1 and 7 before adding the liquid, and discard 40μL Elution buffer from column 5 and 11.)

5) Place 96-deep-well plate to the instrument, then plug in 8-strip tips and run the program.

Step	Name	Well	Volume (μL)	Waiting Time (min ： ss)	Speed	Mixing Time (min ： ss)	Adsorption	Magnet Time (min ： ss)
1	Lysis	1	710	-- : --	fast	10 : 00	N	-- : --
2	Lysis	1	710	00 : 05	fast	00 : 00	N	-- : --

Lysis temperature:65℃, lysis stop heating step: 2th

6) At the end of step 5, take the 96-deep-well pre-packed plate out. Add 300μL isopropanol into column 1 and 7, and put the 96-deep-well plate back into NPA-32P nucleic acid purification system. The automatic extraction experiment was carried out according to the following procedure:

Step	Name	Well	Volume (μL)	Waiting Time (min ： ss)	Speed	Mixing Time (min ： ss)	Adsorption	Magnet Time (min ： ss)
1	Beads	6	200	-- : --	slow	00 : 30	N	00 : 30
2	Bind	1	1000	-- : --	fast	08 : 00	S	02 : 00
3	Wash 1	2	800	-- : --	fast	03 : 00	S	01 : 00
4	Wash 2	3	600	-- : --	fast	03 : 00	S	01 : 00
5	Wash 3	4	600	-- : --	fast	03 : 00	S	01 : 00
6	Elution	5	100	05 : 00	fast	10 : 00	C	01 : 40
7	Discard	6	200	-- : --	slow	00 : 30	N	-- : --

Elution temperature: 60℃, Elution start heating step: 6th

7) After the automation process is completed, the purified nucleic acid is in column 5; if not used immediately, transfer the elution to a new 0.5 mL nuclease-free centrifuge tube and save it at -80 ℃.

【Analysis Nucleic Acid】

Get some DNA, diluted in a advisable factor with elution buffer.

Survey the OD260, OD280 and OD320.

Concentration（μg/mL）＝50×OD260×dilution fact

1.7≤OD260-320/ OD280-320≤2.1

【Basic Information】

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MagaBio plus General Genomic DNA Purification Kit II

【Introduction】

MagaBio plus General Genomic DNA Purification Kit II is designed for rapid and reliable isolation of high-quality genomic DNA from blood, tissue, saliva, buccal swabs, cultured cells, and dry blood spots. MagaBio Particles, magnetic beads, provide a quick magnetic response time reducing overall processing time. This system combines the reversible nucleic acid-binding properties of MagaBio paramagnetic particles with the time-proven efficiency of Bioer automatic nucleic acid purification system to provide a fast and convenient method to isolated DNA from a variety of samples. Utilizing paramagnetic particles provides high-quality DNA that is suitable for direct use in most downstream applications, such as amplification and enzymatic reactions, next-generation sequencing.

【Kit Components】

Cat#	BSC74S1E	BSC74S1B	BSC74M1B
Components	**32Tests**	**50Tests**	**100Tests**
TES Buffer	16 mL	25 mL	50 mL
PK Solution	320 μL	500 μL	1 mL
RNase A Solution	32 μL	50 μL	100 μL
Lysis Buffer	96 well pre-packed plate 2 pieces	20 mL	40 mL
Wash Buffer I		16 mL（Add 24 mL absolute ethanol before use）	32 mL（Add 48 mL absolute ethanol before use）
Wash Buffer II		18 mL（Add 42 mL absolute ethanol before use）	18 mL×2（Add 42 mL absolute ethanol before use）
Elution Buffer		10 mL	20 mL
Maganetic beads		1.5 mL	3 mL
Handbook	/	/	/

【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.

【Principle and Advantage】

Nucleic acid is released under the action of Proteinase K Solution and Lysis Buffer. Magnetic beads can combine with DNA exclusively and specifically after adding isopropanol. Magnetic beads combined with DNA are captured by magnetic rod; Multiple Wash Buffers will remove contaminants. Purified DNA is released into the Elution Buffer by Magnetic beads.

MagaBio technic has great advantages:

1. Mini sample, high purification;
2. Simple and streamline separation procedure, used for auto-platform;
3. First elution can acquire 85% or more DNA;
4. No high salt solution. No inhibitor;
5. No spin column.

【Materials and Equipment to be prepared by user】

1. Magnetic Rack or Bioer NPA-32P purification instrument;
2. Water bath or Dry bath;
3. Vortex mixer;
4. Absolute alcohol (For BSC74S1B and BSC74M1B).

【Reagent preparing】

1. **For BSC74S1B and BSC74M1B**

Add 400 µL Lysis Buffer to the column 1 and 7 of 96-deep-well plate. Add 800µL Wash Buffer I to the column 2 and 8. Add 600µL Wash Buffer II to the column 3, 4, 9 and 10.Add 100µL Elution Buffer to the column 5 and 11.Add 170µL pure water and 30µL Maganetic beads to the column 6 and 12.

2. **For BSC74S1E**

Mix the pre-packed plate by inverting, and centrifuge the 96-well plate in plate centrifuge for a few seconds. Tear off aluminum foil film of 96-deep-well pre-packed plate. Identify the direction of the plate (magnetic beads is in column 6th&12th).

【Protocol】

1. **Blood or saliva processing**

1) Add 200-250µL blood or saliva and 10µL PK Solution to the column 1and 7 of 96-deep-well plate. Avoid cross-contamination.
2) Place 96-deep-well plate to the instrument, then plug in the 8-strip tips and run the program.

Step	Name	Well	Volume (µL)	Waiting Time (min ： ss)	Speed	Mixing Time (min ： ss)	Adsorption	Magnet Time (min ： ss)
1	Lysis	1	710	-- : --	fast	10 : 00	N	-- : --
2	Lysis	1	710	00 : 05	fast	00 : 00	N	-- : --

Lysis temperature:65°C, lysis stop heating step: 2th

3) At the end of step 2, take the 96-deep-well pre-packed plate out. Add 300µL isopropanol into column 1 and 7, and put the 96-deep-well plate back into NPA-32P nucleic acid purification system. The automatic extraction experiment was carried out according to the following procedure:

Step	Name	Well	Volume (µL)	Waiting Time (min ： ss)	Speed	Mixing Time (min ： ss)	Adsorption	Magnet Time (min ： ss)
1	Beads	6	200	-- : --	slow	00 : 30	N	00 : 30
2	Bind	1	1000	-- : --	fast	08 : 00	S	02 : 00
3	Wash 1	2	800	-- : --	fast	03 : 00	S	01 : 00
4	Wash 2	3	600	-- : --	fast	03 : 00	S	01 : 00
5	Wash 3	4	600	-- : --	fast	03 : 00	S	01 : 00
6	Elution	5	100	05 : 00	fast	10 : 00	C	01 : 40
7	Discard	6	200	-- : --	slow	00 : 30	N	-- : --

Elution temperature: 60°C, Elution start heating step: 6th

2. **Tissue processing**

1) Prepare all reagents and samples under room temperature. Grind the tissue into powder under the liquid nitrogen
2) Add 30mg sample powder to the 1.5mL DNase-free tube. Add 10µL PK Solution and 300µL TES Buffer into the tube and mix by pulse-vortexing for 15 seconds.
3) Incubate at 56°C for 30 minutes（The lysis step can be more longer for 1-3h,or overnight for ear and tail）.
4) Remove the tube from 56°C.Centrifuge for 5min at 12000g. Transfer 300µL of the supernatant to the column 1 and 7 of 96-deep-well plate.

Place 96-deep-well plate to the instrument, then plug in 8-strip tips and run the program.

Step	Name	Well	Volume (µL)	Waiting Time (min ： ss)	Speed	Mixing Time (min ： ss)	Adsorption	Magnet Time (min ： ss)
1	Lysis	1	710	-- : --	fast	10 : 00	N	-- : --
2	Lysis	1	710	00 : 05	fast	00 : 00	N	-- : --

Lysis temperature:65°C, lysis stop heating step: 2th

5) At the end of step 5, take the 96-deep-well pre-packed plate out. Add 300µL isopropanol into column 1 and 7, and put the 96-deep-well plate back into NPA-32p nucleic acid purification system. The automatic extraction experiment was carried out according to the following procedure:

Step	Name	Well	Volume (µL)	Waiting Time (min ： ss)	Speed	Mixing Time (min ： ss)	Adsorption	Magnet Time (min ： ss)
1	Beads	6	200	-- : --	slow	00 : 30	N	00 : 30
2	Bind	1	1000	-- : --	fast	08 : 00	S	02 : 00
3	Wash 1	2	800	-- : --	fast	03 : 00	S	01 : 00
4	Wash 2	3	600	-- : --	fast	03 : 00	S	01 : 00
5	Wash 3	4	600	-- : --	fast	03 : 00	S	01 : 00
6	Elution	5	100	05 : 00	fast	10 : 00	C	01 : 40
7	Discard	6	200	-- : --	slow	00 : 30	N	-- : --

Elution temperature: 60°C, Elution start heating step: 6th

3. **Oral swab processing**

1) Use a cotton swab in intraoral wipes 15-20 times. Put the swab to a 2mL centrifuge tube, Cut out stem part from the swab with scissors.
2) Add 400µL－500µL of TES Buffer and 10 µL PK Solution to the 1.5mL DNase-free tube from the above.
3) Mix by pulse-vortexing for 15 seconds. Put it in a 56°C thermostat oscillator, Vortex 900rpm for 30mins. Centrifuge for a few seconds.
4) Transfer all liquid to the column 1and 7 of 96-deep-well plate.
5) Place 96-deep-well plate to the instrument, then plug in 8-strip tips and run the program.

Step	Name	Well	Volume (µL)	Waiting Time (min ： ss)	Speed	Mixing Time (min ： ss)	Adsorption	Magnet Time (min ： ss)
1	Lysis	1	710	-- : --	fast	10 : 00	N	-- : --
2	Lysis	1	710	00 : 05	fast	00 : 00	N	-- : --

Lysis temperature:65°C, lysis stop heating step: 2th

6) At the end of step 5, take the 96-deep-well pre-packed plate out. Add 300µL isopropanol into column 1 and 7, and put the 96-deep-well plate back into NPA-32P nucleic acid purification system. The automatic extraction experiment was carried out according to the following procedure:

Step	Name	Well	Volume (µL)	Waiting Time (min ： ss)	Speed	Mixing Time (min ： ss)	Adsorption	Magnet Time (min ： ss)
1	Beads	6	200	-- : --	slow	00 : 30	N	00 : 30
2	Bind	1	1000	-- : --	fast	08 : 00	S	02 : 00
3	Wash 1	2	800	-- : --	fast	03 : 00	S	01 : 00
4	Wash 2	3	600	-- : --	fast	03 : 00	S	01 : 00
5	Wash 3	4	600	-- : --	fast	03 : 00	S	01 : 00
6	Elution	5	100	05 : 00	fast	10 : 00	C	01 : 40
7	Discard	6	200	-- : --	slow	00 : 30	N	-- : --

Elution temperature: 60°C, Elution start heating step: 6th

4. **Blood spot processing**

1) Put 8 pieces of blood spots sample to a 1.5mL DNase-free tube. The area of each blood spots is 3×3mm.
2) Add 300µL TES Buffer and 10µL PK into the 1.5mL DNase-free tube.
3) Mix by pulse-vortexing intensively for 10 seconds. Put it in a 56°C thermostat oscillator, Vortex 900rpm for 45mins.
4) Transfer all liquid to the column 1 and 7 of 96-deep-well plate. (**Discard 150µL Lysis buffer from column**