Genomic DNA Extraction Kit for blood (Spincolumn)

CatNo.: D1800
Package: 50T/100T
Storage: RT, 12months. RNase A and Proteinase K should be stored at -20℃.

Kit Contents:

Component	50T	100T	Storage
RNase A	100μL	100μL×2	-20℃
Proteinase K	1mL	1mL×2	-20℃
Red Blood Cell Lysis Buffer	60mL	120mL	RT
Solution A: Leukocyte Lysate	25mL	50mL	RT
Solution B: Protein Precipitate	25mL	50mL	RT
Wash Buffer	15mL	15mL×2	RT
Elution Buffer	10mL	20mL	RT
DNA Adsorption Column	50 units	100 units	RT
Instruction	1	1	-

Note: Add absolute ethanol to the rinse solution before use, and refer to the label on the bottle body. Provide absolute ethanol (45 mL of absolute ethanol should be added to each bottle).

Product Description:

This 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 the unique new material of the company, which can efficiently and specifically absorb DNA, and can maximize the removal of impurity proteins and other organic compounds in cells. The extracted genomic DNA fragments are large, of high purity and of stable and reliable quality. The genomic DNA extracted using this kit can be used for a variety of routine operations, including enzyme digestion, PCR, library construction, Southern hybridization, and other experiments.

Operation steps (for reference only):

1、 Processing of samples (This product is suitable for 100-500μL blood samples handling fresh or already added anticoagulant):

a. 2x volume of red cell lysate was added to the blood, thoroughly reversed, centrifuged at 12000rpm for 1min. The supernatant was carefully aspirated and the precipitation was white or light red. If the lysis is not complete, the above steps can be repeated once.

b. If the treated blood sample is from birds, birds, amphibians or lower organisms, the red blood cells are nucleated cells, so the treatment amount is 5-20μL, there is no need to be treated with red blood cell lysate, directly add 500μL solution A, and shake to be thoroughly mixed.

2、 Add 500μL of solution A to the precipitate, oscillate or blow with A pipete until mix thoroughly, 65℃ water bath for 10min, and reverse the centrifugal tube for several times until the solution is clear without obvious cells.

3、 After the centrifuge tube drops to room temperature, add 2μL RNase A, 20μL of proteinase K to the liquid, fully reverse and mix well at room temperature for 10min.

4、 Add 500μL solution B, fully reverse and mix, then white precipitation, 65℃ water bath for 5min, 4℃, 12000rpm for 5min, carefully absorb the lower liquid (do not suction to the upper layer or floating insoluble material), transfer to a clean centrifuge tube, if there is sediment, can centrifuge again.

5、 Add 0.7 times the volume of absolute ethanol, and mix well. A flocculent precipitate may occur at this time, which does not affect the extraction of DNA. The solution and flocculent precipitate can be added to the adsorption column.

6、 4℃, centrifuged at 12000rpm for 1min, discard the waste solution and put the adsorption column into the collecting tube.

7、 Add 600 μL of rinse solution to the adsorption column (check for absolute ethanol before use), centrifuge 4℃ at 12000rpm for 1min, discard the waste liquid and put the adsorption column into the collection tube.

8、 600μL of rinse solution was added to the adsorption column, centrifuged at 12000rpm for 1min, discard the waste solution, and the adsorption column was placed into the collection tube.

9、 Diifuge at 12000 rpm for 2min, place the adsorption column open at room temperature or 50℃ temperature box for several minutes to remove the residual rinse solution in the adsorption column, otherwise the ethanol in the rinse will affect subsequent experiments such as enzyme digestion, PCR, etc.

10、 The adsorption column was placed in a clean centrifuge tube and 50-100μL of eluent preheated with 65℃ water bath was dropped to the center of the adsorption membrane, left at room temperature for 5min and centrifuged at 12000rpm for 2min.

11、 The eluate obtained by centrifugation can be added to the adsorption column and centrifuged at 12000rpm for 2min to obtain high-quality genomic DNA.

Note:

1、 This kit remains dry at room temperature (15-25℃) for 12 months and lasts longer for 2-8℃.

2、 Commonly used blood anticoagulants include EDTA, ACD and heparin, etc. It should be noted that if large molecular weight blood genomic DNA is prepared, the use of ACD anticoagulation can be given priority. Heparin anticoagulation is generally not used, because there is a PCR amplification inhibition phenomenon during PCR amplification with genomic DNA extracted from blood prepared with heparin anticoagulation.

3、 Samples should avoid repeated freezing and thawing, otherwise it will cause smaller extracted DNA fragments and decreased extraction amount.

4、 If the solution in the kit is precipitated, it can be redissolved in a 65℃ water bath before use, without affecting the effect.

5、 The vast majority of red blood cells in mammalian whole blood are anucleated, so the anucleated red blood cells without DNA should be removed when extracting genomic DNA to avoid affecting leukocyte lysis and DNA release. If the treated blood samples are blood from birds, birds, amphibians or lower organisms, the red blood cells are nucleated cells, so the treatment amount is reduced to 5-20μL, and no more red blood cell lysate is needed to lyse the red blood cells.

6、 The volume of elution buffer should not be less than 50μL, the small volume will affect the recovery efficiency; the pH value of eluate also affects the elution efficiency, the pH value should be about 8.0 (the pH can be adjusted to this range), and the pH value lower than 7.0 will reduce the 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