omega BIO-TEK
innovations in nucleic acid isolation

Product Manual

E.Z.N.A.® Plant RNA Kit

R6827-00	5 preps
R6827-01	50 preps
R6827-02	200 preps

Manual Date: March 2023
Revision Number: v5.1

For Research Use Only

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E.Z.N.A.® Plant RNA Kit

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Introduction

The E.Z.N.A.® RNA family of products is an innovative system that radically simplifies the extraction and purification of RNA from a variety of sources. The key to this system is that it uses the reversible binding properties of the HiBind® matrix (a silica-based material) in combination with the speed of mini column spin technology. Single or multiple samples can be processed quickly. There is no need for phenol/chloroform extractions and time-consuming steps, such as CsCl gradient ultra-centrifugation and precipitation with isopropanol or LiCL, are eliminated.

RNA purified using the E.Z.N.A.® RNA purification system is ready for applications such as RT-PCR, Northern blotting, poly A+ RNA (mRNA) purification, nuclease protection, and *in vitro* translation.

The E.Z.N.A.® Plant RNA Kit can purify up to 100 µg plant RNA that is >200 nt. Normally, 10-100 mg plant tissue can be processed in a single experiment.

Lysis of cells or tissue occurs under denaturing conditions that inactivate RNases. After the homogenization process, samples are transferred to the HiBind® RNA Mini Column to bind RNA. Cellular debris and other contaminants are removed after three quick wash steps. High-quality RNA is eluted in sterile Nuclease-free Water.

New In this Edition

March 2023:
- General update.

August 2019:
- DEPC Water has been replaced with Nuclease-free Water. DEPC Water is no longer provided in this kit.
- PR032 (DEPC Water, 100 mL) has been discontinued and is no longer available to purchase.

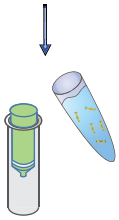
August 2014:
- Homogenizer Columns are now called Homogenizer Mini Columns. This is a name change only. No change has been made to the column itself.

Illustrated Protocol

Grind with liquid nitrogen

Add RB Buffer

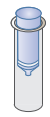
Lyse



Transfer sample to a
Homogenizer Mini Column

Add ethanol and transfer
sample to
HiBind® RNA Mini Column

Wash 3X



Dry

Elute

Kit Contents

Plant RNA Mini Kit	R6827-00	R6827-01	R6827-02
Preparations	5	50	200
HiBind® RNA Mini Columns	5	50	200
Homogenizer Mini Columns	5	50	200
2 mL Collection Tubes	15	150	600
NTL Lysis Buffer	5 mL	40 mL	130 mL
SP Buffer	2 mL	10 mL	40 mL
RB Buffer	5 mL	30 mL	110 mL
RNA Wash Buffer I	5 mL	50 mL	200 mL
RNA Wash Buffer II	5 mL	25 mL	50 mL
Nuclease-free Water	2 mL	30 mL	60 mL
User Manual	✓	✓	✓

Storage and Stability

All of the E.Z.N.A.® Plant RNA Kit components are guaranteed for at least 12 months from the date of purchase when stored at room temperature. During shipment or storage in cool ambient conditions, precipitates may form in RB Buffer. Dissolve such deposits by warming the solution at 37°C and gently shaking.

Important Notes

Please take a few minutes to read this booklet in its entirety to become familiar with the procedures. Prepare all materials required before starting to minimize RNA degradation.

- Whenever working with RNA, always wear gloves to minimize RNase contamination. Use only clean RNase-free disposable plastic pipette tips when using the supplied reagents.

- Equilibrate samples and reagents to room temperature before beginning this protocol. All steps should be carried out at room temperature unless otherwise noted. Work quickly, but carefully.

- Prepare all materials required before starting the procedure to minimize RNA degradation.

- Carefully apply the sample or solution to the center of the HiBind® RNA Mini Columns. Avoid touching the membrane with pipet tips.

- 2-mercaptoethanol is key in denaturing RNases and can be added to an aliquot of RB Buffer before use. Add 20 µL 2-mercaptoethanol per 1 mL RB Buffer. This mixture can be stored for 4 weeks at room temperature.

- Dilute RNA Wash Buffer II with 100% ethanol as follows and store at room temperature.

Kit	100% Ethanol to be Added
R6827-00	20 mL
R6827-01	100 mL
R6827-02	200 mL

- Add 20 µL 2-mercaptoethanol per 1 mL RB Buffer. This mixture can be stored for 4 weeks at room temperature.

  Note: Only prepare what is needed. RB Buffer is required without the addition of 2-mercaptoethanol in the Difficult Sample Types protocol.

- For Difficult Sample Types protocol (Page 12), add 20 µL 2-mercaptoethanol per 1 mL NTL Lysis Buffer. This mixture can be stored for one month at room temperature.

Quantification and Storage of RNA

To determine the concentration and purity of RNA, measure absorbance at 260 nm and 280 nm with a spectrophotometer. One OD unit measured at 260 nm corresponds to 40 µg/mL RNA. Nuclease-free Water is slightly acidic and can dramatically lower absorbance values. We suggest that you dilute the sample in a buffered solution (TE) for spectrophotometric analysis. The A_{260}/A_{280} ratio of pure nucleic acids is 2.0, while an A_{260}/A_{280} ratio of 0.6 denotes pure protein. A ratio of 1.8-2.0 corresponds to 90%-100% pure nucleic acid. Phenol has a maximum absorbance at 270 nm and can interfere with spectrophotometric analysis of DNA or RNA. However, the E.Z.N.A.® Plant RNA Kit eliminates the use of phenol and avoids this problem. Store RNA samples at -70°C in water. Under these conditions, RNA is stable for more than a year.

Integrity of RNA

It is highly recommended that RNA quality be determined prior to beginning all downstream applications. The quality of RNA can be best assessed by denaturing agarose gel electrophoresis with ethidium bromide staining. The ribosomal RNA bands should appear as sharp, clear bands on the gel. The 28S band should appear to be double that of the 18S RNA band (23S and 16S if using bacteria). If the ribosomal RNA bands in any given lane are not sharp and appear to be smeared towards the smaller sized RNA, it is very likely that the RNA undergone degradation during the isolation, handling, or storage procedure. Although RNA molecules less than 200 bases in length do not efficiently bind to the HiBind® matrix, a third RNA band, the tRNA band, may be visible when a large number of cells are used.

Expected Yields

Sample yields from 100 mg starting tissue.

Yields obtained with the E.Z.N.A.® Plant RNA Kit	
Arabidopsis	30 µg
Maize Leaves	65 µg
Mustard Leaves	34 µg
Tobacco Leaves	28 µg

Standard Protocol

This protocol is suitable for most fresh or frozen tissue samples, thereby allowing efficient recovery of RNA. However, due to the tremendous variation in water and polysaccharide content in plants, sample size should be limited to ≤100 mg. Best results are obtained with young leaves or needles. The method outlined in this protocol will isolate a sufficient amount of RNA for tracks on a standard Northern assay.

Materials and Equipment to be Supplied by User:

- Microcentrifuge capable of at least 14,000*g*
- RNase-free pipet tips and 1.5 mL microcentrifuge tubes
- 100% ethanol
- 70% ethanol
- 2-mercaptoethanol (14.2 M)
- Liquid nitrogen
- Disposable pestles
- Optional: Water bath, incubator, or heat block capable of 65°C

Before Starting:

- Prepare RNA Wash Buffer II and RB Buffer according to "Preparing Reagents" section on Page 6

1. Collect tissue in a 1.5 mL microcentrifuge tube (not provided) and freeze by dipping in liquid nitrogen with a pair of tweezers to fill the tube. Grind the tissue using disposable pestles.

   Note: One can allow liquid nitrogen to evaporate and store the samples at -70°C for later use. Do not allow samples to thaw. Use disposable pestle only once. Alternatively, a small clean mortar and pestle can be used. The above methods for disrupting plant tissue cannot be replaced with mechanical homogenizers.

2. Transfer up to 100 mg frozen ground plant tissue to a new 1.5 mL microcentrifuge tube.

   Note: We recommend starting with 50 mg of tissue at first. If results obtained are satisfactory, you may start increasing the amount of starting material. **Samples should not be allowed to thaw before the addition of RB Buffer in Step 3.**

3. Immediately add 500 µL RB Buffer. Vortex at maximum speed to mix thoroughly.

   Note: RB Buffer must be mixed with 2-mercaptoethanol before use. Please see Page 6 for instructions. Ensure that all the samples are completely suspended and that there are no clumps in the solution. Clumps will result in low yields.

4. Insert a Homogenizer Mini Column into a 2 mL Collection Tube.

5. Transfer the lysate to a Homogenizer Mini Column.

6. Centrifuge at 14,000*g* for 5 minutes at room temperature.

7. Transfer cleared lysate to a new 1.5 mL microcentrifuge tube. Do not disturb or transfer any of the insoluble pellet. Measure the volume of the lysate.

8. Add 1 volume 70% ethanol. Vortex at maximum speed for 20 seconds. A precipitate may form at this point; it will not interfere with RNA isolation. Passing the mixture through a needle using a syringe or by pipetting up and down 10-15 times may break up the precipitates.

9. Insert a HiBind® RNA Mini Column into a 2 mL Collection Tube.

10. Transfer 700 µL sample, including any precipitates that may have formed, to the HiBind® RNA Mini Column.

11. Centrifuge at 12,000*g* for 1 minute at room temperature.

12. Discard filtrate and reuse the collection tube.

13. Repeat Steps 10-12 until all of the sample has been transferred to the column.

Optional: This the starting point of the optional on-membrane DNase I Digestion Protocol. Since the HiBind® matrix of the RNA Mini Column eliminates most DNA, DNase I digestion is not necessary for most downstream applications. However, certain sensitive RNA applications may require further DNA removal. If an additional DNA removal step is required, please continue to the DNase I Digestion Protocol found on Page 19. (See DNase I Digestion Set, Cat # E1091 for more information). If DNase I digestion is not required, proceed to Step 14.

14. Add 500 µL RNA Wash Buffer I.

15. Centrifuge at 10,000*g* for 30 seconds.

16. Discard the filtrate and the collection tube.

17. Transfer the HiBind® RNA Mini Column to a new 2 mL Collection Tube.

18. Add 700 µL RNA Wash Buffer II.

    Note: RNA Wash Buffer II must be diluted with 100% ethanol before use. Please see Page 6 for instructions.

19. Centrifuge at 10,000*g* for 30 seconds.

20. Discard the filtrate and reuse collection tube.

21. Add 500 µL RNA Wash Buffer II.

22. Centrifuge at 10,000*g* for 30 seconds.

23. Discard the filtrate and reuse collection tube.

24. Centrifuge the empty HiBind® RNA Mini Column at maximum speed for 2 minutes to dry the column.

    Note: This step is critical for removal of trace ethanol that may interfere with downstream applications.

25. Transfer the HiBind® RNA Mini Column to a clean 1.5 mL microcentrifuge tube.

26. Add 50-100 µL Nuclease-free Water.

    Note: Make sure to add water directly onto the HiBind® RNA Mini Column matrix.

27. Centrifuge at maximum speed for 1 minute and store eluted RNA at -70°C.

    Note: Any combination of the following steps can be used to help increase RNA yield.

    - Heat the Nuclease-free Water to 65°C before adding to the column.
    - Let sit at room temperature for 5 minutes.
    - Increase the elution volume.
    - Repeat the elution step with fresh Nuclease-free Water (this may increase the yield, but decrease the concentration).
    - Repeat the elution step using the eluate from the first elution (this may increase yield while maintaining elution volume).

Difficult Sample Types

In certain plant samples, RNA isolation can be difficult due to their large amount of polysaccharides and phenolic compounds. This protocol involves a simple and rapid precipitation that will remove much of these compounds. **Use this protocol when the standard protocol (Page 8) results in low RNA yields.**

Materials and Equipment to be Supplied by User:

- Microcentrifuge capable of at least 14,000*g*
- RNase-free pipet tips and 1.5 mL microcentrifuge tubes
- Water bath, incubator, or heat block capable of 65°C
- 100% ethanol
- 70% ethanol
- 100% isopropanol
- 2-mercaptoethanol (14.2 M)
- Liquid nitrogen

Before Starting:

- Prepare RNA Wash Buffer II, RB Buffer, and NTL Lysis Buffer according to "Preparing Reagents" section on Page 6
- Set water bath, incubator, or heat block to 65°C
- Heat RB Buffer or Nuclease-free Water to 65°C (whichever applicable, see Step 11; RB Buffer is recommended)

1. Collect tissue in a 1.5 mL microcentrifuge tube (not provided) and freeze by dipping in liquid nitrogen with a pair of tweezers to fill the tube. Grind the tissue using disposable pestles.

   Note: One can allow liquid nitrogen to evaporate and store the samples at -70°C for later use. Do not allow samples to thaw. Use disposable pestle only once. Alternatively, a small clean mortar and pestle can be used. The above methods for disrupting plant tissue cannot be replaced with mechanical homogenizers.

2. Transfer up to 100 mg frozen ground plant tissue to a new 1.5 mL microcentrifuge tube.

   Note: We recommend starting with 50 mg of tissue at first. If results obtained are satisfactory, you may start increasing the amount of starting material. **Samples should not be allowed to thaw before the addition of NTL Lysis Buffer in Step 3.**

3. Immediately add 600 µL NTL Lysis Buffer. Vortex at maximum speed to mix thoroughly.

   Note: NTL Lysis Buffer must be mixed with 2-mercaptoethanol before use. Please see Page 6 for instructions. Ensure that all the samples are completely suspended and that there are no clumps in the solution. Clumps will result in low yields.

4. Add 140 µL SP Buffer. Vortex to mix thoroughly.

5. Centrifuge at 10,000*g* for 10 minutes.

6. Transfer cleared lysate to a new 1.5 mL microcentrifuge tube. Do not disturb or transfer any of the insoluble pellet. Measure the volume of the lysate.

7. Add 1 volume isopropanol. Vortex to mix thoroughly.

   Note: In most cases 600 µL cleared lysate can easily be removed. Add 600 µL isopropanol. Depending on the sample, the volume of the cleared lysate will vary. This step removes much of the polysaccharide content and improves spin-column performance by increasing RNA binding capacity (and therefore yield) in the steps that follow. Incubation is not required after the addition of isopropanol.

8. Immediately centrifuge at 10,000*g* for 2 minutes. Longer centrifugation does not improve yield.

9. Carefully aspirate or decant the supernatant. Do not disturb the RNA pellet. Invert the microcentrifuge tube on a paper towel for 1 minute to allow any residual liquid to drain. Drying the pellet is not necessary.

10. Add 100 µL RB Buffer or sterile Nuclease-free Water heated to 65°C. Vortex at maximum speed to resuspend the pellet. A brief incubation at 65°C may be necessary to effectively dissolve the RNA.

    Important: Do not add 2-mercaptoethanol to RB Buffer for this step. RB Buffer is recommended for dissolving the RNA pellet, especially when degradation was found after elution. RB Buffer contains a strong RNase inhibitor. Nuclease-free Water should only be used when dissolving the RNA when RB Buffer has proven difficult.

11. Adjust the binding conditions by following either **A or B** below.

    Note: RB Buffer must be mixed with 2-mercaptoethanol before use. Please see Page 6 for instructions.

    A. If RB Buffer was used in Step 10, add 250 µL RB Buffer and 350 µL 100% ethanol.

    B. If Nuclease-free Water was used in Step 10, add 350 µL RB Buffer and 250 µL 100% ethanol.

12. Insert a HiBind® RNA Mini Column into a 2 mL Collection Tube.

13. Transfer the entire sample (including any precipitate that may have formed) to the HiBind® RNA Mini Column.

14. Centrifuge at 10,000*g* for 30 seconds.

15. Discard the filtrate and reuse the Collection Tube.

Optional: This the starting point of the optional on-membrane DNase I Digestion Protocol. Since the HiBind® matrix of the RNA Mini Column eliminates most DNA, DNase I digestion is not necessary for most downstream applications. However, certain sensitive RNA applications may require further DNA removal. If an additional DNA removal step is required, please continue to the DNase I Digestion Protocol found on Page 19. (See DNase I Digestion Set, Cat # E1091 for more information). If DNase I digestion is not required, proceed to Step 16.

16. Add 500 µL RNA Wash Buffer I.

17. Centrifuge at 10,000*g* for 30 seconds.

18. Discard the filtrate and the collection tube.

19. Transfer the HiBind® RNA Mini Column to a new 2 mL Collection Tube.

20. Add 700 µL RNA Wash Buffer II.

    Note: RNA Wash Buffer II must be diluted with 100% ethanol before use. Please see Page 6 for instructions.

21. Centrifuge at 10,000*g* for 30 seconds.

22. Discard the filtrate and reuse collection tube.

23. Add 500 µL RNA Wash Buffer II.

24. Centrifuge at 10,000*g* for 30 seconds.

25. Discard the filtrate and reuse collection tube.

26. Centrifuge at maximum speed for 1 minute to completely dry the HiBind® RNA Mini Column.

    Note: It is important to dry the HiBind® RNA Mini Column matrix before elution. Residual ethanol may interfere with downstream applications.

27. Transfer the HiBind® RNA Mini Column to a clean 1.5 mL microcentrifuge tube.

28. Add 50-100 µL Nuclease-free Water.

    Note: Make sure to add water directly onto the HiBind® RNA Mini Column matrix.

29. Centrifuge at maximum speed for 1 minute and store eluted RNA at -70°C.

    Note: Any combination of the following steps can be used to help increase RNA yield.

    - Heat the Nuclease-free Water to 65°C before adding to the column.
    - Let sit at room temperature for 5 minutes.
    - Increase the elution volume.
    - Repeat the elution step with fresh Nuclease-free Water (this may increase the yield, but decrease the concentration).
    - Repeat the elution step using the eluate from the first elution (this may increase yield while maintaining elution volume).

Arthropod Samples

The exoskeleton of arthropods poses the same problems that occur when trying to isolate RNA from plant specimens. Pigments and polysaccharides often co-purify with nucleic acids, and interfere with downstream applications.

Materials and Equipment to be Supplied by User:

- Microcentrifuge capable of at least 14,000*g*
- RNase-free pipet tips and 1.5 mL microcentrifuge tubes
- Water bath, incubator, or heat block capable of 65°C
- 100% ethanol
- 70% ethanol
- 2-mercaptoethanol (14.2 M)
- Liquid nitrogen

Before Starting:

- Prepare RNA Wash Buffer II and RB Buffer according to "Preparing Reagents" section on Page 6
- Set water bath, incubator, or heat block to 65°C

1. Freeze and grind up to 100 mg arthropod tissue in liquid nitrogen. Grind tissue completely to obtain a fine homogenous powder.

2. Immediately add 500 µL RB Buffer. Vortex at maximum speed to mix thoroughly.

   Note: RB Buffer must be mixed with 2-mercaptoethanol before use. Please see Page 6 for instructions. Ensure that all the samples are completely suspended and that there are no clumps in the solution. Clumps will result in low yields.

3. Proceed Step 4 of the Standard Protocol (Page 9).

Fungal Samples

The E.Z.N.A.® Plant RNA Kit can also be used for fungal RNA isolation, since many fungal samples posses similar cellular attributes to plant specimens.

Materials and Equipment to be Supplied by User:

- Microcentrifuge capable of at least 14,000*g*
- RNase-free pipet tips and 1.5 mL microcentrifuge tubes
- Water bath, incubator, or heat block capable of 65°C
- 100% ethanol
- 70% ethanol
- 2-mercaptoethanol (14.2 M)
- Liquid nitrogen

Before Starting:

- Prepare RNA Wash Buffer II and RB Buffer according to "Preparing Reagents" section on Page 6
- Set water bath, incubator, or heat block to 65°C

1. Freeze and grind up to 30 mg fungal tissue in liquid nitrogen. Grind tissue completely to obtain a fine homogenous powder.

2. Immediately add 500 µL RB Buffer. Vortex at maximum speed to mix thoroughly.

   Note: RB Buffer must be mixed with 2-mercaptoethanol before use. Please see Page 6 for instructions. Ensure that all the samples are completely suspended and that there are no clumps in the solution. Clumps will result in low yields.

3. Proceed Step 4 of the Standard Protocol (Page 9).

DNase I Digestion Protocol

Since the HiBind® matrix of the RNA Mini Column eliminates most DNA, DNase I digestion is not necessary for most downstream applications. However, certain sensitive RNA applications may require further DNA removal. (See DNase I Digestion Set, Cat# E1091 for further information).

After completing Steps 1-13 of the Standard Protocol (Pages 8-9) or Steps 1-15 of the Difficult Tissue Samples Protocol (Pages 12-14), proceed with the following protocol.

User Supplied Material:

- DNase I Digestion Set (E1091)

1. For each HiBind® RNA Mini Column, prepare the DNase I stock solution as follows:

Buffer	Volume per Prep
E.Z.N.A.® DNase I Digestion Buffer	73.5 µL
RNase-free DNase I (20 Kunitz/µL)	1.5 µL
Total Volume	75 µL

Important Notes:

- DNase I is very sensitive and prone to physical denaturing. **Do not vortex the DNase I mixture.** Mix gently by inverting the tube.
- Freshly prepare DNase I stock solution right before RNA isolation.
- Standard DNase buffers are not compatible with on-membrane DNase I digestion. The use of other buffers may affect the binding of RNA to the HiBind® matrix and may reduce RNA yields and purity.
- All steps must be carried out at room temperature. Work quickly, but carefully.

2. Insert the HiBind® RNA Mini Column containing the sample into a 2 mL Collection Tube.

3. Add 250 µL RNA Wash Buffer I to the HiBind® RNA Mini Column.

4. Centrifuge at 10,000*g* for 1 minute.

5. Discard the filtrate and reuse the Collection Tube.

6. Add 75 µL DNase I digestion mixture directly onto the surface of the membrane of the HiBind® RNA Mini Column.

   Note: Pipet the DNase I directly onto the membrane. DNA digestion will not be complete if some of the mixture is retained on the wall of the HiBind® RNA Mini Column.

7. Let sit for 15 minutes at room temperature.

8. Add 250 µL RNA Wash Buffer I to the HiBind® RNA Mini Column.

9. Let sit for 2 minutes at room temperature.

10. Centrifuge at 10,000*g* for 1 minute.

11. Discard the filtrate and reuse the Collection Tube.

12. Add 600 µL RNA Wash Buffer II.

    Note: RNA Wash Buffer II must be diluted with 100% ethanol before use. Please see Page 6 for instructions.

13. Centrifuge at 10,000*g* for 1 minute.

14. Discard the filtrate and reuse the Collection Tube.

15. Repeat Steps 12-14 for a second RNA Wash Buffer II wash step.

16. Centrifuge at maximum speed for 2 minutes to completely dry the HiBind® RNA Mini Column matrix.

    Note: It is important to dry the HiBind® RNA Mini Column matrix before elution. Residual ethanol may interfere with downstream applications.

17. Place the column in a clean 1.5 mL microcentrifuge tube (not supplied).

18. Add 50-100 µL Nuclease-free Water.

    Note: Make sure to add water directly onto the HiBind® RNA Mini Column matrix.

19. Centrifuge at maximum speed for 2 minutes and store eluted RNA at -70°C.

    Note: Any combination of the following steps can be used to help increase RNA yield.

    - Heat the Nuclease-free Water to 65°C before adding to the column.
    - Let sit at room temperature for 5 minutes.
    - Increase the elution volume.
    - Repeat the elution step with fresh Nuclease-free Water (this may increase the yield, but decrease the concentration).
    - Repeat the elution step using the eluate from the first elution (this may increase yield while maintaining elution volume).

Troubleshooting Guide

Please use this guide to toubleshoot any problems that may arise. For further assistance, please contact the technical support staff , toll free, **at 1-800-832-8896.**

Possible Problems and Suggestions

Problem	Cause	Solution
Little or no RNA eluted	RNA remains on the column	Repeat elution step.
		Heat Nuclease-free Water to 65°C prior to elution.
	Column is overloaded	Reduce quantity of starting material.
Problem	Cause	Solution
Clogged column	Incomplete homogenization	Completely homogenize sample.
		Increase centrifugation time.
		Reduce amount of starting material
Problem	Cause	Solution
Degraded RNA	Starting sample problems	Freeze starting material quickly in liquid nitrogen.
		Follow protocol closely, and work quickly.
	RNase contamination	Ensure not to introduce RNase during the procedure.
		Check buffers for RNase contamination.
Problem	Cause	Solution
Problem in downstream applications	Salt carryover during elution	Ensure RNA Wash Buffer II has been diluted with 4 volumes 100% ethanol as indicated on bottle.
		RNA Wash Buffer II must be stored and used at room temperature.
		Repeat wash with RNA Wash Buffer II.
Problem	Cause	Solution
DNA contamination	DNA contamination	Perform the optional DNase I Digestion Protocol on Page 19.
Problem	Cause	Solution
Low Abs ratios	RNA diluted in acidic buffer or water	Nuclease-free Water is acidic and can dramatically lower Abs_{260} values. Use TE buffer to dilute RNA prior to spectrophotometric analysis.

Notes:

Notes:

For more purification solutions, visit **www.omegabiotek.com**

AVAILABLE FORMATS


Spin Columns

96-Well Silica Plates


Mag Beads

SAMPLE TYPES


Blood / Plasma

Plasmid


Cultured Cells


Plant & Soil


NGS Clean Up


Tissue


FFPE


Fecal Matter

omega BIO-TEK

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