TransZol

Cat. No. ET101

Storage: at 2-8°C in dark for one year

Description

TransZol lyses cells with guanidine isothiocyanate. In the process of sample lysis, *TransZol* can maintain the integrity of RNA. After adding RNA Extraction Agent, the solution is divided into a colorless aqueous phase and a pink organic phase. RNA is in the aqueous phase. RNA can be recovered by precipitation with isopropanol. Isopropyl alcohol recovers protein. Suitable for rapid extraction of total RNA from a variety of tissues and cells.

Highlights

- High operational safety: RNA Extraction Agent is used instead of chloroform.
- Wide range of applications: suitable for small samples (50-100 mg tissue, 5×106 cells), or large samples (≥1 g tissue or ≥107 cells) for human, animal, plant, blood and bacterial tissue extraction both apply.
- Fast extraction: the reaction can be completed within an hour.
- Visualization of operation: The solution is pink for easy separation of aqueous and organic phases.
- High extraction purity: minimal DNA and protein contamination.
- RNA lysate: facilitates RNA preservation and reduces inhibition of reverse transcription reactions.

Kit Contents

Component	ET101-01
TransZol Up	100 ml
RNA Extraction Agent	20 ml
RNA Dissolving Solution	15 ml

Procedures

Reagents provided by customers: Isopropanol, 75% ethanol (prepared with DEPC-treated water), RNase-free water.

1. Homogenization

a. Adherent cells

- Wash culture dish once with 1×PBS
- Detach cells with cell spatula. Add 1 ml of *TransZol* to per 10 cm^3 culture dish. Pipetting up and down to lysis the cells.
- Transfer lysate to a microcentrifuge tube.
- Incubate at room temperature for 5 minutes.

b. Suspension cells

- Transfer suspension cells to a microcentrifuge tube. Centrifuge the sample at 8,000× g for 2 minutes at 2-8°C, discard the supernatant.
- Add 1 ml of *TransZol* to per 10^7 cells.
- Pipetting up and down until no visible precipitates are present in lysate.
- Incubate at room temperature for 5 minutes.

c. Animal tissue and plant materials

- After weighing, quickly transfer the frozen sample into mortar with liquid nitrogen. Grind thoroughly to a powder. Use more liquid nitrogen if needed. Incomplete grind can affect RNA yield and quality.
- Transfer the tissue powder to a microcentrifuge tube. Add 1 ml of *TransZol* to per 50-100 mg tissue. Homogenize tissue samples with a homogenizer and repetitively pipette up and down.
- Incubate at room temperature for 5 minutes.

2. Add 0.2 ml of RNA Extraction Agent for per ml *TransZol* used. Shake the tube vigorously by hand for 15 seconds. Incubate at room temperature for 3 minutes.

3. Centrifuge the sample at 10,000×g for 15 minutes at 2-8°C. The mixture separates into a lower pink organic phase, an interphase, and a colorless upper aqueous phase which contains the RNA. The volume of the aqueous upper phase is around 60% volume of *TransZol* reagent.
4. Transfer the colorless, upper phase containing the RNA to a fresh RNase-free tube. Add 0.5 ml of isopropanol for per ml *TransZol* used. Mix thoroughly by inverting tube. Incubate at room temperature for 10 minutes.
5. Centrifuge the sample at 10,000×g for 10 minutes at 2-8°C. Discard the supernatant. Colloidal precipitate can be seen at the wall and the bottom of the tube.
6. Add 1 ml of 75% ethanol (prepared with RNase-free water), vortexing vigorously (add at least 1 ml of 75% ethanol for 1 ml *TransZol* used).
7. Centrifuge the sample at 7,500×g for 5 minutes at 2-8°C.
8. Discard the supernatant. Air-dry the RNA pellet (about 5 minutes).
9. RNA pellet is dissolved in 50-100 µl of dissolving solution.
10. Incubate at 55-60°C for 10 minutes. For long-term storage, store the purified RNA at -70°C.

Note

- After adding RNA Extraction Agent, be sure to shake sufficiently to ensure the extraction effect.
- The organic reagents (isopropanol, 75% ethanol, etc.) used in the experiment should be free of RNase contamination, and consumables such as centrifuge tubes and pipette tips should also be RNase free.
- It is recommended to use RNA Extraction Agent for RNA extraction. Chloroform can also be used instead of RNA Extraction Agent.

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