NGZOL total RNA isolation Reagent

Code No.：

NG303S	50 ml
NG303M	100 ml

Storage：Store at 2-8 ℃ for up to one years

Important Note：

This product contains phenol, which is toxic and corrosive. It can lead to poisoning, Burns, and other bodily injuries if touched. When using this product should wear protective articles, such as protective clothing, gloves, eye masks and so on. Please flush immediately with a large amount of water and proceed to hospital for treatment if careless contact.

Introduction：

NGzol RNA Reagent is a wide range use reagent for total RNA extraction. The color of reagent is bright, the operation is fast and convenient. Reagent can be used to extract total RNA from animal tissues, plant materials, various microorganisms, cultured cells and so on. No matter a small amount of tissues (50-100 mg) and cells (5×10^6) or a large amount of tissues (≥1 g) and cells (>10^7), all have good extraction results by using this method. The extracted total RNA of NGzol RNA Reagent has good integrity and is free of DNA and protein contamination. It can be used in in RT-PCR, Real-time RT-PCR, Northern Blot, Dot Blot, in vitro translation, etc.

Safety Information:

1. Samples homogenized with NGZOL can be placed at -70 ℃ for more than one month without immediate addition of chloroform. RNA precipitates in 75% ethanol could be stored for one week at 2-8 ℃ and for one year at -20 ℃.
2. Required reagents: chloroform, isopropyl alcohol (for new or RNA extraction), 75% ethanol (prepared with DEPC-treated water), RNase free water or DEPC-treated water.

Operation Procedure:

1. Preparing samples.

A. Tissues:

Add liquid nitrogen in tissues and grind them thoroughly to power. Add 1 ml NGzol RNA Reagent for per 50–100 mg sample. Usually, the volume of tissue sample should not exceed 10% of the volume of NGzol RNA Reagent.

B. Adherent Cells :

Cells grown in a monolayer in cell-culture vessels can be either lysed directly in the vessel. Add 1 ml NGzol RNA Reagent directly to the cells in the culture dish per 10 cm^2 of culture dish surface area. Pipette the lysate up and down several times until the solution becomes clear.

C. Suspension Cells:

Harvest cells by centrifugation and remove culture medium. Add 1 ml of NGzol RNA Reagent per 5-10 $\times 10^6$ cells from animal or plant. Do not wash cells before addition of NGzol RNA Reagent to avoid increased chance of mRNA degradation.

D. Blood:

NGZOL LS is recommended for use with whole blood or Liquid samples. NGZOL LS is used for Liquid Sample. Add 0.75 ml NGZOL LS for per 250 μl sample.

2. The homogenate sample was subjected to severe shaking and left at room temperature for 5 min to allow complete dissociation of the nucleosome.

Optional step: Centrifuge the sample at 12,000 rpm for 10 min at 4 ℃. Transfer the supernatant to a fresh micro-centrifuge tube.

Note: When preparing samples with high content of fat, proteins, polysaccharides, or extracellular material (e.g., muscle, fat tissue, or tuberous plant material), an additional centrifugation may be required to remove insoluble material from the samples. RNA remains in the upper aqueous phase after centrifugation.

3. Add 200 µl of chloroform. Vortex for 15 sec. Incubate for 2-3 min at room temperature.
4. Centrifuge at 12,000 rpm for 10-15 min at 4 ℃. The mixture separates into three phase, a lower yellow phenol-chloroform phase, an interphase, and a colorless upper aqueous phase. RNA remains exclusively in the aqueous phase. Pipette the aqueous phase (about 600 µl) out into a new tube.
5. Add Isopropanol of equal volume of aqueous phase, fully mixed with immediately turn up and down, Incubate for 10-15 min at room temperature. RNA sediment are usually not visible, but after centrifugation form gelatinous sediment on the side and bottom of the tube.
6. Centrifuge at 12,000 rpm for 10-15 min at 4 ℃, discard the supernatant.
7. Washed the sediment with 1 ml 75% ethanol, centrifuge at 12,000 rpm for 2-3 min at 4 ℃, discard the supernatant.
8. Repeat step7.
9. Dry by letting the RNA sediment at room temperature 3-5 min or centrifuging at 12,000 rpm for 1-2 min at 4 ℃, then use the gun to suck out the liquid.
10. Dissolve with 30-100 µl RNase free water. Stored at -70 ℃ after completely dissolved.

Note：RNA sediment should not be too dry to dissolve.