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Rapid Whole Blood DNA Mini Kit

Composition

Rapid Whole Blood DNA Mini Kit Cat. No.	5 Preps 3003005	50 Preps 3003050	250 Preps 3003250
Spin Columns	5	50	250
2 ml Collection Tubes	5	50	250
Buffer L7	4 ml	35 ml	160 ml
Buffer WB (concentrate)	3 ml	19 ml	50 ml×2
Buffer TE	1.2 ml	12 ml	60 ml
Instructions	1	1	1

Storage

1. Buffer L7 can be transported at room temperature, please store at 2~8°C after receiving the product.
2. Other reagents and components are stored at room temperature (0 ~ 30°C), the performance of the product can be maintained without significant change within two years; if the product is stored at 2~8°C, the validity period of the product can be extended to more than two years.

Technical Support

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Introduction

Rapid Whole Blood DNA Mini Kit is designed for rapid extraction of genomic DNA from 300-600 µl of fresh or frozen whole blood or bone marrow (EDTA anticoagulated) within 8 minutes. This kit uses a strong lysis buffer to lyse blood and precipitate hemoglobin. The supernatant get by the centrifugation is added to the Spin Column, the DNA in the supernatant is bound to the Spin Column, and the residual protein and PCR inhibitors are filtered out. After the DNA is washed by Buffer WB and eluted by Buffer TE, it can be used in various molecular biology experiments immediately.

Equipment and Reagents to Be Supplied by User

1. Absolute ethanol
2. 1.5 ml centrifuge tube
3. Pipettes and tips (to avoid cross-contamination between samples, it is recommended to use pipette tips with filter elements)
4. Disposable latex gloves and other protective equipment and paper towels
5. Microcentrifuge(s) (with rotor for 1.5 ml and 2 ml microcentrifuge tubes)
6. Vortexer

Preparation before use

1. If the centrifuge has refrigeration function, please set the temperature to 25°C.
2. Add absolute ethanol to Buffer WB according to the instructions on the label of the reagent bottle and tick the box on the label to mark "Ethanol Added".

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Protocol:

This protocol is designed for DNA extraction from 600 µl of whole blood, if the blood volume is less than 600 µl, the amount of Buffer L7 can be reduced proportionally (**note that the operation must be performed according to the volume ratio of Buffer L7: anticoagulated whole blood = 1:1**), and the amount of other reagents remains unchanged.

1. **Add 600 µl Buffer L7 into a 1.5 ml centrifuge tube, then add 600 µl of whole blood (EDTA anticoagulant) or bone marrow, immediately shake vigorously 3~5 times to make the blood sample form a brown precipitate, then vortex for 30 sec to completely disperse the precipitate.**

* The blood sample and Buffer L7 must be mixed vigorously, otherwise the recovery rate of DNA may be reduced. After mixing, the precipitate in the sample should be dispersed into a uniform brown suspension and should not contain red lumpy precipitate. The red lumpy precipitate is unlysed blood, which will seriously affect the recovery efficiency of DNA.
* **The blood sample and Buffer L7 must be mixed at a ratio of 1:1**, such as if extract DNA from 500 µl of anticoagulated blood, 500 µl Buffer L7 should be added. otherwise, it may affect the recovery efficiency of DNA.
* Buffer L7 is corrosive, please wear a suitable lab coat, disposable gloves, and protective goggles for operation.

2. **Centrifuge at full speed (≥12000 rpm) for 1 min.**
3. **Placed a Spin Column in a 2 ml Collection Tube, decanting the supernatant from step 2 into the Spin Column, close the lid, and centrifuge at 12,000 rpm for 30 sec.**

* When extracting DNA from a blood sample of 300 µl or less, it is recommended to use a pipette to transfer the supernatant to the Spin Column due to the small amount of supernatant obtained, and be careful not to bring in precipitates, which will seriously affect the purity of the final DNA.

4. **Discard the filtrate and place the Spin Column back into the 2 ml Collection Tube, add 800 µl Buffer WB, close the lid, centrifuge at 12000 rpm for 30 sec.**

* The filtrate does not need to be completely discarded. If you want to avoid the contamination of the centrifuge by the filtrate adhering to the nozzle of the centrifuge tube, you can slap the 2 ml Collection Tube upside down on a paper towel once.
* Ensure absolute ethanol has been added to Buffer WB.

5. **Discard the filtrate, place the Spin Column back into the 2 ml Collection Tube, add 300 µl Buffer WB to the Spin Column, close the lid, and centrifuge at the full speed (≥ 12000 rpm) for 1 min.**
6. **Discard the 2 ml Collection Tube, place the Spin Column into a clean 1.5 ml centrifuge tube (not provided), add 100-200 µl Buffer TE to the Spin Column, close the lid and incubate at room temperature for 1 min. Centrifuge at 12000 rpm for 30 sec.**

* Be careful not to let the filtrate touch the bottom of the Spin Column when taking out the Spin Column, if the Spin Column is contaminated with the filtrate, please discard the filtrate and put the Spin Column back into the 2 ml Collection Tube and centrifuge at the full speed for 1 min, and then take out the Spin Column for this procedure.
* If the centrifuge does not have a leak-proof lid, change the centrifugation condition to 8000 rpm centrifugation for 1 min to avoid the tube cap coming off and damaging the centrifuge.

7. **Discard the Spin Column, and the eluted DNA can be used immediately for various molecular biology experiments or stored at -20°C for later use.**