Product Manual

Product Name	DNA/RNA extraction and purification kit (Magnetic bead method)
Catalog Number	CSB-DKT040
Storage Conditions	Kit I: Store at -20±5°C, avoid repeated freeze-thaw cycles. Can be stored at 2-8°C for frequent use. Kit II: Store at 2-25°C
Transportation Conditions	2-8°C
Product Components	Proteinase K、Magnetic beads、 Lysis buffer、Washing solution、Elution solution
Shelf Life	12 months

Product Description

This reagent kit utilizes highly binding magnetic particles as the matrix. Under high concentration ion conditions, the nano magnetic particles can adsorb nucleic acids through hydrogen bonding and electrostatic adsorption, while proteins or other impurities are not adsorbed and can be removed. The nucleic acid-bound nanoparticles are washed to remove proteins and salts, and the nucleic acids on the particles can be eluted using a low salt buffer. The entire extraction process can be completed at room temperature, minimizing the risk of cross-contamination and improving the sensitivity and accuracy of detection.

This reagent is suitable for extracting high-purity DNA and RNA from various samples, including liquid samples such as viruses, bacterial bodies, and cells. Solid samples such as tissues require pre-processing, and the supernatant after suspension centrifugation can also be used. The obtained nucleic acids can be directly used for PCR, quantitative PCR, RT-PCR, etc.

Product Components

Kit	Label	Components	Specifications		
			20T	50T	200T
Kit I	1	Proteinase K Solution	2mL	4mL	20mL
Kit II	2	Magnetic Bead Suspension	1mL	2mL	10mL
	3	Lysis Buffer	15mL	30mL	150mL
	4	Washing Solution A	50mL	100mL	500mL
	5	Washing Solution B	50mL	100mL	500mL
	6	Elution Solution	5mL	10mL	50mL

Additional reagents required: Isopropanol

Operating instructions

Step 1. Sample lysis:

Resuspend proteinase K solution at room temperature,Take a 1.5mL centrifuge tube and add about 200μL of liquid sample,Add 40μL of proteinase K solution and mix gently,Then add 300μL of lysis buffer, 20μL of magnetic bead suspension, and 250μL of isopropanol, Vortex mix for 3 minutes at a speed of 9-10, ensuring complete dispersion of the magnetic beads.

Note: Mix the sample with a pipette gun 2-3 times;

invert the lysis buffer for about 10 seconds before use;

vortex mix proteinase K and magnetic beads before use (about 10 seconds).

Step 2. Magnetic separation:

Place the above 1.5mL centrifuge tube on the magnetic separator and let it stand for 20 seconds until the magnetic beads are completely adsorbed,Keep the tube fixed on the magnetic separator, discard the supernatant using a pipette gun, avoiding contact with the magnetic beads.

Note: If there are magnetic beads on the tube lid, keep the centrifuge tube on the magnetic separator and invert it 2-3 times until the magnetic beads are completely adsorbed;

When discarding the supernatant, try to do it thoroughly. First, discard most of the solution using a high-capacity pipette gun, then discard the remaining liquid at the bottom using a small-capacity pipette gun.

Step 3. Washing 1:

Remove the above 1.5mL centrifuge tube from the magnetic separator and add 1mL of washing solution A using a pipette gun Carefully blow off the magnetic beads on the tube wall ,Vortex mix for 1 minute, then perform magnetic separation (refer to Step 2).Discard the supernatant using a pipette gun, avoiding contact with the magnetic beads.

Step 4. Washing 2:

Remove the above 1.5mL centrifuge tube from the magnetic separator and add 1mL of washing solution B using a pipette gun Carefully blow off the magnetic beads on the tube wall ,Vortex mix for 1 minute, then perform magnetic separation (refer to Step 2).Discard the supernatant using a pipette gun, avoiding contact with the magnetic beads.

Note: Washing solution A and B must be washed separately twice and should not be mixed. Otherwise, the purity and concentration of the extracted nucleic acids may be poor.

Step 5. Drying:

Place the centrifuge tube on a test tube rack and leave it uncovered at room temperature for 5 minutes.

Note: If there is still obvious liquid in the tube, place it back on the magnetic separator and discard the remaining liquid;

Do not dry for too long.

Step 6. Elution:

Add 100μL of elution solution to the 1.5mL centrifuge tube and disperse the magnetic beads using a pipette gun, Vortex mix for 1 minute (ensure complete dispersion of the magnetic beads). Then place the centrifuge tube in a 65°C dry bath or water bath, heat for 7 minutes, vortex for 2-5 seconds, and centrifuge briefly. Finally, place the centrifuge tube on the magnetic separator until the solution becomes clear, transfer the supernatant to a new centrifuge tube, and store the product at -20±5°C.

Precautions:

1. Carefully read this manual before testing and strictly follow the instructions.

2. Laboratory operations should comply with the "Management Measures for Clinical Gene Amplification Test Laboratories in Medical Institutions." Strict zoning is required, and dedicated instruments, equipment, consumables, and work clothes should be used in each area to avoid cross-contamination.

3. The samples involved in the reagent kit should be considered infectious, and all laboratory operations should comply with the "General Guidelines for Biosafety in Pathogenic Microorganism Laboratories." Medical waste should be managed according to the "Regulations on the Management of Medical Waste."

4. The solution contains guanidine salt protein denaturants and can be corrosive. Handle with care. In case of skin contact, rinse with plenty of water.