ELK Biotechnology

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Magbead Plant DNA Kit

Catalog No.	Specification	Storage/Shelf life
EP024	96T	Room temperature/1 year

Storage Condition: Room temperature (15-30℃)

Product Content

Component	96T
Buffer PLS	50 mL
Buffer ZB	55 mL
Buffer GW1 (concentrate)	80 mL
Buffer TB	10 mL
RNase A (10 mg/mL)	0.6 mL
Magbeads PN	2×1 mL

Product Introduction

This kit provides a simple and efficient plant DNA extraction solution. DNA in the sample binds to the surface of silica-coated magnetic beads in the presence of high salt. After rinsing, the DNA is eluted in Buffer TB or deionized water. The extraction rate is closely related to the sample type and the cell disruption effect. The extracted DNA can be used for next-generation sequencing, PCR test and other downstream experiments.

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Self-provided instruments and reagents

1. CWE2100 or CWE9600
2. 96 DW Plate, 8 tip Com, Spin Tips pack
3. Anhydrous ethanol

Preparation and precautions before the experiment

1. Before the first experiment, add the specified amount of anhydrous ethanol to Buffer GW1 according to the instructions on the reagent bottle label ;
2. Customers need to prepare 75% ethanol for rinsing;
3. Magbeads PN is strictly prohibited from freezing and high-speed centrifugation. Freezing and high-speed centrifugation may cause irreversible damage to Magbeads.

Procedure

Manual Operation

1. Crushing of plant material: Solution 1 :

1) Weigh about 50-100 μl of fresh plant sample powder that has been fully ground with liquid nitrogen. mg or dry sample powder about 30 mg , quickly turn Move to the pre-installed 400 μL Buffer PLS and 5 μL RNase A (10 mg/mL) in a centrifuge tube and quickly invert to mix. After that, centrifuge immediately and place in a constant temperature mixer at 70 °C. 1600 rpm , 10 min . (To extract polysaccharide and polyphenol plants , add β- mercaptoethanol to Buffer PLS to make the final concentration 5% to improve the nucleic acid extraction effect)

Option 2 :

1) Towards 2.0 Add 50-100 mL of mg fresh plant material or 20 mg dry plant material;

2) After quick freezing with liquid nitrogen, grind the plant material thoroughly into powder using glass;

Add 400 μL Buffer PLS and 5 μL RNa seA (10 mg/mL), quickly invert to mix and place in a constant temperature Mixer 70 ℃, 1600 rpm , 10 min . (To extract polysaccharide and polyphenol plants, add β- mercaptoethanol to Buffer PLS to make it The final concentration is 5% , which can improve the nucleic acid extraction effect)

Option 3 :

1) Towards 2.0 Add 50-100 mL of mg fresh plant material or 20 mg dry plant material;

2) Add 400 μL Buffer PLS and 5 μL RNaseA (10 mg/mL) and 1 steel bead , and then The heart tube is fixed in a tissue crusher and then crushed by vibration;

3) After taking the centrifuge tube out of the tissue disruptor, centrifuge it instantly and place it in a constant temperature mixer at 70 °C. 1600 rpm , 10 min .

2. 12,000 rpm (~13,400 × g) for 4 min After 1.5 min , transfer all supernatant to a new 1.5 mL centrifuge tube.

3. To 1.5 Add 550 mL into the centrifuge tube μL BufferZB and 20 μL Magbea ds PN , mix by inversion for 30 s , instantaneous centrifugation, Leave at room temperature for 5 seconds min , inverting several times to mix.

4. Centrifuge briefly and transfer the centrifuge tube to a magnetic stand for 1 min. (until the solution is clear), then discard the solution, avoiding contact with the magnetic beads.

5. Remove the centrifuge tube from the magnetic stand and add 650 μL Buffer GW1 , vortex mix 10 s , resuspend the magnetic beads, and then transfer the centrifuge tube to Mix on a thermomixer at 25 °C and 1600 rpm for 2 min or vortex for 1 min .

6. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min , after which the solution was fully discarded;

7. Repeat steps 5-6 ;

8. Remove the centrifuge tube from the magnetic stand, add 650 µL of 75% ethanol, vortex mix for 10 s , resuspend the magnetic beads, and then fix the centrifuge tube. Mix on a thermomixer set at 25 °C and 1600 rpm for 2 min or vortex for 1 min .

9. Fix the centrifuge tube on the magnetic rack and let it stand for 1 min , then discard the solution.

10. Repeat steps 8-9 ;

11. Centrifuge the tube briefly and remove the solution at the bottom of the tube with a pipette. Then leave it at room temperature for 5-10 minutes to allow the ethanol to evaporate completely.

12. Add 100 µL of Buffer TB to the centrifuge tube , vortex until the magnetic beads are fully suspended in the elution buffer, and then place the tube at 65 °C.

the cells in a 65 °C water bath for 10 min , vortexing 4 times.

Fix the centrifuge tube on the magnetic rack and let it stand for 2 min , and after the magnetic beads are fully adsorbed to the side wall of the centrifuge tube, transfer the eluate to a new centrifuge tube and store it at -20 ℃ for later use.

Matches CWE2100

1. Crushing of plant materials:

Solution 1 :

1) Weigh about 50-100 mg of fresh plant sample powder or about 30 mg of dry sample powder that has been fully ground with liquid nitrogen. mg , quickly turn Move to the pre-installed 400 µL Buffer PLS and 5 µL RNase A (10 mg/mL) in a centrifuge tube and quickly invert to mix. After that, centrifuge immediately and place in a constant temperature mixer at 70 °C. 1600 rpm , 10 min . (To extract polysaccharide and polyphenol plants, add β- mercaptoethanol to Buffer PLS to make the final concentration 5% to improve the nucleic acid extraction effect)

Option 2 :

1) Towards 2.0 Add 50-100 mL of mg fresh plant material or 20 mg dry plant material;

2) After quick freezing with liquid nitrogen, the plant material was thoroughly ground

into powder using glass;

3) Add 400 5 μL Buffer PLS and 5 μL RNaseA (10 mg/mL), quickly invert to mix, and place in a constant temperature Thermomixer 70 ℃, 1600 rpm , 10 min . (Extract polysaccharide and polyphenol plants in Buffer Add β- mercaptoethanol to PLS Its final concentration is 5% , which can improve the extraction effect of nucleic acid).

Option 3 :

1) Towards 2.0 Add 50-100 mL into the centrifuge tube mg fresh plant material or 20 mg dry plant material;

2) Add 400 μL Buffer PLS , 5 μL RNase A (10 mg/mL) and 1 steel bead, and then The heart tube is fixed in a tissue crusher and then crushed by vibration;

3) After taking the centrifuge tube out of the tissue disruptor, centrifuge it instantly and place it in a constant temperature mixer at 70 °C. 1600rpm , 10 min .

2. 12,000 Centrifuge at 4 rpm (~13,400 × g) After 10 min , transfer all supernatant to 96 DW deep well plate;

3. Press the table to 96 Add reagents to the DW deep well plate:

Location	Reagents and dosage
1&7Colume	Lysate: ALL Buffer ZB: 550 μL Magbeads PN: 20 μL
2&8Colume	Buffer GW1: 650 μL
3&9Colume	Buffer GW1: 650 μL
4&10Colume	75%乙醇: 650 μL
5&11 Colume	75%乙醇: 650 μL
6&12Colume	Buffer TB: 100 μL

4. The 96 DW deep-well plate and magnetic rod set are placed in the CWE2100 instrument and Cowin is run. Plant program.

5. Approx. 50 After the program runs for 1 minute , remove the deep-well plate and

magnetic sleeve. Transfer the lysate in columns 6 and 12 to 1.5 mL centrifuge tube Store at -20 ℃ until use.

Matches CWE9600

1. Option 1 :

1) Weigh about 50-100 mg of fresh plant sample powder or about 30 mg of dry sample powder that has been fully ground with liquid nitrogen , and quickly transfer to Transfer to a centrifuge tube pre-filled with 400 µL Buffe PLS and 5 µL RNase A (10 mg/mL) and quickly invert to mix. After that, centrifuge immediately and place in a constant temperature mixer at 70 °C. 1600 rpm , 10 min . (Extract polysaccharide and polyphenol plants in Buffer PLS Adding 5% β- mercaptoethanol can improve the extraction effect of nucleic acid)

Option 2 :

1) Towards 2.0 Add 50-100 mL into the centrifuge tube mg fresh plant material or 20 mg dry plant material;

2) After quick freezing with liquid nitrogen, the plant material was thoroughly ground into powder using glass;

3) Add 400 µL Buffer PLS and 5 µL RNase A (10 mg/mL), quickly invert to mix and place in a constant temperature Thermomixer 70 ℃, 1600rpm , 10 min . (To extract polysaccharides and polyphenols from plants, add 5% β- mercaptoethanol to Buffer PLS . Improve nucleic acid extraction efficiency)

Option 3 :

1) Towards 2.0 Add 50-100 mL into the centrifuge tube mg fresh plant material or 20 mg dry plant material;

2) Add 400 µL Buffer PLS , 5 µL RNase A (10 mg/mL) and 1 steel bead, and then The heart tube is fixed in a tissue crusher and then crushed by vibration;

3) After taking the centrifuge tube out of the tissue disruptor, centrifuge it instantly and place it in a constant temperature mixer at 70 °C. 1600 rpm , 10 min .

2. 12,000 Centrifuge at 4 rpm (~13,400 × g) After 10 min , transfer all supernatant

to 96 DW deep well plate;

3. Press the table to 96 Add reagents to the DW deep well plate:

Location	Reagents and dosage
Plate 1	Lysate: ALL Buffer ZB: 550 μL Magbeads PN: 20 μL
Plate 2	Buffer GW1: 650 μL
Plate 3	Buffer GW1: 650 μL
Plate 4	75% ethanol : 650 μL
Plate 5	75% ethanol : 650 μL
Plate 6	Buffer TB: 100 μL

4. The 96 DW deep well plate and magnetic rod set are placed in the CWE9600 instrument and the program is run.

5. After about 50 minutes , the program ends and the deep-well plate and magnetic sleeve are removed. Transfer the lysate in Plate 6 to a 1.5 mL centrifuge tube. Store at -20 ℃ until use.