RNA Stabilization solution (For research only)

KPG-RNAlater®: RNA Stabilization Solution is a powerful tissue storage reagent, which rapidly permeates most tissues to stabilize RNA in several fresh specimens. Using KPG-RNAlater® is associated with elimination of the need to immediately process or freeze the animal and plant samples.

Tissue samples, white blood cells (WBCs), cultured cells, bacteria, and yeast can be stored in the KPG-RNAlater® for extended periods under conditions where RNA degradation would normally take place rapidly. However, KPG-RNAlater® may not be effective for the tissues that are poorly penetrated by the solution, such as waxy plant tissue and bone.

Product Information

***Storage and* stability:** Store KPG-RNAlater® at room temperature. If any precipitation of KPG-RNAlater® is seen, heat it to 37°C and agitate to redissolve it.

***RNA isolation from*:** KPG-RNAlater® Solution is compatible with several RNA isolation methods. The sample`s RNA that are stored in KPG-RNAlater® Solution can be used successfully purified using with RNA isolation reagents, including KPG-RNK, RNX and TRIZOL reagents and column based RNA isolation kits, such as KPG-RNA isolation kit.

Guidelines for Use of RNAlater®

Use KPG-RNAlater® with fresh tissue only; do not freeze the samples before immersion in KPG-RNAlater®. Before immersion in KPG-RNAlater®, cut large tissue samples to ≤0.5 cm, while small organs such as mouse liver, kidney and spleen can be stored whole in KPG-RNAlater®.

Place the fresh tissue in 5 volumes of KPG-RNAlater®. Most samples in KPG-RNAlater® can be stored at room temperature for 1 week, at 4°C for 3 weeks and at –20°C or –80°C indefinitely.

Note: Do not freeze samples in KPG-RNAlater® immediately. To freeze the samples in the KPG-RNAlater®, firstly store at 4°C overnight (to allow the solution to thoroughly penetrate the tissue), then move to –20°C or –80°C for long-term storage.

Note: KPG-RNAlater® does not disrupt the structure of animal tissues; so, they can be removed from the solution, sectioned into smaller pieces, and returned to KPG-RNAlater®.

RNA isolation from stored samples in KPG-RNAlater®

***Animal Tissues*:** Retrieve tissue from KPG-RNAlater® using a sterile forceps, quickly blot away excess KPG-RNAlater® with an absorbent lab wipe or paper towel, and then submerge the sample in RNA isolation lysis solution. Please homogenize the animal tissue promptly after placing it in the lysis/denaturation solution.

***Cells (Cultured cells, WBCs)*:** There are two options for isolating RNA from cells stored in KPG-RNAlater®:

I. **Directly** use the samples for RNA extraction. Because of the greater volume that the cells are in, this method generally requires additional lysis solution.

II. **Removal of KPG-RNAlater®** prior to extraction. We recommend removing KPG-RNAlater® and washing the cells using KPG-RNALaterW® (KPG-RNALaterWa) solution before RNA extraction. Accordingly, add the same volume of **cold** KPG-RNALaterW® to the cells that were stored in the KPG-RNAlater® mix well and centrifuge at 5000 RPM for 5 minutes. Remove the supernatants and add same volume KPG-RNALaterW and then direct it for RNA isolation.