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Blood Genomic DNA Extraction Kit (Spin column)

Cat No.: D1800

Package: 50T/ 100T

Storage: RT, 12 months. RNase A and Proteinase K should be stored at -20 ℃

Kit Contents:

Component	D1800-50T	D1800-100T
RNase A	1ml	1ml×2
Proteinase K	1ml	1ml×2
Red Blood Cell Lysis Buffer	120ml	120ml×2
Solution A	15ml	25ml
Solution B	15ml	30ml
Washing buffer	15ml	15ml×2
Elution buffer	10ml	20ml
Adsorption column	50 units	100 units
Collection tube	50 units	100 units

Product Description

Blood Genomic DNA Extraction Kit uses a centrifugal adsorption column that can specifically bind DNA and a unique buffer system to extract genomic DNA from whole blood. The silicon matrix material used in the centrifugal adsorption column is a unique new material of the company, which can efficiently and specifically adsorb DNA, and can remove impurity proteins and other organic compounds in cells to the greatest extent. The extracted genomic DNA fragments are large, high in purity, and stable and reliable in quality. The genomic DNA extracted by this kit can be used in various routine operations, including restriction enzyme digestion, PCR, library construction, Southern hybridization and other experiments.

Protocol

Note: Please add Absolute Ethanol to the Washing Buffer before use. Please refer to the label on the bottle for the added volume. Unless otherwise specified, all centrifugation steps are centrifuged at room temperature using a benchtop centrifuge.

1. Preparation of blood samples (This kit is designed for fresh or 0.1-1 ml anticoagulant-added blood sample)
   a. Add treble volumes of Red Blood Cell Lysis Buffer, mix thoroughly by inverting up and down, incubate at room temperature for 2-5 minutes, centrifuge at 12000rpm for 2 minutes, carefully aspirate the supernatant, the precipitate should be white or light red. If the lysis is not complete, you can repeat the above steps once. Add 200μl of Solution A to the precipitate and shake to mix thoroughly.

b. If the sample is blood from poultry, birds, amphibians, of which red blood cells have nucleolus, the capacity of blood sample should be reduced to 5-20 μl and lysis of erythrocytes by Red Blood Cell Lysis Buffe is not required. Add 200μl solution A directly, mix thoroughly.

2. Add 20μl RNase A (10mg/mL), mix thoroughly by inverting the tube, incubate at room temperature for 10min.
3. Add 20μl~30μl Proteinase K(10mg/mL), mix thoroughly by inverting the tube, incubate in 60℃ water bath for 30-60min. During digestion, the centrifuge tube can be inverted several times until the sample is completely digested.
4. Add 100μl solution B, mix thoroughly by inverting the tube. If turbidity occurs, incubate in 60 °C water bath for 10 min.
5. Add equal volume ethanol absolute, mix thoroughly by inverting the tube, flocculent precipitation may occur, which will not affect the extraction of DNA. Solution and precipitation both can be added to the Adsorption Column and incubate at room temperature for 2 minutes.
6. Centrifuge at 12000rpm for 2 min, discard the flow-through, and re-use the collection tube in the next step.
7. Wash the Adsorption Column with 600μl Washing Buffer(ensure that absolute ethanol has been added), centrifuge at 12,000rpm for 2 min, discard the flow-through and re-use the collection tube in the next step.
8. Repeat step 7 with another 600μl Washing buffer.
9. Centrifuge at 12,000rpm for 2min. Allow the column to air dry with the cap open for several minutes to dry the membrane at room temperature or 50℃. It is critical for removing ethanol from the column. Otherwise, ethanol in Washing Buffer will affect subsequent experiments such as enzyme digestion and PCR.
10. Place column into a new clean centrifuge tube. Add 50-200μl Elution buffer which is preheated by 65℃ water bath to the center of silica membrane matrix, incubate at room temperature for 5min and centrifuge at 12,000rpm for 2min.
11. To increase DNA concentration, add the solution obtained from step 10 to the center of membrane again, centrifuge at 12,000 rpm for 2 min.

Notes

1. The most common of anticoagulant include: EDTA,ACD, heparin, if need big size Blood Genomic DNA, ACE may be better.
2. Avoid repeated freezing and thawing of samples. Otherwise, the extracted DNA fragments are smaller and the extracted amount is also decreased.
3. If the precipitate occurs in the kit components, re-dissolved in 65°C water bath before use, which will not affect the results.
4. The erythrocytes in the whole blood of most mammals are non-nucleated, so the non-nucleated erythrocytes without DNA should be removed when extracting genomic DNA. If the sample is

blood from poultry, birds, amphibians or lower grade lives, of which erythrocytes have nucleolus, the amount should be reduced to 5-20μl and lysis of erythrocytes by Red Blood Cell Lysis Buffe is not required.

5. If the volume of elution buffer is less than 50μl, it may affect recovery efficiency. The pH value of elution buffer will have big influence in eluting. If using distilled water, pH should be controlled at 8.0 (adjusted by NaOH), below 7.0 will affect elution efficiency.

Related products

D1100	Plasmid Extraction Mini Kit
D1120	Gram-positive Bacterium Plasmid Extraction Mini Kit
D1140	Free Endotoxin Plasmid Extraction Mini Kit
D1160	Yeast Plasmid Extraction Kit
D1200	DNA Extraction Kit
D1250	Poly-Gel DNA Extraction Kit
D1600	Bacterial Genomic DNA Extraction Kit
D1700	Animal Tissues/Cells Genomic DNA Extraction Kit
D1900	Yeast Genomic DNA Extraction Kit
D2100	Universal Genomic DNA Extraction Kit
D2300	Fungi Genomic DNA Extraction Kit
D2400	DNA Viral Genome Extraction Kit