RNA Protector

Catalog No.: B0019

Description

RNA stabilization is required for reliable gene expression analysis. Immediate stabilization of RNA in biological samples is very necessary, because changes of RNA occur after harvesting the samples due to specific and nonspecific RNA degradation as well as to transcriptional induction. Such changes need to be avoided for all reliable quantitative gene expression analyses, such as quantitative RT-PCR, microarray analysis, and other nucleic acid-based technologies.

The *EZ*Bioscience® RNA Protector reagent is an aqueous tissue storage reagent that rapidly permeates most kinds of tissues to stabilize and protect RNA in fresh samples. The reagent preserves RNA by simply submerging the samples into the RNA Protector reagent, for up to 1 day at 37 °C, 2 day at 15 ~ 25 °C, or 1 weeks at 2 ~ 8 °C, allowing transportation, storage, and shipping of samples without ice or dry ice. During storage or transport in RNA Protector, even at room temperature or 37 °C, the cellular RNA remains intact and undegraded. Tissues can be stored indefinitely in RNA Protector at -20 °C or below. So the stabilized samples can be analyzed at any time after the sample collection.

The *EZ*Bioscience® RNA Protector reagent is suitable for many kinds of animal tissues, including brain, heart, kidney, spleen, liver, testis, skeletal muscle, lung, and thymus. Some plant tissues with little or no wax may also be preserved in the RNA Protector reagent.

The *EZ*Bioscience® RNA Protector reagent is compatible with most RNA isolation methods such as TRIzol method, silica membrane binding based methods, and oligo(dT) selection of mRNA

Components

Components	B0019
RNA Protector	100 ml

Storage

Store the RNA Protector reagent at room temperature. Storage of the RNA Protector reagent at lower temperature may cause precipitation. Before using the reagent, dissolve the precipitate by incubating at 37 °C. If the crystals do not dissolve at 37 °C, loosen the cap slightly and heat the solution at a higher temperature (up to 65 °C), and mix periodically. Once the crystals have dissolved, divide the solution into smaller aliquots in case crystals re-form after cooling. Warming the solution in this way does not affect performance of the RNA Protector reagent.

Important Notes

Use RNA Protector with fresh tissues only; do not immerse frozen tissues in the RNA Protector reagent.

Store the fresh tissue in 5 ~ 10 volumes of RNA Protector.

To ensure rapid and reliable stabilization of RNA in the tissues, the sample must be cut into slices less than 0.5 cm thick.

The volume of RNA Protector can be determined as the following calculation:

A cube with 5 mm edge length is $(5\ mm)^3 = 125\ mm^3 = 125\ \mu l$ in volume. So 625 µl ~ 1.25 ml RNA Protector is needed.

Protocol

1. Determine the appropriate volume of RNA Protector for preserving the tissue according to the size of sample.
2. Cut the animal tissue into slices less than 0.5 cm thick. Perform this step as quickly as possible.
3. Completely submerge the tissue pieces in the tube containing the RNA Protector reagent immediately.
4. The tissue submerged in RNA Protector can be stored for up to 1 weeks at 2 ~ 8 °C, up to 2 days at 15 ~ 25 °C, or up to 1 day at 37 °C.
5. For long term storage, first incubate the tissue overnight in the reagent at 2 ~ 8°C. Then transfer the container with tissue immersed in the RNA Protector reagent to -20 °C or -80 °C.

Storage at -80 °C is recommended for archival samples and will provide optimal preservation. Samples can be stored at -80 °C indefinitely.

Storage at -20 °C can also be used for archival samples. The solution will not freeze at -20 °C, but crystals may form; this will not affect subsequent RNA isolation. Samples can be stored at –20°C indefinitely.

The *EZ*Bioscience® RNA Protector reagent is compatible with most RNA isolation methods. Before RNA purification, retrieve the tissue from RNA Protector with sterile tweezers, quickly blot away excess RNA Protector with an absorbent paper towel, and then submerge the sample in lysis solution for RNA isolation. Homogenize the tissue and perform the RNA purification.