Important Notes

1. Before start, please read this user's manual carefully.
2. Consumables (e.g. pipettes, pipette tips, tubes) should be nuclease-free.
3. Before use, please check if there are crystal particles in the bottle-packed Lysis Buffer. If there are crystal particles, put the bottle in water bath to incubate at 56℃ for 10min.
4. For tissue sample processing, after grinding and incubation with TES buffer, if the mixture is sticky, please reduce sample volume appropriately.
5. The program is only suitable for Bioer NPA-32P nucleic acid purification instrument. Please adjust the running programs according to the different instruments.
6. After the experiment, please disinfect the workbench with 75% ethanol or 10% hypochlorous acid, and sterilize the workplace by UV lamp.

Company Information

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MagaBio Soil and Feces Genomic DNA Purification Kit

Kit Components

Cat#	BSC48T1E	BSC48S1E	BSC48S1	BSC48M1
Component	**16Tests**	**32Tests**	**50 Tests**	**100 Tests**
SP Buffer	7.2mL	14.4mL	22.5mL	45 mL
Lysis S Buffer	1.6mL	3.2mL	5mL	10mL
DA Buffer	2mL	4mL	6.25mL	12.5mL
Grind Tube	16	32	50	100
Binding Buffer	96 deep-well plate 2 piece	96 deep-well plate 2 pieces	70 mL	140 mL
Wash Buffer			21 mL (add 49 mL absolute ethanol before use)	21 mL×2 (add 49 mL absolute ethanol before use)
Elution Buffer			10mL	20mL
MagaBio Reagent			0.75 mL	1.5 mL
Handbook	1	1	1	1

Storage

1. The kit can be transported at room temperature.
2. All reagents are stored at 2-8℃.
3. All reagents, when stored properly, are stable for 12 months from the time of delivery.

Introduction

The kit provides a very simple, fast and cost-effective technique to isolate high-quality DNA. Using one simple protocol, high yield of purified DNA can be isolated from soil and feces. MagaBio sample processing is based on proprietary magnetic particles--MagaBio. The pure DNA can be applied extensively in PCR, sequencing, Southern hybridization, mutant analysis, SNP and the others.

According to the special interaction, use MagaBio nucleic acid separation system with a general protocol---sample processing, MagaBio adsorption, washing and elution, and can go high-throughput.

Principle and Advantage

DNA in the sample is released by SP Buffer and Lysis S Buffer. Released DNA is bound exclusively and specifically to the magnetic beads in Binding Buffer, and impurities will be removed by washing with Wash Buffer. The DNA is then 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 high salt solution or inhibitor
5. No spin column

Apparatus and materials to be prepared by the user

1. Magnetic Rack or Bioer nucleic acid purification instrument
2. Water bath or Dry bath
3. Vortex mixer
4. Absolute alcohol (For BSC48S1 and BSC48M1)

Protocol

1. Sample processing

1) Add 0.05-0.25g soil or feces to lysing Grind Tube.
2) Add 450μl SP Buffer and 100μl Lysis S Buffer
3) Homogenize in the lysis instrument for 30s at a speed setting of 6.0 m/s.Or vortex for 5 minutes at the maximum speed with vortex generator.
4) Centrifuge at 14,000g for 5 min to pellet debris.
5) Transfer supernatant to a 2.0 microcentrifuge tube.
6) Add 125μL DA Buffer, mix thoroughly.
7) Incubate on ice for 5minutes, centrifuge at 14,000g for 5 min.
8) Transfer supernatant to a 2.0 microcentrifuge tube.

2. DNA purification

9) Add 1400μL Binding Buffer and 15μL well-mixed MagaBio Reagent mix the tube gently and incubate for 10 minutes at room temperature, while mixing.
   Note: using an end-over-end rotator or manual mixing every 2-3 minutes.
10) Sediment the MagaBio particles bound with DNA using a magnetic rack. Discard the supernate, and then remove the tube from the magnetic rack.
11) Add 600μL Wash Buffer to the tube. Mix well by inverting the tube several times to ensure the particles are completely dispersed. Sediment the particles on the magnetic rack and aspirate the supernate.
12) Remove the tube from the magnetic rack and repeat washing once more following the above step.
13) Add 100μL Elution Buffer and mix gently, then leave at 60℃ for 5 minutes.
    Note: Vortex gently every 2-3 minutes.
14) Sediment the particles on the magnetic rack and carefully transfer the supernatant containing the isolated DNA into a clean tube. Store the isolated DNA sample at -20 ℃.

Analysis Nucleic Acid

1.7≦ $(OD_{260}- OD_{320})/ (OD_{280}- OD_{320})$ ≦2.1

The automation purification: Take Bioer NPA-32P as an example

1. Reagent prepare

1) For BSC48S1 and BSC48M1

Join 700μL Binding Buffer to the column 1、2 and the column7、8 of the 2.2mL 96 deep-well plate, 600μL Wash Buffer to the column 3、4 and column 9、10, 100μL Elution Buffer to the column 5、11, 185μL pure water and 15μL MagaBio Reagent to the column 6、12.

2) For BSC48T1E and BSC48S1E

Shake 96-well plate upside down for three times after placing under room temperature, then rip off the plastic film. Centrifuge in 96-well centrifuge for a couple of seconds or swing by hand to avoid adhered liquid. Rip off the aluminum foil film of 96 well plates. Identify the direction of the plate (magnetic beads in column 6th & 12th).

2. Sample prepare： See < Protocol --1. Sample processing >.

3. Join 250μL the supernatant to the 96 well pre-packed plate column 1、2 or column 7、8 .Place 96 deep well to the instrument, then plug in 8-strip Tip.

4. Run the following program.

Step	Well	Name	Waiting Time (min : ss)	Mixing Time (min : ss)	Magnet Time (min : ss)	Adsorption	Speed	Volume (μl)
1	6	Beads	0 : 0	0 : 15	0 : 30	Strong	S	200
2	1	Bind	0 : 0	5 : 00	1: 00	Strong	F	950
3	2	Bind	0 : 0	5 : 00	1: 00	Strong	F	950
4	3	Wash 1	0 : 0	2 : 00	0: 50	Strong	F	600
5	4	Wash 2	0 : 0	2 : 00	0: 50	Strong	F	600
6	5	Elution	2: 0	5 : 00	1: 00	Normal	F	100
7	6	Discard	0 : 0	0 : 30	0 : 0	Normal	S	200

Elution temperature: 75℃, Elution start heating step: 6.

5. When the run finished, pipet the elution buffer in column 5、11 into nuclease-free tubes. If not used immediately, please store at -20℃.