BeaverBeads™ PCR Purification

Product Introduction

BeaverBeads™ PCR uses superparamagnetic beads, recover DNA from PCR products conveniently and rapidly, remove impurities such as primer dimers, dNTP, inorganic salts and protein effectively. The entire process is simple and fast.
BeaverBeads™ PCR is applied for purification and recover 150 bp~50 kb DNA fragment, recovery rate can reach over 80% and DNA purification degree is high. Extracted products can be used for digestion, PCR amplification, detection and other follow-up experiments. This product can be manually extracted for a small amount of samples, but also suitable for high-throughput automated workstations.

Product Information

Product Name	Cat. No.	Volume (mL)	Storage temperature
BeaverBeads™ PCR	70401-5	5	2-8℃
	70401-60	60	
	70401-450	450	

Reaction times are calculated based on 10μL PCR products. The required volume of BeaverBeads™ PCR for one time = 1.8 × (PCR product volume)

Operating procedures

Before using for the first time:

Preparation:

- 70% Ethanol
- 10 mM Tris-HCl pH 8.0
- Ultra-pure water
- 1 mM EDTA
- 96-well magnetic separator (Beaver Cat. No.: 60303)

96-well plate operation procedure:

1. Calculate the volume of the PCR product in the 96-well PCR plate, determine if it is necessary to transfer to a new reaction plate.
2. Add BeaverBeads™ PCR into PCR products. The volume of BeaverBeads™ PCR is calculated through the following chart.
Note: BeaverBead™ PCR may precipitate before using, and it needs to be fully oscillated to suspend the magnetic beads.

PCR reaction volume (μL)	BeaverBeads volume (μL)
10	18
20	36
50	90

User needs to adjust the amount of beads according to the ratio of the above table and the actual PCR product volume. BeaverBeads™ PCR volume = 1.8 × (PCR product volume).
3. Pipette 6-8 times with a suitable pipette, make BeaverBeads™ PCR and PCR products fully mix.
4. Incubate for 5 minutes at room temperature, make magnetic beads and PCR products binded.
5. Place the above 96-well plate on a magnetic separator stand for 2-3 min, make magnetic beads to be sufficiently separated.
Note: The separation situation of the magnetic beads is related to the quality of the magnetic separator.
6. Keep 96-well plate on magnetic separator, remove the supernatant with a pipette.
Note: Don't remove the beads, only pipette the supernatant from the other side of the plate.
7. Add 200μL 70% ethanol into each well.
8. Incubator for 1 min at room temperature.
9. Remove the supernatant as much as possible.
10. Repeat step 7-9, two times.
11. Place plate on the magnetic separator, stand 3-5 min at room temperature, make the surface of the magnetic beads completely evaporate.
Note: Don't over-dry to prevent reduction in nucleic acid production.
12. Remove plate from magnetic separator.
13. Add 30~40μL Elution Buffer(Ultra-pure water, tris-HCl pH 8.0, or TE buffer) into each well, pipette 10 times with pipette.
Note: Preheating the elution buffer to 55 °C can increase the amount of nucleic acid eluted.
14. Incubator 2-3 min for room temperature.
15. Place microplate on magnetic separator, stand 2-3 min until the magnetic beads are completely absorbed, and liquid becomes clear.
16. Transfer the supernatant to a new plate. Sealed with a sealing film. The plate can be stored at 2-8 ℃ for several days. For long-term storage, it can be placed at -20 °C.

2. 384-well plate operation procedure:

1. Calculate the volume of the PCR product in the 384-well PCR plate, determine if it is necessary to transfer to a new reaction plate.
2. Add BeaverBeads™ PCR into PCR products. The volume of BeaverBeads™ PCR is calculated through the following chart.
Note: BeaverBead™ PCR may precipitate before using, and it needs to be fully oscillated to suspend the magnetic beads.

PCR reaction volume (μL)	Beaverbeads volume (μL)
5	9
7	12.6
10	18

User needs to adjust the amount of beads according to the ratio of the above table and the actual PCR product volume. BeaverBeads™ PCR volume = 1.8 × (PCR product volume).
3. Pipette 6-8 times with a suitable pipette, make BeaverBeads™ PCR and PCR products fully mix.
4. Incubate for 5 minutes at room temperature, make magnetic beads and PCR products binded.
5. Place the above 384-well plate on a magnetic separator stand for 2-3 min, make magnetic beads to be sufficiently separated.
Note: The separation situation of the magnetic beads is related to the quality of the magnetic separator.
6. Keep 384-well plate on magnetic separator, remove the supernatant with a pipette.
7. Add 30μL 70% ethanol into each well.
8. Incubator for 1 min at room temperature.
9. Remove the supernatant as much as possible.
10. Repeat step 7-9, two times.
11. Place plate on the magnetic separator, stand 3-5 min at room temperature, make the surface of the magnetic beads completely evaporate.
Note: Don't over-dry to prevent reduction in nucleic acid production.
12. Remove plate from magnetic separator.
13. Add 30μL Elution Buffer(Ultra-pure water, tris-HCl pH 8.0, or TE buffer) into each well, pipette 10 times with pipette.
Note: Preheating the elution buffer to 55 °C can increase the amount of nucleic acid eluted.
14. Incubator 2-3 min for room temperature.
15. Place microplate on magnetic separator, stand 2-3 min until the magnetic beads are completely absorbed, and liquid becomes clear.
16. Transfer the supernatant to a new plate. Sealed with a sealing film. The plate can be stored at 2-8 ℃ for several days. For long-term storage, it can be placed at -20 °C.

Note:

1. Before operating, be sure to read this manual carefully.
2. Magnetic bead suspension (1) should avoid freezing, centrifugation, etc. during storage.
3. Recommend to use good quality pipette tips and reaction tubes to avoid loss due to adhesion of magnetic beads and solution.
4. Before removing the magnetic beads from the magnetic bead storage tube, it should be fully oscillated and resuspended evenly.
5. When multiple samples need to be purified, the beads should be pre-mixed with the binding buffer and dispensed into each reaction tube.
6. The washing buffer should be prepared when use and should not be stored for more than 2 days.
7. The washing buffer should be completely removed before eluting the magnetic beads to avoid residual ethanol affecting the efficiency of DNA elution.
8. Do not dry the magnetic beads for a long time to avoid irreversible magnetic beads aggregaton.
9. This product is for research use only.

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