MgPure Viral RNA Purification Kit

MR6532 VER20200929.V2

Contents

Safety Information

Strictly follow CDC or Depart of Health guidance for handling infectious samples. Wear appropriate personal protective equipment (e.g. gowns, gloves, eye protection) when working with clinical specimens. Specimen processing should be performed in a certified biological safety cabinet accordingly following biosafety guidelines for the specific virus.

Buffer MYE and Buffer RB contains chaotropic salts, which may form reactive compounds when combines with bleach. Do not add bleach or acidic solutions directly to the preparation waste, wear gloves and protective eyewear when handling.

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Introduction

The MgPure™ Viral RNA mini kit provides an easy and reliable method for isolating total viral RNA from plasma, serum, nasopharyngeal or oropharyngeal aspirates or washes, nasopharyngeal or oropharyngeal swabs, broncheoalveolar lavage, tracheal aspirates, and sputum. This procedure has been tested for isolating nucleic acids from COVID-19, Hepatitis A, Hepatitis C and HIV. The isolated RNA can be used for PCR, qRT-PCR and other downstream applications. This protocol can be easily adapted to major automation platforms such as Kingfisher, Biomek, Hamilton, and many others.

Storage and Stability

Store Mgpure beads at 4-8°C and all other components at room temperature (15-25℃). All kit components are guaranteed for 1 year from the date of purchasing.

Kit Contents

Catalog#	MR6532-00	MR6532-01	MR6532-02
Preps	1x96	4x96	20x96
96 Well Sample Plate and Sealing Films	1	4	20
Elution Plates	1	4	20
Proteinase K	1 mL	4 mL	20 mL
Buffer MYE	30 mL	120 mL	510 mL
MgPure Beads	1 mL	5 mL	25 mL
RNA Wash Buffer *	12 mL	50 mL	220 mL
Buffer RB	42 mL	175 mL	740 mL
DEPC-Treated ddH_2O	5 mL	20 mL	100 mL
L Solution	210 µL	1000 µL	4 mL

- Add 830 mL (MR6532-02) or 200 mL (MR6532-01) or 48 mL (MR6532-00) ethanol to RNA Wash Buffer bottle before use.
- Add 300 mL (MR6532-02) or 75 mL (MR6532-01) or 18 mL (MR6532-00) isopropanol to Buffer RB before use.

Before Starting

Prepare all components and get all necessary materials ready by examining this instruction booklet and become familiar with each step.

 Always use RNase free consumables and equipment.

 Always change pipet tips between liquid transfers. To minimize cross contamination, we recommend the use of aerosol-barrier pipet tips.

 All steps are carried out at room temperature (15–25°C).

 Always use disposable gloves and regularly check that they are not contaminated with sample material. Discard gloves if they become contaminated.

 This kit should only be used by personnel trained in in vitro diagnostic laboratory practice.

Materials not supplied

❂100% ethanol, isopropanol and magnetic rack.

Viral RNA Extraction Protocol

1. Pipet **10 µL Proteinase K, 2 µL L Solution, 250 µL Buffer MYE** and **500 µL isopropanol** to each well of the 96 well sample plate.

   Note: Calculate number of samples to be processed and make master mix of proteinase K, L solution Buffer MYE, and isopropanol.

2. Add **250 µL** sample to each well and mix well by pipetting. Incubate at room temperature for 10 min.

3. Add **10 µL MgPure beads** to each well, mix well by pipetting and incubate at room temperature for 5 min.

4. Place the sample plate on the magnetic rack to magnetize the MgPure beads until the beads are completely cleared from the solution.

5. Remove the clear solution from the beads. Take the sample plate off the magnetic rack and resuspend the beads with **500 µL Buffer RB**. Place the sample plate on the magnetic rack to magnetize the beads, remove the clear solution when the beads are completely cleared from the solution.

6. Take the sample plate from the magnetic rack and resuspend the beads with **500 µL RNA Wash Buffer**. Place the sample plate on the magnetic rack to magnetize the beads, remove the clear solution when the beads are completely cleared from the solution.

7. Air-dry the sample for 5-10 minutes. Take the sample plate from the magnetic rack and resuspend the beads with **30-50 µL DEPC-treated H_2O**. Place the sample plate on the magnetic rack to magnetize the beads, transfer the clear solution to a Elution Plate when the beads are completely cleared from the solution. Store RNA at -20℃ or put on ice for downstream applications.

Trouble Shoot guide

Problem	Possible reason	Suggested Improvement
Low A_{260}/A_{280} ratios	Protein contamination	Do a Phenol:Chloroform extraction. Loss of total RNA (up to 40%) should be expected.
Low A_{260}/A_{280} ratios	Guanidine Thiocyanate contamination	Add 2.5 volumes of ethanol and 0.1M NaCl (final concentration) to precipitate RNA. Incubate for 30 min at -20°C. Centrifuge at 10,000 g for 15 min at 4°C. Resuspend the RNA pellet in DEPC-treated water.
Low Yield	RNA in sample degraded	Freeze samples immediately in liquid nitrogen and store at -70°C after collect it.
Low Yield	The binding capacity of the membrane in the spin column was exceeded	Use of too much sample exceeding the binding capacity of spin column will cause the decreasing of total RNA yield.
Low Yield	Ethanol not added to buffer	Add ethanol to the Wash Buffer.
Genomic DNA contamination	Too much total RNA sample was used in RT-PCR.	Reduce total RNA amount used in RT-PCR to 50-100 ng.

Limited Use and Warranty

This product is warranted to perform as described in its labeling and in BIOMIGA's literature when used in accordance with instructions. No other warranties of any kind, express or implied, including, without limitation, implied warranties of merchantability or fitness for a particular purpose, are provided by BIOMIGA. BIOMIGA's sole obligation and purchaser's exclusive remedy for breach of this warranty shall be, at the option of BIOMIGA, to replace the products, BIOMIGA shall have no liability for any direct, indirect, consequential, or incidental damage arising out of the use, the results of use, or the inability to use it product.

For technical support or learn more product information, please contact us at 858-603-3219 or visit our website at www.biomiga.com