



RNA safer™ II Reagent

RNA Stabilizer

R0424-00 (5ml)

Product No: R0424-01 (50ml)

R0424-02 (250ml)

Storage Conditions

RNA safer™ II is stable for 12 months when stored at room temperature. When precipitations appear at cool conditions, simply incubate for minutes at 37°C.

Introduction

One of the major problems for RNA research is RNA degradation during collection, storage and transportation of samples. It is extremely important to immediately stabilize RNA in biological samples because of changes in the gene-expression patterns due to specific and nonspecific RNA degradation. Avoiding such changes is essential for all reliable quantitative gene-expression analysis, such as biochip, array analysis and quantitative RT-PCR.

RNA safer™ II Reagent is a non-toxic and efficient reagent system for preservation of RNA in animal tissues and other biological samples. Once the fresh sample is submerged in this RNA safer™ II Reagent, the reagent rapidly permeates tissue and single cell to stabilize and protect cellular RNA. RNA remain intact during transportation and storage at common temperatures for days. RNA safer™ II reagent provide an alternate method to replace current inconvenient, dangerous and equipment intensive methods such as snapping storage in liquid nitrogen or storing at -80°C.

RNA safer™ II Reagent is suitable for most animal tissues, tissue culture cells and white blood cells. The simplicity of the RNA safer™ II Reagent method allows simultaneous processing of a large number of samples.

Biological samples stored in RNA safer™ II can last up to one day at 30°C-37°C, 7 days at room temperature (20°C-25°C), one month at 4°C and at least 12 months at -20°C. When need to be stored in -20°C, put the stabilized sample first at 4°C overnight and then transfer to -20°C conditions.

Stabilized samples could be applied to most RNA isolation methods, such as TRIzol, RNeasy and E.Z.N.A.™ Total RNA Kit. Samples in the RNA safer™ II Reagent could be thawed at room temperatures for several times without affecting RNA quantitative or quality.

General Notes Regarding Starting Material

A. Handling starting material

Only **fresh biological samples without frozen** are recommended. Since RNA in tissues do not have any protection, it is extremely important to treat the sample immediately after harvesting.

B. Sample size

RNA safer™ II Reagent penetrates the sample by diffusion to protect cellular RNA. The reagent diffuses into the cells or into surface layer of solid tissues immediately after it contacts with the samples. So sample size is critical for good results. The ideal sample slices should be **less than 0.4 cm thick**.

C. Estimation of volume of RNA safer™ II Reagent to be applied

In order to protect RNA, the surface of the tissue samples should be

completely covered by RNA safer™ II Reagent. It is strongly recommended that the sample should be put into **at least 10 volumes** (10 µl/1 mg of tissue) of RNA safer™ II Reagent.

Precautions: *Make sure that samples remain submerged at all times during transportation and storage !*

Process Samples

A. Solid tissue samples

Harvest samples, excise the samples into proper slices (< 0.4 cm), immediately immerse the sample into a tube with 10 volumes of RNA safer™ II Reagent.

B. Tissue culture cells, white blood cells

Pellet the cells by centrifugation at 500 x g for 10 min, discard the supernatant and wash cells with PBS. Resuspend the cells with 10 volumes of RNA safer™ II Reagent.

Protocol for RNA Isolation from Stabilized Samples

A. For stabilized tissue sample

1. Take the sample out of RNA safer™ II Reagent and cut proper amount. The remaining part could be put back to the storage. Remove RNA safer™ II Reagent from sample using forceps and weigh (without affecting intactness of RNA in weighing time). Cut the sample into small pieces for easier lysis.

2. Select an appropriate RNA isolation method.

For E.Z.N.A.™ Total RNA Miniprep Kit I (Product R6834), use 15-20 mg stabilized tissue and add 500 µl TRK Lysis Buffer.

For E.Z.N.A.™ Total RNA Kit II (Product R6934) or RNA-Solv™ Reagent kit (Product R6830), use 15-20 mg stabilized tissue and 1 ml RNA Solv™. The volume of TRK Lysis Solution or RNA could be adjusted according to the weight of tissue.

3. Follow standard protocols for E.Z.N.A.™ Total RNA Kits in user manuals.

B. For stabilized tissue culture cells or white blood cells

1. Centrifuge the cells at 5,000 x g for 5 min to remove the RNA safer™ II. Alternatively, add one volume of cold PBS or sterile water to the cells and then centrifuge as above.

2. Apply the sample to standard protocol in user manual for each kits.

For laboratory research use only.

CAUTION: *Not for diagnostic use. The safety and efficacy of this product in diagnostic or other clinical uses has not been established.*

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