loading Volume	650 µL	Plant Cells	5 x 10^6
Time to Complete 10 Purifications	30 minutes	Average Yields:	
Size of RNA Purified	All sizes	Peach Leaves (100 mg)	40 µg RNA 5 µg DNA

Plant RNA/DNA Purification Kit Benefits	
Complete column purification	The RNA and DNA are both column purified simultaneously using the same column.
Reduce variability	RNA and DNA are isolated from a single plant sample with no splitting of the lysate, thus reducing inconsistent results and variability.
Isolate from small samples	Simultaneous isolation of RNA and DNA from a single sample. Ideal for precious, difficult to obtain or small samples.
Isolate a diversity of RNA species	All sizes of RNA are isolated, from large mRNA down to microRNA, without the use of phenol or chloroform
Isolate DNA-free plant RNA or RNA-free plant DNA	Optional protocols for on-column DNase or RNase digestion are provided if the user wishes to isolate pure, DNA-free RNA or pure, RNA-free DNA.

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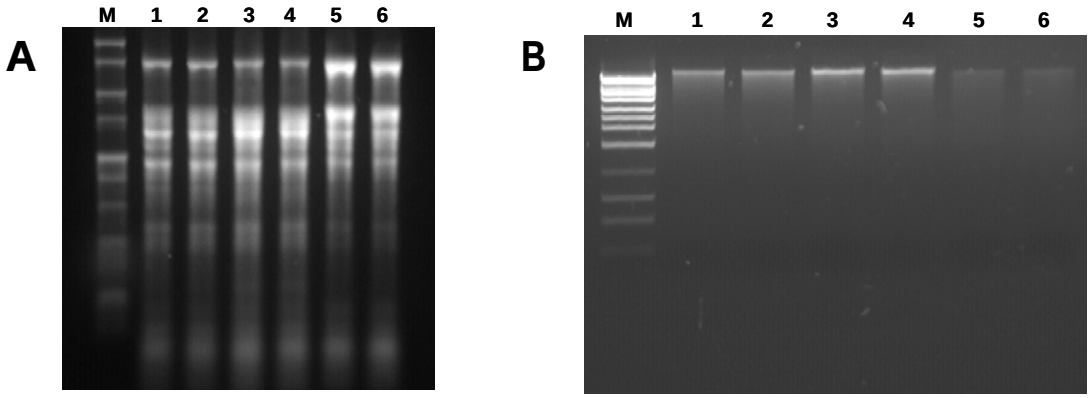

Figure 1. Isolation of Total RNA and Genomic DNA from Tobacco, Tomato and Peach Leaf Tissue
Total RNA and genomic DNA were isolated from 60 mg of tobacco leaf, 52 mg of tomato leaf and 56 mg of peach leaf using Norgen's Plant RNA/DNA Purification Kit. Panel A is a 1X MOPS 1.5% agarose gel showing the total RNA that was isolated after the optional on-column DNase digestion. Lane M is Norgen's 1 kb RNA Ladder, Lanes 1 and 2 contain RNA isolated from tobacco cells, Lanes 3 and 4 contain RNA isolated from tomato cells, and Lanes 5 and 6 contain RNA isolated from peach cells. Panel B is a 1.5% agarose gel containing the genomic DNA that was isolated after the optional on-column RNase digestion. Lane M is Norgen's HighRanger 1kb DNA Ladder, Lanes 1 and 2 contain the tobacco DNA, Lanes 3 and 4 contain the tomato DNA and Lanes 5 and 6 contain the peach DNA. The RNA and DNA are intact and of the highest quality, and can be used in a number of different downstream applications.

RNA/Protein Purification Kit Contents

1. Lysis Solution
2. Nucleic Acid Wash Solution
3. Nucleic Acid Elution Buffer
4. Enzyme Incubation Buffer
5. Mini spin columns
6. Collection tubes
7. Elution tubes
8. Product Insert

Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- β-mercaptoethanol
- 96 - 100% ethanol
- 70% ethanol
- Cell Disruption Tools (mortar and pestle, etc)
- Water bath or incubator heated to 65°C
- RNase-free DNase I (optional)
- RNase A (optional)
- Liquid nitrogen (optional)

Shipping Conditions
The Plant RNA/DNA Purification Kit is shipped at room temperature.

Storage Conditions
All solutions should be kept tightly sealed and stored at room temperature. All the reagents should remain stable for at least 2 years in their unopened containers.

Cat #	Description	Quantity
24400	Plant RNA/DNA Purification Kit	50 samples

3430 Schmon Parkway, Thorold, ON, Canada L2V 4Y6 Phone: 905-227-8848 Fax: 905-227-1061
North American Toll Free: 1-866-667-4362