omega BIO-TEK
innovations in nucleic acid isolation

Product Manual

Mag-Bind® RXNPure Plus

M1386-01 50 mL

Manual Date: February 2023
Revision Number: v4.0

For Research Use Only

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Mag-Bind® RXNPure Plus

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Introduction

Omega Bio-tek's Mag-Bind® RXNPure Plus Kit allows rapid and reliable isolation of PCR products with high recovery rates. The system combines Omega Bio-tek's proprietary chemistries with the reversible nucleic acid-binding properties of magnetic beads that selectively binds PCR amplicons 100 bp and larger and eliminates excess nucleotides, primers, and small, non-targeted amplification products, such as primer dimers. This kit is designed for both manual and fully automated purification of PCR samples. Purified PCR fragments can be used for microarrays, automated fluorescent DNA sequencing, restriction enzyme digestion, and other applications.

The Mag-Bind® RXNPure Plus magnetic particles technology provides a better solution for nucleic acid purification compared to centrifugation and vacuum-based technologies. The product can be easily scaled up while providing very user-friendly handling procedures. If using Mag-Bind® RXNPure Plus for the first time, please read this booklet to become familiar with the procedures. PCR products are first mixed with Mag-Bind® RXNPure Plus. PCR products then selectively bind to the Mag-Bind® RXNPure Plus particles. With two rapid wash steps, trace contaminants such as nucleotides, primers and small, non-targeted amplification products are removed. Pure DNA is eluted in Elution Buffer or water. Purified DNA can be directly used in downstream applications without the need for further purification.

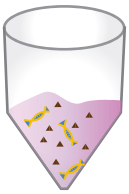
Important: If automating this procedure on a liquid handler or a magnetic processor, please contact your Omega Bio-tek representative for instrument-specific instructions.

New in this Edition:

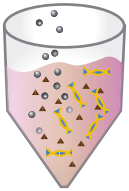
February 2023
- M1386-00 (5 mL) and M1386-02 (500 mL) have been discontinued and are no longer available to purchase.

March 2017
- General Revision

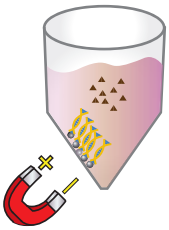
Illustrated Protocol



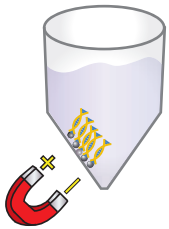
Measure the PCR Reaction



Add Mag-Bind® RXNPure Plus and Mix

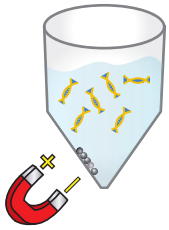


Magnetize and Remove Supernatant



Wash Twice with 70% Ethanol

Dry



Elute DNA

Kit Contents

Product Number	M1386-01
Mag-Bind® RXNPure Plus	50 mL
User Manual	✓

Preparations

PCR Reaction Volume 96 well format	M1386-01 50 mL
10 µL	2,777 preps
25 µL	1,111 preps
50 µL	555 preps
100 µL	277 preps
PCR Reaction Volume 384 well format	**M1386-01 50 mL**
5 µL	5,555 preps
10 µL	2,777 preps
14 µL	1,984 preps

Storage and Stability

Mag-Bind® RXNPure Plus is guaranteed for at least 12 months from the date of purchase when stored at 2-8°C.

96-well Plate Protocol

Important: If automating this procedure on a liquid handler or a magnetic processor, please contact your Omega Bio-tek representative for instrument-specific instructions.

Materials and Equipment to be Supplied by User:

- Vortexer
- Magnetic Separation Device (Recommended Cat# AlpAqua A001322)
- Multichannel pipettor
- 96-well PCR plate containing PCR samples (up to 50 µL/well)
- 96-well microplate
- Multichannel Disposable Reservoirs
- Sealing film
- 70% ethanol
- Elution Buffer (Cat# PDR048 or 10 mM Tris, pH 8.5)
- Optional: Oven capable of 37°C

1. Read the manufacturer's instruction manual for the magnetic separation device, if provided.

2. Place the 96-well PCR plate containing PCR samples on the bench and measure the volume of the PCR reaction. Determine the volume of Mag-Bind® RXNPure Plus that will be added to the reaction. If the reaction volume will exceed 200 µL transfer to a microtiter plate for processing.

   Note: PCR reactions >20 µL will need to be transferred to a processing plate. If processing in a PCR plate, a magnet separation device compatible with PCR plates must be used (Recommend Cat# V&P Scientific VP 771H).

3. Shake or vortex the Mag-Bind® RXNPure Plus to resuspend any particles that may have settled. Allow Mag-Bind® RXNPure Plus to come to room temperature before use.

4. Add 1.8 volumes Mag-Bind® RXNPure Plus.

PCR Reaction Volume (µL)	Mag-Bind® RXNPure Plus (µL)
10	18
25	45
50	90
100	180

5. Pipet up and down 5-10 times or vortex for 30 seconds.

6. Let sit for 5 minutes at room temperature.

7. Place the plate on a magnetic separation device to magnetize the Mag-Bind® RXNPure Plus. Let sit at room temperature until the Mag-Bind® RXNPure Plus is completely cleared from solution.

8. Aspirate and discard the cleared supernatant. Do not disturb the Mag-Bind® RXNPure Plus. Leave the plate on the magnet.

9. Add 200 µL 70% ethanol.

10. Let sit at room temperature for 1 minute. It is not necessary to resuspend the Mag-Bind® RXNPure Plus.

11. Aspirate and discard the cleared supernatant. Do not disturb the Mag-Bind® RXNPure Plus.

12. Repeat Steps 9-11 for a second 70% ethanol wash step.

13. Leave the plate on the magnetic separation device for 10-15 minutes to air dry the Mag-Bind® RXNPure Plus. Remove any residual liquid with a pipettor.

    Note: It is important to dry the Mag-Bind® RXNPure Plus before elution. Residual ethanol may interfere with downstream applications.

    Optional: Incubating the plate at 37°C can speed up the evaporation.

14. Remove the plate from magnetic separation device.

15. Add 30-40 µL Elution Buffer (not provided).

16. Pipet up and down 20 times or vortex for 30 seconds.

17. Let sit for 2-3 minutes at room temperature.

18. Place the plate on a magnetic separation device to magnetize the Mag-Bind® RXNPure Plus. Let sit at room temperature until the Mag-Bind® RXNPure Plus is completely cleared from solution.

19. Transfer the cleared supernatant containing purified DNA to a new 96-well microplate and seal with non-permeable sealing film.

20. Store the plate at 2-8°C if storage is only for a few days. For long-term storage, samples should be kept at -20°C.

384-well Plate Protocol

Important: If automating this procedure on a liquid handler or a magnetic processor, please contact your Omega Bio-tek representative for instrument-specific instructions.

Materials and Equipment to be Supplied by User:

- Vortexer
- Magnetic separation device for 384-well PCR plates
- Multichannel pipettor
- 384-well PCR plate containing PCR samples (up to 100 µL/well)
- Skirted 384-well PCR plate
- 384-well microplate
- Multichannel Disposable Reservoirs
- Sealing film
- 70% ethanol
- Elution Buffer (Cat# PDR048 or 10 mM Tris, pH 8.5)
- Optional: Oven capable of 37°C

1. Read the manufacturer's instruction manual for the magnetic separation device, if provided.

2. Place the 384-well PCR plate on the bench and measure the volume of the PCR reaction. Transfer the sample to a skirted 384-well PCR plate.

3. Shake or vortex the Mag-Bind® RXNPure Plus to resuspend any particles that may have settled. Allow Mag-Bind® RXNPure Plus to come to room temperature before use.

4. Add 1.8 volumes Mag-Bind® RXNPure Plus.

PCR Reaction Volume (µL)	Mag-Bind® RXNPure Plus (µL)
5	9
10	18
14	25

5. Pipet up and down 5-10 times or vortex for 30 seconds.

6. Let sit for 1 minute at room temperature.

7. Place the plate on a magnetic separation device to magnetize the Mag-Bind® RXNPure Plus. Let sit at room temperature until the Mag-Bind® RXNPure Plus is completely cleared from solution.

8. Aspirate and discard the cleared supernatant. Do not disturb the Mag-Bind® RXNPure Plus. Leave the plate on the magnet.

9. Add 30 µL 70% ethanol.

10. Let sit at room temperature for 1 minute. It is not necessary to resuspend the Mag-Bind® RXNPure Plus.

11. Aspirate and discard the cleared supernatant. Do not disturb the Mag-Bind® RXNPure Plus.

12. Repeat Steps 9-11 for a second 70% ethanol wash step.

13. Leave the plate on the magnetic separation device for 10-15 minutes to air dry the Mag-Bind® RXNPure Plus. Remove any residual liquid with a pipettor.

    Note: It is important to dry the Mag-Bind® RXNPure Plus before elution. Residual ethanol may interfere with downstream applications.

    Optional: Incubating the plate at 37°C can speed up the evaporation.

14. Remove the plate from magnetic separation device.

15. Add 30 µL Elution Buffer (not provided).

16. Pipet up and down 20 times or vortex for 30 seconds.

17. Let sit for 2-3 minutes at room temperature.

18. Place the plate on a magnetic separation device to magnetize the Mag-Bind® RXNPure Plus. Let sit at room temperature until the Mag-Bind® RXNPure Plus is completely cleared from solution.

19. Transfer the cleared supernatant containing purified DNA to a new 384-well microplate and seal with non-permeable sealing film.

20. Store the plate at 2-8°C if storage is only for a few days. For long-term storage, samples should be kept at -20°C.

Troubleshooting Guide

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

Possible Problems and Suggestions

Problem	Cause	Solution
Low yield	Low PCR product yield	Increase the number amplification cycles for PCR.
	Smaller PCR product size	Small PCR fragments normally give lower yield.
	Ethanol residue	During the drying step, remove any liquid from bottom of the well.
	Particle loss during the procedure	Increase magnetization time. Aspirate slowly.
	DNA remains bound to beads	Increase elution volume.
	Incomplete resuspension of the beads during elution	Vortex or pipet up and down to fully resuspend the beads.
Problem	Cause	Solution
Primer carryover	Insufficient wash of the particles	Wash the beads one more time with 70% ethanol.
Problem		Solution
Non-specific amplification products were not removed	The size of the non-specific amplification products are larger than 100 bp	Non-specific amplification products larger than 100 bp are not efficiently removed from PCR products.
Problem	Cause	Solution
Problems in downstream applications	Salt carryover	70% ethanol must be stored at room temperature.
	Ethanol carryover	Ensure the beads are completely dried before elution.

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

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