



INSTRUCTION

MANUAL

RNAstabil

Stabilization and Storage Solution

IB47306

IB47307

IB47308

Important Safety Information

- Please read this manual carefully before using your new IBI RNastabil Solution
- Please read SDS (Safety Data Sheet) prior to use, follow RNastabil handling instructions within
- Please wear appropriate protective eyewear, clothing, and gloves during use
- To avoid possible injury, this product should only be used for its intended purpose

Unpacking & Storage

Thank you for purchasing this IBI SCIENTIFIC RNastabil Solution product!

NOTE: Carefully inspect all items in the package to insure no items are broken or missing. If there are items broken, please inspect the package carefully for signs of shipping damage. If there is ANY sign of shipping damage, please contact the carrier and file a claim with them immediately. Contact the distributor from which you purchased the item or IBI Scientific directly for assistance at (800) 253-4942 or (563) 690-0484.

You may store RNastabil Solution at room temperature, 22–25°C. Shelf life of RNastabil Solution at room temperature is 2 years. If precipitation of RNastabil occurs, warm product to 37°C with agitation to dissolve it. When precipitate is redissolved the RNastabil Solution is ready to use.

Overview

RNastabil is an aqueous, nontoxic tissue RNA stabilization and storage matrix that rapidly permeates tissues to stabilize and protect cellular RNA. Tissue samples can be harvested and submerged in RNastabil for storage without jeopardizing the quality of RNA obtained following RNA isolation. RNA stabil can be used for RNA preservation with most tissues, cultured cells, bacteria, and yeast. The amount of RNastabil used should be 5–10 times the volume of the sample. It will not be as effective in any sample that is difficult for the solution to permeate. RNastabil solution has been tested with animal tissues, including brain, heart, kidney, spleen, liver, and lung. It is also effective for RNA preservation in white blood cells and some plant tissues as well.

Benefits

- Protects RNA in fresh tissue samples
- Allows sample handling at room temperature
- Field collection of samples without cold chain
- Flexible tissue collection and transport
- Reliable RNAseq data
- Rapid RNase inactivation
- Compatible with animal tissue, cultured cells, bacteria, yeast

Sample Storage

Sample Condition	Protection*
Room temperature (15–25°C)	7–14 days
Refrigeration (2–4°C)	2 months
Frozen (-80°C)	> 1 year

*Average RIN values of ≥ 7

Specifications

- Stabilizes RNA in fresh tissue samples for 7 to 14 days at room temperature, 15–25°C
- Suitable for protecting RNA from cell lines, whole blood, fresh tissue, and FFPE tissues.
- Compatible with all downstream RNA purification kits
- Tissue sample size should not exceed 0.5mm by 0.5mm by 0.5mm
- Typical RIN values will be ≥ 7 after 7 days at room temperature (15–25°C)

For use with Cultured Cells

Pellet cells according to the protocols followed by your laboratory. Remove supernatant and then add 5–10 volumes RNAlater Solution. The cells can be washed in PBS before resuspending in RNAlater Solution, if desired.

RNAstabil Workflow w/ Stabilization Step

- Step 1:** Organs are freshly harvested and a small sample, no larger than 0.5mm by 0.5mm by 0.5mm is immediately placed into 0.625–1.0ml of RNAstabil Solution. Make sure the tissue sample is completely submerged in the solution. The thinner a tissue sample is the faster the RNAstabil Solution can permeate the tissue and protect the RNA.
- Step 2:** Place the sample tube into the refrigerator (+4°C) overnight, approximately 14 hours. This allows the RNAstabil Solution to fully permeate the sample and protect the RNA. IF refrigeration is unavailable, keep the sample tube in an ice bucket.
- Step 3:** Once the sample has been stabilized overnight, the tissue sample in RNAstabil is now stable at room temperature for 7–14 days.
- Step 4:** Proceed to RNA extraction. Remove the tissue sample from the RNAstabil Solution, blot the tissue sample to remove excess solution and immediately begin RNA extraction, following the instructions from your purification kit of choice. IBI has 3 great choices available and in stock today!
- 1) MINI Total RNA Kit (Tissue) – IBI Part# IB47300 (4 Prep Kit), IBI Part# IB47301 (50 Prep Kit), IBI Part# IB47302 (100 Prep Kit)
 - 2) IBI Isolate Total Extraction Kit – IBI Part# IB47600 (4ml Kit), IBI Part# IB47601 (100ml Kit), IBI Part# IB47602 (200ml Kit)
 - 3) IBI Tri-Isolate RNA Pure Kit – IBI Part# IB47630 (4RxNs), IBI Part# IB47631 (100RxNs), IBI Part# IB47632 (200RxNs)
- *Protocols are available online at www.ibisci.com!

RNAstabil Quick Ambient Workflow

RNAstabil Quick Ambient Workflow When field collection makes it difficult to stabilize the sample at +4°C in RNAstabil and an ice bucket is not an option, the 4°C stabilization step may be omitted and the samples immediately shipped or transported to the laboratory. Without the stabilization at 4°C for 14 hours the RNA in the tissue samples is protected for up to 7 days and will still on average, have a RIN value of ~7, and yield excellent RNAseq results. After 7 days these samples should be frozen for longer storage.

- Step 1:** Organs are freshly harvested and a small sample, no larger than 0.5mm by 0.5mm by 0.5mm is immediately placed into 0.625–1.0ml of RNAstabil Solution. Make sure the tissue sample is completely submerged in the solution. The thinner a tissue sample is the faster the RNAstabil Solution can permeate the tissue and protect the RNA.
- Step 2:** The tissue sample in RNAstabil is now stable at room temperature for 7 days. After 7 days freeze the sample.
- Step 3:** Proceed to RNA extraction. Remove the tissue sample from the RNAstabil Solution, blot the tissue sample to remove excess solution and immediately begin RNA extraction, following the instructions from your purification kit of choice. IBI has 3 great choices available and in stock today!
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WARNING: RNAstabil Solution is known to react with hypochlorite solutions, such as common bleach. The reaction releases toxic chlorine gas, and is violent enough to generate heat. Similar reactions are expected from other oxidizing agents. If you suspect that samples may contain hypochlorite do not use RNAstabil solution.

Performance

RNAstabil Solution	Performance
RNA Quality	RIN > 7 for samples stored at room temperature for 7 days RIN > 6.5 for samples stored at room temperature for 14 days Stable RIN when frozen at 20°C for numerous years
Solution	Non-toxic, aqueous solution safe for transport and shipping
Shelf Life	3 years at room temperature
Tissue Types	Any soft tissue cut to 0.5mm maximum width



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