Swab DNA Extraction Kit

Cat: D3300
Size: 50 T/100 T
Storage: RT, valid for 1 year. Store the Digestion solution at -20℃, and avoid repeated freeze-thaw cycles. (This kit can be shipped at room temperature.)

Product Composition

Name	50 T	100 T
Adsorption Columns and Collection Tubes	50 each	100 each
Lysis buffer	12 mL	24 mL
Precipitation Buffer	4.5 mL	9 mL
Washing Buffer	9 mL	18 mL
Elution buffer	3 mL	6 mL
Digestion solution	1.1 mL	2.2 mL
Instruction manual	1 copy	1 copy

Introduction

Swab DNA Extraction Kit is specifically designed for extracting DNA from various samples, including oral swabs, genitourinary tract swabs, and sputum. It adopts state-of-the-art high-quality imported ion-exchange membranes, with its lysis buffer and elution buffer optimized through multiple iterations to enable efficient DNA separation. Compared to similar kits from other brands, the extracted DNA offers higher yield and purity, with maximum removal of impurities such as proteins, pigments, and lipids. It can be directly applied to PCR, quantitative real-time PCR (qPCR), and various restriction enzyme digestion assays.

Product Features

1. Simple and rapid operation: High-quality DNA can be obtained within 20 minutes.
2. High-purity DNA extraction with no inhibitors; the A260/A280 ratio ranges from 1.7 to 1.9.
3. High yield: Extracts more DNA from the same sample volume compared to similar products.
4. Suitable for extracting DNA from various samples including oral swabs, genitourinary tract swabs, and sputum. The extracted DNA can be directly used for nucleic acid testing.
5. Free of toxic solvents such as phenol and chloroform, ensuring safety and non-toxicity.

Protocols *(for reference only)*

1. Prepare the following items yourself: Anhydrous ethanol, normal saline, 1.5 mL centrifuge tubes.
2. Take out the Precipitation Buffer and Washing Buffer, and perform the following operations:

(1) Precipitation Buffer:
Add 25.5 mL anhydrous ethanol to 4.5 mL Precipitation Buffer and mix well;
Add 51 mL anhydrous ethanol to 9 mL Precipitation Buffer and mix well.

(2) Washing Buffer:
Add 21 mL anhydrous ethanol to 9 mL Washing Buffer and mix well;
Add 42 mL anhydrous ethanol to 18 mL Washing Buffer and mix well.

(3) If precipitation forms in the prepared Precipitation Buffer or Washing Buffer, dissolve it at 37℃ and shake well before use.

3. Sample Preparation:

a. **Swab Sample:** Add 800 μL normal saline to a 1.5 mL centrifuge tube. Immerse the swab (with collected sample) in the normal saline and rinse for 20 seconds to ensure complete cell detachment. Squeeze the swab against the centrifuge tube wall to expel residual liquid. Centrifuge at 12,000 rpm for 5 minutes, discard 700 μL supernatant, and retain the remaining 100 μL supernatant. Vortex vigorously for 15 seconds to mix thoroughly.

b. **Sputum Sample:** Add 4 volumes of 1 M NaOH to the collected sputum. Incubate at room temperature for 30 minutes, vortexing every 10 minutes to mix (if the sputum remains viscous, appropriately extend the liquefaction time). Centrifuge at 12,000 rpm for 5 minutes, discard the supernatant, and retain the remaining 100 μL supernatant. Vortex vigorously for 15 seconds to mix thoroughly.

4. Add 200 μL Lysis Buffer and 20 μL Digestive Solution, vortex to mix. Incubate in a 56℃ water bath for 10 minutes.
5. Add 500 μL prepared Precipitation Buffer, invert gently to mix. The presence of translucent suspended matter will not affect DNA extraction or subsequent experiments.
6. Place the adsorption column into the collection tube. Transfer the above solution into the adsorption column, let stand for 2 minutes, then centrifuge at 12,000 rpm at 4℃ for 1 minute. Discard the waste liquid in the collection tube.
7. Return the adsorption column to the collection tube. Add 500 μL prepared Washing Buffer to the adsorption column, let stand for 2 minutes, then centrifuge at 12,000 rpm at 4℃ for 1 minute. Discard the waste liquid.
8. Place the adsorption column back into the collection tube and centrifuge at 12,000 rpm at 4℃ for 2 minutes to remove residual Washing Buffer.
9. Take out the adsorption column and place it into a new 1.5 mL centrifuge tube. Add 30-50 μL Elution Buffer, let stand for 3 minutes, then centrifuge at 12,000 rpm at 4℃ for 2 minutes to collect the DNA solution. The extracted DNA can be used for subsequent experiments immediately or stored at -20℃.

Note

1. The Precipitation Buffer and Washing Buffer contain irritating chemicals. During operation, please take appropriate protective measures to avoid direct contact with skin and prevent inhalation or ingestion. If accidentally splashed on skin or eyes, immediately rinse thoroughly with clean water or normal saline. Seek medical attention if necessary.
2. The formation of white flocculent precipitates in the Lysis Buffer is a normal phenomenon. Simply place it in a 37℃ water bath to dissolve before use.
3. The product information is for reference only. If you have any questions, please call 400-968-6088 for consultation.
4. The products are all for scientific research use only. Do not use it for medical, clinical diagnosis or treatment, food and cosmetics, etc. Do not store them in ordinary residential areas.
5. For your safety and health, please wear laboratory clothes, disposable gloves and masks to operate.