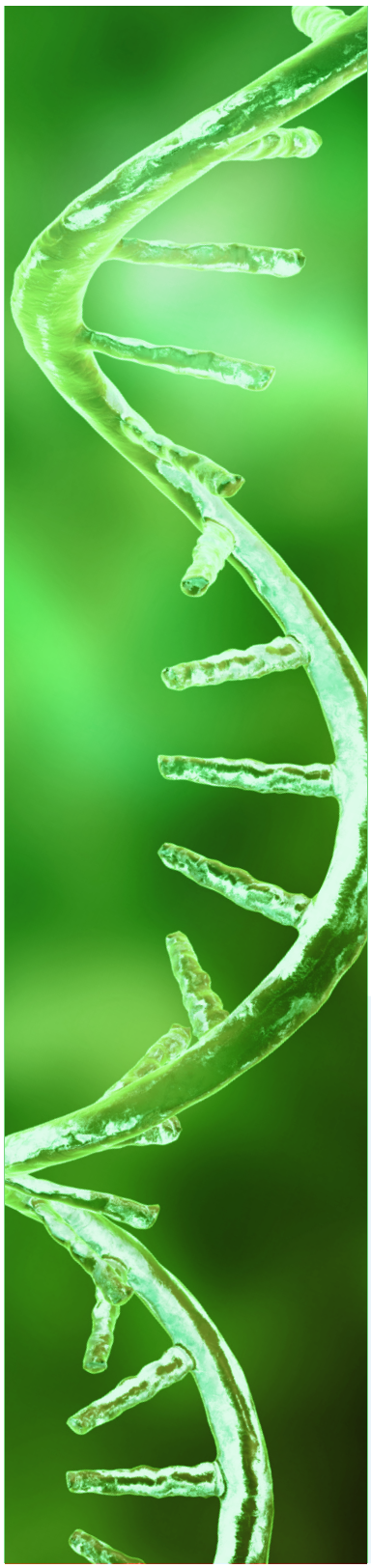

Plant microRNA Purification Kit

CAT. 54700

FOR THE RAPID PURIFICATION OF MICRORNA FROM PLANTS

- Fast and easy processing using a rapid spin-column format
- No phenol or chloroform extractions
- Isolate all small RNA molecules (<200 nt)
- Minimal contamination from large RNA molecules and genomic DNA
- High quality small RNA can be used in various downstream applications
- Purification is based on spin column chromatography that uses Norgen's proprietary resin separation matrix

COLLECTION & PRESERVATION
EXTRACTION
APPLICATION

NORGEN BIOTEK

ISO 9001:2015 CERTIFIED QUALITY
ISO 13485:2016 CERTIFIED QUALITY
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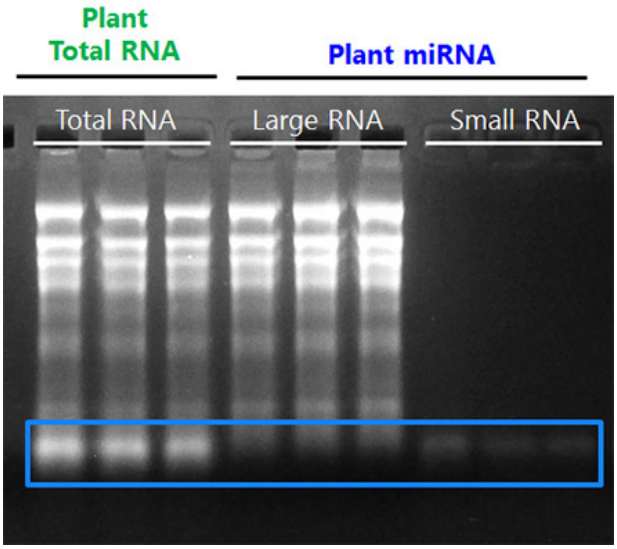
Advantages You Will Bring to Your Lab

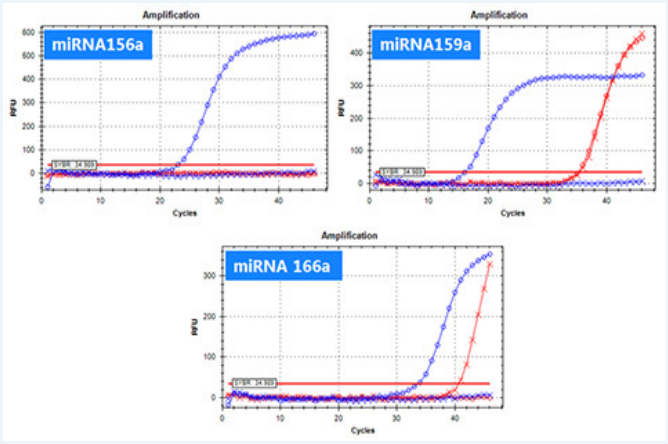


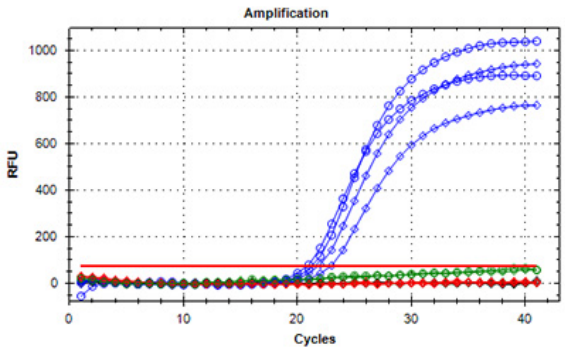
LARGE RNA AND SMALL RNA WERE SEQUENTIALLY PURIFIED

Figure 1. Fractionation of Large and Small RNA. Large RNA and small RNA were sequentially purified using Norgen's Plant miRNA Purification Kit from 50 mg of raspberry leaf tissue and the RNA profile was compared with the RNA isolated using Norgen's Plant/Fungi Total RNA Purification Kit (Cat. #25800). For visualization, 10 µL of RNA from 50 µL of RNA elution was loaded on 2% 1x MOPS agarose gel. Norgen's kit was able to isolate both the large and small RNA fractions, and the small RNA fraction does not contain any of the large RNA species.

HIGH DNA CONCENTRATION AND QUALITY

Figure 2. Efficiency of the concentration of miRNA using Norgen's Plant miRNA Purification Kit to detect three plant miRNAs. Small RNA was concentrated from 50 mg raspberry using Norgen's Plant miRNA Purification Kit. Three µL of the elution was directly used for cDNA generation and 3 µL of cDNA was used for the CFX96 Touch™ Real-Time PCR Detection System (Bio-Rad). Blue: concentrated small RNA from Norgen's Plant miRNA Purification Kit, Red: Total RNA from Plant Total RNA Purification Kit (Cat. 25800), Circle: +RT, Cross: - RT.





	Norgen Plant miRNA	Competitor Q	Trizol
Phenol	No	Yes	Yes
Processing time	15 min	35 min	70 min
Elution volume	20 µL	30 µL	50 µL

HIGH YIELDS OF GOOD QUALITY MIRNA THAT CAN BE USED IN SENSITIVE DOWNSTREAM APPLICATIONS

Figure 3. Isolation of Concentrated RNA that can be used in Sensitive Downstream Applications. Three different miRNA purification methods were compared for their ability to isolate and detect plant miRNA. miRNA was purified from grape using three miRNA purification kits according to the manufacture's manual. Next, 3 µL of the elution was directly used for cDNA generation and 3 µL of cDNA was used for the CFX96 Touch™ Real-Time PCR Detection System (Bio-Rad) to detect the miRNA 159a. As it can be seen, only the miRNA purified using Norgen's kit (blue lines) was amplified, while the miRNA isolated using **t**he other 2 kits failed to amplify (red and green lines). Both of the competitor's kits rely on phenol to isolate the miRNA, and therefore residual phenol is likely interfering with the amplification. Norgen's kit isolates high yields of good quality miRNA without the use of phenol. Blue: Norgen Plant miRNA, Red: Competitor Q, Trizol: Green.

Kit Specifications

Description	Specifications
Maximum Column Binding Capacity	50 µg
Maximum Column Loading Volume	650 µL
Minimum Elution Volume	20 µL
Size of RNA Purified	< 200 nt
Amount of Starting Material: Plant Tissues	100 mg 5 x 106 cells
Time to Complete 10 Purifications	25 minutes

Select Publications

Chen, Ting-Hsuan, and Christopher Winefield. **"Comprehensive Analysis of Both Long and Short Read Transcriptomes of a Clonal and a Seed-Propagated Model Species Reveal the Prerequisites for Transcriptional Activation of Autonomous and Non-Autonomous Transposons in Plants."** Mobile DNA, vol. 13, no. 1, BioMed Central, May 2022, https://doi.org/10.1186/s13100-022-00271-5.

Ordering Information

Description	Preps	Cat. #
Plant microRNA Purification Kit	25 Preps	54700

Related Products

Description	Prep Size	Cat. #
Plant RNA/DNA Purification Kit	50 Preps	24400
Plant/Fungi Total RNA Purification Kit	50 Preps	25800
Norgen Next Generation Sequencing Services	Call 1-866-Norgenb or Visit norgenbiotek.com	

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