MagaBio plus Virus DNA /RNA Purification Kit III

Instructions for Use

Effective Date: 2021-10-22

For research use only.

Not for use in diagnostic procedures.

INTENDED USE

MagaBio plus Virus DNA /RNA Purification Kit III is used for extraction and purification of viral nucleic acid from human biological specimens.
For research use only. Not for use in diagnostic procedures.

PRINCIPLE OF THE PROCEDURE

Viral capsids / envelops (or other protection structures) in biological samples are lysed by the lysing buffer to release viral nucleic acid. Then the viral nucleic acids are captured by the magnetic beads in the MagaBio reagent. While viral nucleic acids are mains absorbed to the magnetic beads, contaminants are efficiently washed away through a sequence of wash steps with Wash buffer I, and then Wash buffer II. Finally, pure viral nucleic acids are eluted in Elution buffer.

KIT COMPONENTS

Catalog	BSC86T1S	BSC86S1S	BSC86T1E	BSC86S1E
Kit size (Tests/Kit)	16	32	16	32
Lysis Buffer	16 test strips prefilled with reagents for 1 test per strip	32 test strips prefilled with reagents for 1 test per strip	Two 96 well plates prefilled with reagents for 8 tests per plate	Two 96 well plates prefilled with reagents for 16 tests per plate
Wash Buffer I				
Wash Buffer II				
Elution Buffer				
MagaBio Reagent				
Instructions for Use	1 Piece	1 Piece	1 Piece	1 Piece

EQUIPMENT AND MATERIALS REQUIRED BUT NOT PROVIDED

1. Nucleic Acid Purification System from Bioer, GenePure Pro (NPA-32P)
2. Vortex mixer, centrifuge, centrifuge tubes and micropipettes, micropipette tips;
3. Disposable gloves, etc.

WARNINGS AND PRECAUTIONS

- For research use only. Not for use in diagnostic procedures.
- Do not use the kits with any obvious damage or leakage.
- Store the kit in the required environment. Prolonged exposure to humidity or heat will affect product performance. Screw the lid tightly after use.
- Avoid microbial and nuclease (RNase and DNase) contamination of reagents.

It's highly recommended to use sterile RNase/DNase-free disposable tubes and pipette tips.

- Read the Instructions for Use carefully before operation. The appropriate operations from specimen collection, storage and transportation, and laboratory test should be strictly manipulated in line with relevant regulations of biosafety and molecular laboratory management.
- Follow standard precautions. All specimens and/or positive controls should be considered potentially infectious and handled accordingly.
- Use personal protective equipment such as (but not limited to) gloves, eye protection, and lab coats when handling kit reagents, while performing this assay and handling materials including samples, reagents, pipettes, and other equipment and reagents.
- Do not eat, drink, smoke, apply cosmetics or handle contact lenses in areas where reagents and human specimens are handled.
- Wash hands thoroughly after performing the test.
- Consult the manufacturer for additional warnings, precautions, procedures or information.

STORAGE AND TRANSPORTATION

The kit should be stored at 2°C ~25°C for the duration of the shelf life.
Do not use beyond the expiration date printed on the box.
The kit can be transported at room temperature.
The kit can be stored for up to 12 months if all components are kept on the conditions above.

SPECIMEN COLLECTION AND PREPARATION

1. Specimen: swabs, tissue, feces, whole blood, serum, plasma or other body fluid specimens.
2. Specimen collection: Specimens of all types are collected by conventional methods.
3. Specimen storage: It is highly recommended to process the specimen as soon as possible after collection. If delayed processing is expected, the specimens should be stored by conventional methods or at -70°C or lower. Specimens should not be frozen and thawed frequently.
4. Specimen transportation: Specimen should be transported with 0°C curling bottle or foam box sealed with ice.
5. Specimen pre-treatment:

- For whole blood, serum, plasma and ascites specimens: Transfer 300μL liquid specimens into a nuclease-free centrifuge tube / specimen well;
- For saliva or other oral viscous liquid specimens: Transfer 200μL liquid specimens into a nuclease-free centrifuge tube / specimen well;
- For alveolar lavage fluid, sputum or other viscous liquid samples: Transfer

150μL liquid specimens into a nuclease-free centrifuge tube / specimen well, then add 150μL sputum liquefier. Blend the mixture fully, and incubate at 37°C for 10 min, then centrifuge for a few seconds;

- For feces, animal or plant tissue specimens: Grind /blend the specimens fully with some PBS buffer or saline, centrifuge at 12000g for 5~10 minutes, then transfer 300μL supernatant into a nuclease-free centrifuge tube / specimen well;
- For swab specimens: cut the tip of the swab into a tube with Viral Transport Medium. Blend the mixture for at least 1 minute, then transfer 300μL supernatant into a nuclease-free centrifuge tube / specimen well.

6. The recommended specimen volume is 300μL. If the volume of a pre-treated specimen from step 5 is less than 300μL, add some PBS buffer or saline to make the total volume to reach 300μL.

PROCEDURE –AUTOMATION EXTRACTION - BIOER NPA-32P NUCLEIC ACID PURIFICATION INSTRUMENT

1. Prepare reagents

1.1 Shake the strip(s)/plate(s) upside down for three times, then take out the strip(s)/plate(s) from the plastic bag;

1.2 Centrifuge the strip(s)/plate(s) for a few seconds (or swing by hand a few times) to avoid reagent adhering to the wall of the tubes;

1.3 Tear off the aluminum foil film of strip(s)/plate(s) and identify the direction of the strip(s)/plate (MagaBio Reagent in the well of column 6 or column 12).

⚠ *CAUTION: 96 deep-well plate or the 8-strip tips or individual tube should fit for Bioer NPA-32P*

2. Add specimens:
Add the 300μL pre-treated specimen (from step 6 of specimen preparation procedure) into the well of column 1 or 7 of a test unit.

3. Install Pre-loaded reagents strips or plates :

3.1 Install the 8-strip tips onto the instruments;

3.2 Place the strip(s) / plate(s) into the instruments.

⚠ *CAUTION: Identify the direction of the strip(s) / plate; make sure the MagaBio Reagent in the column 6 or column 12.*

4. Set extraction program:

4.1 Set the extraction program as below:

Step	Well	Name	Waiting Time (min:ss)	Mixing Time (min:ss)	Magnet Time (min:ss)	Adsorption	Speed	Volume (μL)
1	1	Lysis	00:00	02 : 00	00 : 00	Normal	F	700

2	6	Beads	00:00	00 : 15	00 : 15	Strong	F	200
3	1	Bind	00:00	03 : 00	00 : 45	Strong	F	700
4	2	Wash 1	00:00	00 : 30	00 : 30	Strong	F	500
5	3	Wash 2	00:00	00 : 30	00 : 30	Strong	F	500
6	4	Wash 3	00:00	00 : 30	00 : 30	Strong	F	500
7	5	Elution	02:00	02 : 30	00 : 30	Normal	F	70
8	6	Discard	00:00	00 : 15	00 : 00	Normal	F	200

4.2 Set temperature as below:

Lysis temperature: 80°C; Lysis heating ends at Step 2;

Elution temperature: 80°C; Elution starts heating at Step 7.

5. Remove the liquid in column 5 or column 11 into a nuclease-free tube with a pipette.

⚠ *CAUTION: It is highly recommended that the extracted nucleic acid should be used as soon as possible. Store the extraction product at -20℃ or lower if it cannot be used immediately.*

PERFORMANCE

This kit is suitable for the extraction of viral nucleic acid in swabs, tissue, feces, whole blood, serum, plasma and other body fluid specimens.

LIMITATIONS OF THE PROCEDURE

1. The quality and / or the yield of purified of the DNA or RNA is affected by factors including source of sample, sample collection process, collection site and storage conditions, etc.
2. Occasionally a few magnetic beads may appear in the elution buffer. If so, avoid these when transferring the extracted product to the fresh nuclease free tubes.
3. If the extraction is being carried out by a manual procedure, clumping of the magnetic beads can occur using certain sample types which can be dispersed by vortexing.
4. The presence of DNA/RNase in the laboratory environment may cause the degradation of the DNA and/or RNA during or after the purification process. All equipment, consumables and the workbench should be treated before starting to ensure all surfaces are DNA/RNase free.

HANGZHOU BIOER TECHNOLOGY CO., LTD.

1192 BinAn Rd., Binjiang District, 310053 Hangzhou, China

Website: www.bioer.com.cn

TEL: +86-571-87774575 FAX: +86-571-87774565

TECHNICAL SUPPORT

Please dial phone number +86-571-87774567-5211 or 87774575, by fax to +86-571-87774553, or by email to reagent@bioer.com.cn.