Express MgPure Viral RNA Purification Kit

MR6532.A96.EX V210715V3 Prefilled (Simplified)

Contents

Safety Information

Strictly follow CDC or Depart of Health guidance for handling infectious samples. Wearing 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 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 Express MgPure™ Viral RNA purification 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.

Kit Contents

Catalog#	MR6532.A96EX-10	MR6532A96EX-11	MR6532.A96EX-12	MR6532.A96EX-13
Preps	1 x 96	4 x 96	10 x 96	20 x 96
Proteinase K	1.1 mL	5 mL	11 mL	22 mL
MgPure Beads	96x200 µL	4x96x200 µL	10x96x200 µL	20x96x200 µL
Buffer MYE	96x600 µL	4x96x600 µL	10x96x600 µL	20x96x600 µL
RNA Wash Buffer*	96x500 µL	4x96x500 µL	10x96x500 µL	20x96x500 µL
DEPC-Treated ddH_2O	96x50 µL	4x96x50 µL	10x96x50 µL	20x96x50 µL
Magnetic Rod Comb	1	4	10	20
User Manual	1	1	1	1

Storage and Stability

Store all components at room temperature (15-25°C). All kit components are guaranteed for 1 year from the date of purchasing. For long term: store proteinase K at -20°C.

Before Starting

1. Allsheng Auto Pure 96: Turn on ultraviolet disinfection for 20 min before use.
2. Carefully peel off the sealing film of the Buffer MYE plate.
3. Optional: add 10 µL of proteinase K to each well of the Buffer MYE plate.

   Note: Proteinase K is necessary for low viral titer samples.
4. Add 250 µL sample to each well of Buffer MYE plate.

Table 1. 96-Well Plate Setting

Operation Protocol

96-Well Plate	Sample / Reagent	Vol. (μL)	Plate Description	Note
Binding	Sample	250	Add by user	Ensure the total volume is ≤1000μL
	Buffer MYE	600	Added	
	Proteinase K (Optional)	10	Add by user	
Beads	MgPure Beads	10	Added	
	Storage Solution (or ddH_2O)	190		
Wash	RNA Wash Buffer	500	Added	
Elution	DEPC-TreatedddH_2O	50	Added	Elution volume can be adjusted according to specific requirements

1. Carefully peel off the sealing films of the MgPure Bead Plate, RNA Wash Buffer Plate and DEPC-water Plate. Place a new magnetic rod comb in the plate containing Buffer MYE/sample. Put the remaining 96-well plates into the corresponding position in the instrument.
2. Use the installed program (table 2).
3. Collect products after the program is completed. Take out 96-well plate, and pipette the purified RNA in the Elution plate into a sterile 96 plate, proceed to PCR or store at -80°C.

Table 2. Extraction Procedure

Step	Name	Plate position	Mix time min	Mix range (%)	Wait time min	Vol (μL)	Mix speed 1-10	Tm (°C)	Magnetize section (0-5)	cycle index (1-10)	Magnetize speed (1-10)	First magnetize time (s)	Second magnetize time (s)
1	Load	2	-	-	-	-	-	-	-	-	-	-	-
2	Binding 1	2	5	80	0	860	2	OFF	0	1	-	-	-
3	Beads	3	1	80	0	200	1	OFF	2	1	1	5	5
4	Binding 2	2	5	80	0	860	8	OFF	2	2	1	10	10
6	Wash	4	1	80	2	500	8	OFF	2	1	1	5	5
7	Elution	5	5	80	0	50	5	OFF	1	3	1	30	-
8	Unload	4	-	-	-	-	-	-	-	-	-	-	-

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

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