BeaverBeads™ Blood DNA Kit

Product Introduction

BeaverBeads™ Blood DNA Extraction Kit is used to rapid and efficient extract genomic DNA from anticoagulant whole blood samples. The extraction process uses superparamagnetic microspheres without centrifugation; using prefabricated buffers allows direct extraction without the need for pre-removal of red blood cells.
This product can be manually extracted for a small amount of samples, but also suitable for high-throughput automated workstations. Extracted products can be used for digestion, PCR amplification, detection and other follow-up experiments.

Product Information

Product Name	BeaverBeads™ Blood DNA Kit
BeaverBeads™ ①	Store at 2 ~ 8 ℃, to avoid freezing.
Lysis Buffer ②	15 ~ 25 ℃ sealed storage.
Binding Buffer ③	15 ~ 25 ℃ sealed storage. Please add isopropanol before using for the first time.
Washing Buffer Ⅰ ④	15 ~ 25 ℃ sealed storage. Please add absolute ethanol before using for the first time.
Washing Buffer Ⅱ ⑤	15 ~ 25 ℃ sealed storage. Please add absolute ethanol before using for the first time.
Elution Buffer ⑥	15-25℃ can be stored for 1 year, 2-8℃ for long-term preservation.
Proteinase K Solution ⑦	15 ~ 25 ℃ sealed storage
Isopropanol	Analytical pure, user self-prepared
Absolute Ethanol	Analytical pure, user self-prepared
Magnetic Separator	User self-prepared, available from BEAVER company.
Shelf Life	2 years

Operating procedures

Before using for the first time:

-Add a specified amount (see Binding buffer label) of isopropanol (analytical pure) to the **Binding Buffer** and mark "√" in the "□". Mix well and sealed store at room temperature.
-Add a specified amount (see Washing buffer I label) of absolute ethanol (analytical pure) to the **Washing Buffer I** and mark "√" in the "□". Mix well and sealed store at room temperature.
-Add a specified amount (see the Washing buffer II label) of absolute ethanol (analytical pure) to the **Washing Buffer II** and mark "√" in the "□". Mix well and sealed store at room temperature.

Preparation:

-1.5 mL centrifuge tube: 2 / sample
-Single channel pipette: 20 μL, 200 μL, 1000 μL
-Vortex shaker
-Vertical mixer
-Water bath / dry bath incubator: 55 ℃
-Magnetic separator: refer to BEAVER cat. No.: 60201

Steps:(Take the sample size of 200mg, 1g sample see below figure 1)

1. Lysis:

Take a new 1.5 mL microcentrifuge tube, add 200 μL of anticoagulated blood sample (if sample volume is less than 200 μL, fill with PBS or Elution Buffer). Add 10 μL of Proteinase K Solution and 230 μL of Lysis Buffer to vortex shaker for 10 s at maximum speed. Incubate at 55 ℃ for 5 min.

2. Combing

Add 320 μL of prepared Binding Buffer (make sure ethanol has been added) and 20 μL of BeaverBeads™ to vortex shaker for 10 min at maximum speed (or vortex shaking for 10s then vertical mixing for 10 min). Place the tube in a magnetic separator for 2 min, then remove the supernatant with a pipette and take off the centrifuge tube.
Note: The magnetic separation time of this step should not be less than 2 min.

3.Washing

(1) Add 600 μL of Washing Buffer I (make sure ethanol has been added), vortex shaking for 1 min or use a pipette to gently blow the beads 20 times to fully resuspend the bead. Then place the centrifuge tube on a magnetic separator until the solution is clear, remove the supernatant with a pipette and take off the centrifuge tube. Repeat this step once.

(2) Add 600 μL of Wash Buffer II (make sure ethanol has been added), vortex shaking for 1 min or use a pipette to gently blow the beads 20 times to fully resuspend the beads. Wait at room temperature for 1 min, then place the centrifuge tube on the magnetic separator until the solution is clear and remove the supernatant with a pipette.
Note: Step (2) should try to fully remove the washing buffer.

4. Dry

Leave the centrifuge tube on the magnetic separator and allow to stand at room temperature for 10 min. Remove the tube from the magnetic separator.

5. Elution

Add 100 ~ 200 μL Elution Buffer to the centrifuge tube, slowly blowing beads 50 times with a pipette to fully resuspend the beads. And then incubate at 55 ℃ for 5 min, place the centrifuge tube on a magnetic separator until the solution is clear, the supernatant was transferred to a new centrifuge tube, which is the purified genomic DNA and can be stored at -20 ℃

Note:

1. Before operating, be sure to read this manual carefully.
2. The quality of the blood sample has a greater impact on the amount of purified DNA, and should avoid repeated freezing and thawing of the blood sample.
3. Magnetic beads should be avoided freezing, centrifugation and other operations
4. Magnetic beads should be fully resuspended before use.
5. Before drying the beads, use a pipette to fully remove the washing solution.
6. Avoid excessive drying the beads, otherwise it will seriously reduce the efficiency of nucleic acid elution.
7. Recommend to use good quality centrifuge tubes and pipette tips to avoid the loss caused by the adhesion of magnetic beads.
8. When magnetic separation is performed in a 96-well plate, the bead adsorption time may be extended to 4 to 5 minutes.

Product List:

Item No.	Product Name	Specification
70403-10(trial)	BeaverBeads™ Blood DNA Kit	10 rxns
70403-100		100 rxns

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