TransZol Up Simple RNA Kit

Please read the manual carefully before use.

Cat. No. ER511

Version No. Version 1.0

Storage: at 15~30˚C for one year

Description

This kit is designed for the isolation of total RNA from animal cells/tissues, plant tissues and microorganisms. The kit features a unique lysis system that ensures rapid sample disruption while simultaneously inactivating endogenous RNase and providing a specific environment for efficient RNA binding to silica membranes. Compared to traditional total RNA extraction methods, this product does not require chloroform or any separation steps, allowing for rapid RNA extraction while offering high yield and good purity. The extracted total RNA can be directly used in experiments such as RT-PCR, qRT-PCR, Northern Blotting, in vitro translation, and NGS (Next-Generation Sequencing), etc.

Features

Convenient: No centrifugation-based phase separation.

Safe: Chloroform-free procedure reduces health risks and environmental impact.

Wide range of applications: Animal cell/tissue, plant tissue, virus and bacteria samples.

High extraction purity: Effectively removes impurities such as gDNA and proteins.

Kit Contents

Component	ER511-01 (50 rxns)	ER511-02 (200 rxns)
Lysis Buffer 57 (LB57)	30 ml	120 ml
Clean Buffer 57 (CB57)	16 ml	64 ml
Wash Buffer 57 (WB57)	8 ml	32 ml
Tissue Lysis Enhancer (TLE)	10 ml	40 ml
RNase-free Water	20 ml	60 ml
RNA Spin Columns with Collection Tubes	50 each	200 each
RNase-free Tube (1.5 ml)	50 each	200 each

Add different volumes of absolute ethanol (self-prepared) to CB57 and WB57 according to the table below before first use.

Component	ER511-01 (50 rxns)	ER511-02 (200 rxns)
Clean Buffer 57 (CB57)	24 ml	96 ml
Wash Buffer 57 (WB57)	32 ml	128 ml

Reagents provided by customers: absolute ethanol.

Procedures

1. Sample Preparation and Lysis

Adherent Cells

a. Discard all the culture medium and wash the culture dish once with 1×PBS, then discard the wash solution.

b. Add 500 µl of LB57 to per 10 cm² culture dish and place the plate horizontally for a moment to ensure the lysis buffer to evenly cover the cell surface and lysis the cells. Gently pipette the cells to detach them (for cells with strong adherence, a cell scraper can be used to detach the cells).

c. Transfer the lysate into a centrifuge tube, add 100 µl RNase-free water, and pipette or vortex the solution repeatedly until there is no visible precipitation in the lysate.

Bacterial Suspension and Suspension Cells

a. Transfer the suspension cells along with the culture medium into a centrifuge tube, centrifuge the sample at 1,500×g for 2 minutes at 2-8°C, and discard the supernatant. For bacterial suspension, transfer the suspension and culture medium into a centrifuge tube, centrifuge at 13,400×g for 1 minute, and discard the supernatant.

b. Add 500 µl LB57 (add 500 µl LB57 to per 2×10^9 bacteria or per 5×10^6 cells).

c. Add 100 µl RNase-free water, and pipette or vortex the solution repeatedly until there is no visible precipitation in the lysate.

Animal and Common Plant Tissues

a. Weigh the cryopreserved samples and immediately transfer them into a mortar pre-chilled with liquid nitrogen. Grind thoroughly with a pestle until the sample becomes a fine powder.

*** Incomplete grind may affect the total RNA yield and quality.**

b. Transfer the ground tissue samples into a microcentrifuge tube and add 500 µl of LB57 to per 50-100 mg of sample.

c. Add 100 µl RNase-free water, vortex at room temperature until no obvious powder clumps remain.

2. Centrifuge at 13,400×g for 3 minutes, transfer 500 µl of the supernatant to a new 1.5 ml RNase-free centrifuge tube.

*** If there are still impurities in the supernatant after centrifugation (e.g., plant tissues), extend the centrifugation for 1-2 minutes.**

3. Add 250 µl of absolute ethanol and mix thoroughly.

*** For tissues from mollusks like clams, scallops and oysters, it is recommended to add 200 µl of Tissue Lysis Enhancer after adding ethanol for better extraction results. No addition is required for other tissue types.**

4. Transfer the lysate mixture to a RNA spin column (place the column in a collection tube), centrifuge at 13,400×g for 30 seconds, and discard the flow-through.

5. Add 700 µl of CB57 (**make sure that absolute ethanol has been added**), centrifuge at 13,400×g for 30 seconds, and discard the filtrate.

6. Add 700 µl of WB57 (**make sure that absolute ethanol has been added**), centrifuge at 13,400×g for 30 seconds, and discard the filtrate.

7. Place the RNA spin column back into the empty collection tube and centrifuge at 13,400×g for 2 minutes to completely remove any residual liquid.

8. Place the RNA spin column into a new 1.5 ml RNase-free centrifuge tube, add 50-100 µl of RNase-free water to the center of the column, incubate at room temperature for 1 minute, and centrifuge at 13,400×g for 1 minute to elute the RNA.

*** Depending on the experimental requirements, adjust the volume of the elution solution to regulate the concentration of the extracted product, or repeat step 8 for a second elution to further increase the yield.**

Notes

- Samples should be fresh without repeated freezing and thawing, as it may affect the extraction efficiency.
- After adding RNase-free water during sample lysis, mix or vortex thoroughly.
- Ensure that all reagents and consumables used in the experiment are RNase-free.

For research use only, not for clinical diagnosis

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