Gene Keeper RNA & DNA stabilization solution

Code No. 319-08901

Manual Ver. 1 (ND1912-en2401)

Introductions:

Gene Keeper RNA & DNA Stabilization Solution ("Gene Keeper") is a preservation solution for samples used in nucleic acid purification. Gene Keeper rapidly permeates collected samples such as tissues or cells and preserves nucleic acid integrity. Therefore, the samples can be stably stored until RNA or DNA purification.

Features.

- In Gene Keeper, samples can be stored for up to 2 days at 37°C, 2 weeks at 25°C, 1 month at 4°C, and 6 months at -20°C or -80°C.
- Gene Keeper at -20°C does not freeze easily and does not crystalize easily.
- Samples removed from Gene Keeper can be used for RNA or DNA purification without washing or wiping.
- Gene Keeper is suitable for transporting, dividing, and weighing samples stably without dry ice or liquid nitrogen.
- Contains no toxic substances.

Kit Contents:

Component	Quantity	Storage
Gene Keeper	100 ml x 1	Room temp.*

* For long-term storage, store the Gene Keeper at 4°C. Gene Keeper are stable for up to 12 months under refrigeration.

Required Materials Not Included.

- Storage containers or tubes
- Tweezers, scissors, scalpel, or needle
- Pipettors and pipette tips
- Electronic balance, Centrifuge for cell pellet, if necessary

Protocol:

Cut samples into slice less than 5 mm thick and submerge in 10 volumes of Gene Keeper. Incubate the sample at room temperature for 1 hour, occasionally mixing by inversion. The sample can be stored in Gene Keeper for up to 6 months at -20°C or -80°C.

After storage, remove the sample from Gene Keeper with tweezers and proceed to the RNA or DNA purification without washing or wiping.

Procedure: Harvested Animal Tissues (~100 mg)

1. Place 0.5-1 ml of Gene Keeper in a clean storage container on an electronic balance and tare it. Record its weight.

2. Immediately cut fresh tissue samples to a maximum thickness of 5 mm in any one dimension, allowing reagent to permeate more easily in the next step. Alternatively, make notches or puncture with a needle.

(Note) Please try a pilot run on a test sample first to determine the appropriate procedure treatment depending on your sample type.

(Note) Once a biological sample is harvested, its RNA becomes extremely unstable until the tissue is completely submerged in a sufficient volume of Gene Keeper. The procedure for tissue harvesting and RNA stabilization should be carried out as quickly as possible.

3. Submerge the sample into the Gene Keeper, weigh the tissue again. If the volume of Gene Keeper is less than 10 times of the sample weight, add more Geen Keeper. The minimum volume of Gene Keeper required varies depending on the sample type, so start with 10 times the amount of the sample.

(Note) Please try a pilot run on a test sample first to determine the appropriate volume of Gene Keeper depending on your sample type. Larger volumes can be used in necessary. Smaller volumes may lead to RNA degradation during storage.

4. Incubate the sample at room temperature for 1 hour. During incubation, gently mix by inversion every 15 minutes because the Geen Keeper around the sample is diluted by the released water from the sample.

(Note) Do not freeze samples in Gene Keeper immediately; store at room temperature for 1 hour to allow the solution to thoroughly penetrate the tissue.

(Note) Animal tissue that has been stored in Gene Keeper can be removed from the solution, diced into smaller pieces, and returned to Gene Keeper if desired.

5. Store the sample in Gene Keeper at the appropriate temperature. The sample can be stored in Gene Keeper for up to 2 days at 37°C, 2 weeks at 25°C, 1 month at 4°C, and at least 6 months at -20°C or -80°C.
(Note) Lower temperature is recommended for longer storage.

6. Remove the sample from Gene Keeper with tweezers and proceed to the RNA or DNA purification. If necessary, dilute the Gene Keeper by adding an equal volume or more of water to reduce viscosity of the solution, then remove the sample from the solution. There is no need to wash or wipe the sample.
(Note) When extracting RNA using a single reagent, e.g., ISOGEN, make sure that the Gene Keeper content is less than 5% of the final reagent volume (not including sample volume).

Procedure: Cultured Cells (~10^6)

1. Pellet cells by centrifugation according to the protocols followed by your laboratory. If necessary, the cells can be washed with PBS.
(Note) Please try a pilot run on a test sample first to determine the appropriate procedure treatment depending on your sample type.

2. Remove supernatant and add 0.7-1 ml of Gene Keeper into up to 1 x 10^6 cells. Immediately suspend the pellet in the Gene Keeper.
(Note) Please try a pilot run on a test sample first to determine the appropriate volume of Gene Keeper depending on your sample type. Larger volumes can be used in necessary. Smaller volumes may lead to RNA degradation during storage.

3. Store the sample in Gene Keeper at the appropriate temperature. The sample can be stored in Gene Keeper for up to 2 days at 37°C, 2 weeks at 25°C, 1 month at 4°C, and at least 6 months at -20°C or -80°C.
(Note) If stored frozen, store at room temperature for a few minutes to allow the solution to thoroughly penetrate the cells, then store the sample in freezer.
(Note) Lower temperature is recommended for longer storage.

4. Resuspend the cells stored in Gene Keeper, transfer the required amount into a separate tube. Dilute the Gene Keeper by adding an equal volume or more of water to reduce the density of the solution, then centrifuge to pellet cells and remove the supernatant.

(Note) Be sure to remove the cells from Gene Keeper prior to disruption and homogenization in the RNA or DNA purification procedure.

(Note) When extracting RNA using a single reagent, e.g., ISOGEN, make sure that the Gene Keeper content is less than 5% of the final reagent volume (not including sample volume).

Companion Products:

Tissue stored in Geen Keeper is compatible with most RNA/DNA isolation methods, including single reagent isolation products like ISOGEN and column purification products like ISOSPIN series.

RNA Purification Kit	Code No.	Sample
ISOGEN II	311-07361	Tissue, Cell
ISOGEN	311-02501	Tissue, Cell
ISOGEN-LS	311-02621	Liquid sample
ISOSPIN Cell & Tissue RNA	314-08211	Tissue, Cell
ISOSPIN Plant RNA	310-08171	Plant
DNA Purification Kit	Code No.	Sample
ISOSPIN Tissue DNA	311-07361	Tissue
ISOSPIN Blood & Plasma DNA	312-08131	Blood, Plasma
ISOSPIN Plant DNA	310-08171	Plant

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