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Cell & Tissue Genomic DNA Extraction Kit

(Catalog# K1442-100; 100 tests; Storage at Multiple Temperatures)

I. Introduction:

Cell & Tissue Genomic DNA Extraction Kit is suitable for extraction and purification of genomic DNA from various tissues and cultured cells. In the unique Tissue-Cell Lysis solution, genomic DNA can be efficiently extracted and then purified by the magnetic beads, yielding high pure genomic DNA with a ratio of $OD_{260/280}$ between 1.75 to 1.85. The recovered genomic DNA size can be up to 60 kb. The purified genomic DNA is suitable for applications of PCR, Southern blot and sequencing, etc.

The kit will work with a 48 well round bottom plates if a special magnetic frame is used. The kit can also be used with a variety of automatic nucleic acid extraction instruments or workstations.

II. Applications:

- Tissue and Cell Genomic DNA Extraction. Purified DNA can be used for PCR, Southern blot, sequencing and other downstream applications.

III. Sample Type:

- Tissues and Cultured cells

IV. Kit Contents:

Component	K1442-100	Part Number
Magnetic Beads	20 ml	K1442-100-1
Tissue-Cell Lysis Solution	40 ml	K1442-100-2
Wash Solution*	38 ml	K1442-100-3
Elution Buffer	20 ml	K1442-100-4

Add 25 mL of Isopropanol to the Wash Solution (K1442-100-3) before use.

V. User Supplied Reagents and Equipment:

- 80% Ethanol in water.
- RNAse (100 mg/mL) solution to remove RNA.
- Isopropanol (ACS grade).
- Magnetic racks compatible with vials.

VI. Storage Conditions:

Magnetic beads should be stored at 2-8°C but other kit reagents need to be stored at room temperature. Lysis solution may turn cloudy if stored in the cold room. To clear it up place the bottle in a water bath at 37°C.

VII. Assay Protocol:

Preparation of Sample: Bring frozen samples to 4°C before extraction

A. **Tissue** frozen in liquid nitrogen should be grinded and transferred to a clean Eppendorf tube. Add 400 µl Tissue-Cell lysis solution, Vortex for 1-3 min.

B. **Cells** are washed with PBS twice in a clean Eppendorf tube. Discard PBS and add 400 µl Tissue-Cell lysis solution and Vortex for 1-3 min

DNA Extraction

1. Incubate at 65°C for 15 min. vortexing the tube once after every 5 min. To remove RNA, add 5 µl of RNase A (100mg/mL).
2. Add 200 µl of magnetic beads into the tube.
3. Add 300 µl of isopropanol into the tube.
4. Vortex tube vigorously for 2 min or until no obvious precipitate in the solution. Then incubate the tube at RT for 2 min and after that put the tube onto the magnet rack for 60 seconds. Make sure the beads are collected at the bottom of the tube.
5. Remove supernatant by holding the magnet rack upside down or by pipetting.
6. Wash the beads with 600 µl of wash solution.
7. Vortex the tube for 30 seconds to mix well and then repeat Step 6 above.
8. Wash the beads with 600 µl of 80% ethanol twice.
9. Dry the beads at 55°C for 8 min leaving the tube open. Do not over-dry the beads.
10. Elute the DNA from beads with 150-200 µl of elution buffer, incubate fort 5 min and then vortex at full speed for 1 min.
11. Remove beads by using magnet rack, pipette DNA out and transfer to a clean tube.
12. Store purified DNA at -20°C for long-term storage.

VIII. Related Products:

- Blood genomic DNA extraction and purification kit (# K1443)
- Genomic DNA Isolation Kit (# K281)
- Mammalian Cell Genomic DNA Isolation Kit (# K967)
- Bacterial Genomic DNA Isolation Kit (# K309)
- Plant Tissue Genomic DNA Isolation Kit (# K316)

FOR RESEARCH USE ONLY! Not to be used on humans.