

TransZol Up

Please read the manual carefully before use

Cat.No. ET111

Storage: at 2°C-8°C in dark for two years.

Description

TransZol Up utilizes guanidine isothiocyanate for cell lysis. In the process of sample lysis, *TransZol Up* can maintain the integrity of RNA. After adding chloroform, the solution is separated into an upper colorless aqueous phase containing RNA and a lower pink organic phase. RNA is precipitated and recovered with isopropanol. Proteins can be recovered from organic phase with isopropanol. Compared to other total RNA extraction reagents, *TransZol Up* offers stronger lysis capability, faster extraction speed, higher yield and purity. It is suitable for rapidly extracting total RNA from various tissues and cells.

Highlights

- Wide range of applications: animal and plant tissues, blood and bacteria, etc. Small samples (50-100 mg tissue, 5×10^6 cells, 200 μ l blood). Large samples (≥ 1 g tissue or $\geq 10^7$ cells).
- 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 purity: minimal DNA and protein contamination.
- RNA Dissolving Solution: facilitates RNA preservation and reduces inhibition of reverse transcription.

Kit Contents

Component	ET111-01
<i>TransZol Up</i>	100 ml
RNA Dissolving Solution	15 ml

Procedures

Reagents provided by customers: chloroform, isopropanol, 75% ethanol (prepared with DEPC-treated water) and RNase-free water

1. Homogenization

a. Adherent cells

- ① Discard the culture medium and wash once with $1 \times$ PBS.
- ② Add 1 ml of *TransZol Up* per 10 cm² of growth area of cells, incubate horizontally for a while to make the lysis buffer evenly cover the surface of cells and disrupt cells. Detach cells by pipetting (for strongly adherent cells, detach cells with a cell scraper).
- ③ Transfer the lysate to a microcentrifuge tube. Pipetting up and down until the lysate contains no visible precipitate.
- ④ Incubate at room temperature for 5 minutes.

b. Suspension cells

- ① Transfer suspension cells including culture medium to a microcentrifuge tube. Centrifuge the sample at $8,000 \times g$ for 2 minutes at 2-8°C, discard the supernatant.
- ② Add 1 ml *TransZol Up* to per 10^7 cells.
- ③ Pipetting up and down until no visible precipitates are present in lysate.
- ④ Incubate at room temperature for 5 minutes.

c. Animal tissue and plant materials

- ① After weighing samples frozen at ultra-low temperature, quickly transfer into a precooled mortar with liquid nitrogen. Grind thoroughly to a powder. Additional liquid nitrogen can be used if needed. Incomplete grind can affect RNA yield and quality.
- ② Transfer the tissue powder to a microcentrifuge tube. Add 1 ml of *TransZol Up* to per 50-100 mg tissue. Homogenize tissue samples with a homogenizer and repeatedly pipette up and down.
- ③ Incubate at room temperature for 5 minutes.



2. Add 0.2 ml of chloroform per ml *TransZol Up*. Vortex the tube vigorously for 30 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 50% volume of *TransZol Up* 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 Up* 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 DEPC-treated water), vortexing vigorously (add at least 1 ml of 75% ethanol for 1 ml of *TransZol Up* used).
7. Centrifuge the sample at 7,500×g for 5 minutes at 2-8°C.
8. Discard the supernatant (to minimize salt carryover, ensure ethanol is removed as completely as possible). Air-dry the RNA pellet at room temperature (for 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

- It is important to vortex thoroughly after adding chloroform to ensure extraction performance.
- Ensure that all the organic reagents (e.g., chloroform, isopropanol, 75% ethanol) and consumables (such as microcentrifuge tubes and pipette tips) used are RNase-free.

For research use only, not for clinical diagnosis.

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