MagaBio Pathogens DNA /RNA Purification Kit

【Product Name】MagaBio Pathogens DNA /RNA Purification Kit

【Packing Size】32 Tests/box; 50 Tests/box; 100 Tests/box

【Usage】Used for nucleic acid extraction, enrichment, purification and other steps. The isolated product is used for clinical in vitro testing.

【Principle and Advantage】

DNA/RNA in the sample is released by PK Solution and Lysis Buffer. Released DNA/RNA is bound exclusively and specifically to the magnetic beads in Binding Buffer, and impurities will be removed by WB1 Buffer and Wash Buffer. The DNA/RNA is eluted from the magnetic beads with Elution Buffer. MagaBio Magnetic technique has great advantages:

1. Mini sample, high yield
2. Simple and streamline separation procedure, used for auto-platform
3. First elution can acquire at least 85%
4. No inhibitor

【Kit Components】

Cat#	**BSC75S1E**	**BSC75S1**	**BSC75M1**
Components	**32Tests**	**50Tests**	**100Tests**
Proteinase K (PK)	320 μL	0.5 mL	1 mL
TES Buffer	9.6 mL	15 mL	30 mL
Lysis Buffer	6.4 mL	10 mL	20 mL
Binding Buffer	96 well pre-packed plate 2 pieces	30 mL	60 mL
WB1 Buffer		※18 mL	※36 mL
Wash Buffer		※15 mL×2	※30 mL×2
Elution Buffer		10 mL	20 mL
MagaBio Reagent		1 mL	2 mL
Handbook	1 copies	1 copies	1 copies

Notes：

Buy BSC75S1, add 12mL Absolute ethanol to※18mL WB1 Buffer before use; add 35mL Absolute ethanol to※15mL Wash buffer before use;

Buy BSC75M1, add 24mL Absolute ethanol to※36mL WB1 Buffer before use; add 70mL Absolute ethanol to※30mL Wash buffer before use.

【Reagents to be prepared by the user】

Sputum Liquefaction Fluid (Cat# BSC83S1/BSC83M1).

Buy BSC75S1 and BSC75M1, please prepare the absolute ethanol (analytical grade) by yourself.

【Storage and transportation】

1. The kit can be transported at room temperature.
2. The kit should be stored at 2～30℃.

3. All reagents are valid for 12 months if stored properly.

【Applicable instrument】

1. Magnetic rack or Bioer NPA-32P purification instrument;

2. Water bath or dry bath;

3. Vortex mixer.

【Sample Requirements】

This kit is suitable for the extraction of plasma, alveolar lavage fluid, sputum, saliva, throat swab, animal tissue and other samples.

【Procedure】

Buy BSC75S1 and BSC75M1，please follow the manual extraction method below.

A. Pre-treatment of liquid samples

1. For Alveolar lavage fluid, sputum, saliva, plasma and other viscous liquid samples: take 150μL sample into the bottom of a 1.5 mL microcentrifuge tube, add 150μL Sputum Liquefaction Fluid (Cat# BSC83S1/BSC83M1), mix well at 37℃ for 10 min, proceed to the next step.

2. For serum, whole blood, bone marrow blood and other samples: directly take 300μL sample into the bottom of a 1.5 mL microcentrifuge tube, proceed to the next step.

3. For the swab sample: it is possible to add 400-500μL of PBS or normal saline to the swab sample, vortex toughly for 1 minute, take 300μL sample into the bottom of a 1.5 mL microcentrifuge tube, proceed to the next step.

4. Pipet 10μL Proteinase K and 200μL Lysis Buffer into the sample and mix by pulse-vortexing for 15-20 seconds.

Note: This step must be oscillated vigorously to no particles to ensure full cracking.

5. Incubate at 70℃ for 10 minutes.

6. Remove the centrifuge tube from the 70℃ water bath, and the cracking products are reserved.

B. Tissue processing

1. Prepare all reagents and samples under room temperature. Grind the tissue into powder with liquid nitrogen.

2. Add grinded tissue sample (≤30mg) or collected cell sample (≤10^7) to the microcentrifuge tube. Add 300μL TES Buffer and 10μL PK Solution into the sample and mix well. Incubate at 56°C for 30 minutes (The time can be prolonged to 1-3 hours. For mouse tail or pig ear, it can be cut into small pieces and then incubate overnight).

3. Centrifuge for 5min at 12000g. Transfer 300μL of the supernatant to a new 1.5mL tube.

C. DNA/RNA purification

1. Add 500μL Binding Buffer and 20μL well-mixed MagaBio Reagent in a 1.5mL tube, mix the tube gently and incubate for 10 minutes at room temperature.

Note: using an end-over-end rotator or manual mixing every 2-3 minutes.

2. Attract the MagaBio particles bound with DNA on a magnetic rack. Discard the supernate, and then remove the tube from the magnetic rack.

3. Add 500μL WB1 Buffer to the tube. Mix well by inverting the tube several times to ensure the particles are completely dispersed. Attract the particles on the magnetic rack and remove the supernate.

4. Add 800μL Wash Buffer to the tube. Mix well by inverting the tube several times to ensure the particles are completely dispersed. Attract the particles on the magnetic rack and remove the supernate.

5. Remove the tube from the magnetic rack and repeat washing once more following the above step.

6. Add 50-100μL Elution Buffer and mix gently, then incubate at room temperature for 10 minutes.

Note: Vortex gently every 2-3 minutes.

7. Attract the particles on the magnetic rack and carefully transfer the supernatant containing the isolated DNA/RNA into a clean tube. Store the isolated DNA/RNA at -20℃.

【Explanation of test results】

When extracting tissue samples with this kit, if the cleavage products are found to be sticky after the sample cleavage steps are completed, the tissue sample size can be appropriately reduced.

【Limitations of the test method】

Liquid sample size is not more than 300μL, tissue sample size is up to 30mg.

【Product performance index】

Detection (OD260-OD320)/(OD280-OD320) ratio of extracted products: 1.7-2.1

【Cautions】

1. The following procedure is suitable for the use of Bioer NPA-32P nucleic acid extraction and purification instrument. If other nucleic acid extraction and purification instrument is used, the operation procedure should be adjusted according to the performance of different instruments.

2. If the room temperature is too low, it is necessary to preheat bottled TES buffer in 56℃ water bath for 10 minutes, and confirm no crystallization precipitation before use.

3. After receiving the kit, it should be stored at 2～30℃.

【Basic Information】

Manufacturer: Hangzhou Bioer Technology Co.,Ltd

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Aftersales Service Provider: Hangzhou Bioer Technology Co.,Ltd

【Specification approval and amendment date】

November 1st, 2021

Appendix：The automation purification, take Bioer NPA-32P as an example

1. Reagent Preparation

a. For BSC75S1 and BSC75M1

Add 500μL Binding Buffer to the column 1 and 7 of the 2.2mL 96-deep-well plate, 500μL WB1 Buffer to the column 2 and 8, 800μL Wash Buffer to the column 3, 4 and 9, 10; 80μL Elution Buffer to the column 5 and 11, 180μL pure water and 20μL MagaBio Reagent to the column 6 and 12 (the magnetic beads should be mixed thoroughly before use).

b. For BSC75S1E

Put the 96 well pre-loaded reagents at room temperature. Invert 96-well plate upside down for three times, and tear off the plastic bag. Centrifuge the pre-loaded reagent for a few seconds (or swing by hand a few times) to avoid reagent adhering to the wall of the tubes. Tear off the aluminum foil film of 96-well plate and identify the direction of the plate (magnetic beads in column #6 & #12).

2. Sample pretreatment: Refer to the pretreatment of liquid or tissue samples in manual **【Procedure】**.

3. Add 300μL sample to the 96 well plate columns 1 and 7, please avoid cross-contamination.

4. Place 96 deep well plate to the instrument, install the 8-strip tips on the instrument.

5. Run the program according to the following procedures:

Step	Well	Name	Waiting Time (min:ss)	Mixing Time (min: ss)	Magnet Time (min:ss)	Adsorption	Speed	Volume (μL)
1	1	Lysis	00 : 00	10 : 00	00 : 00	Normal	F	1000
2	6	Beads	00 : 00	00 : 15	00 : 30	Normal	S	200
3	1	Bind	00 : 00	10 : 00	01 : 00	Strong	F	1000
4	2	Wash 1	00 : 00	03 : 00	01 : 00	Strong	F	500
5	3	Wash 2	00 : 00	02 : 00	01 : 00	Strong	F	800
6	4	Wash 3	00 : 00	02 : 00	01 : 00	Strong	F	800
7	5	Elution	02 : 00	05 : 00	01 : 00	Normal	F	80
8	6	Discard	00 : 00	00 : 30	00 : 00	Normal	S	200

Temperature settings:

Lysis temperature: 65℃. Lysis heating ends at Step 2;

Elution temperature: 65℃. Elution starts heating at Step 7.

6. After the automatic purification is over, transfer the Elution Buffer in columns 5 and 11 to a clean nuclease-free 0.5mL centrifuge tube; if not using it immediately, please store at-20 degrees.