RNA stable®

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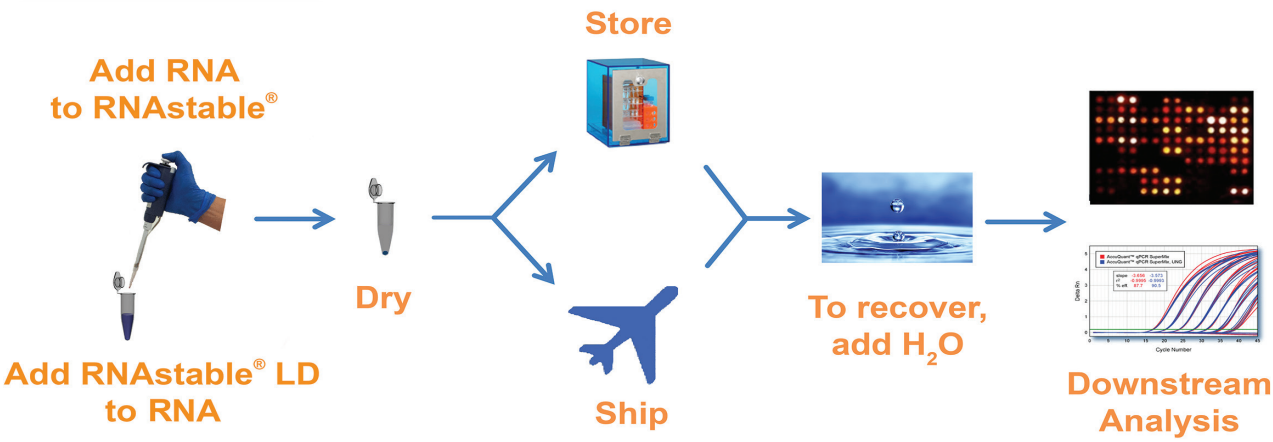
# RNAstable

## Ambient temperature RNA stabilizer

- **Preserves** RNA at ambient temperature without degradation
- **Eliminates** the need to ship RNA with dry ice
- **Concentrates** RNA superior to any other methods
- **Proven** technology used in labs worldwide

**Dry Format**




**Liquid Format**

RNAstable allows you to store your RNA for up to **12 years*** **at room temperature**.

**Based on accelerated aging studies; 2.5 years based on "real-time" studies*

**Recovered samples are compatible with downstream applications:**

- RT-PCR and RT-qPCR
- RNA sequencing
- Total RNA, microRNA (miRNA) and poly(A) mRNA analysis
- Array technologies such as Affymetrix® and Agilent® platforms

**Simple Protocol.**

**Protects total RNA, mRNA & miRNA.**

**Liquid format enables automated workflows.**

**Avoids sample loss due to freeze/thaw cycles.**

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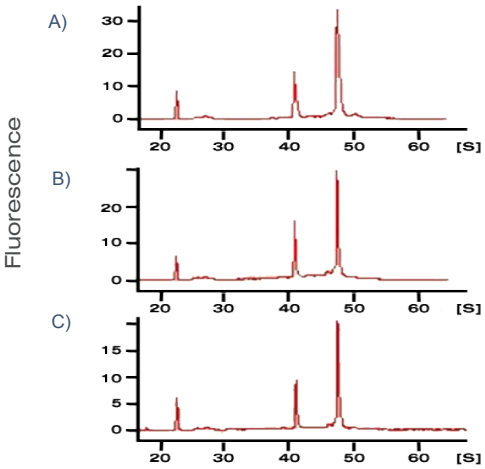
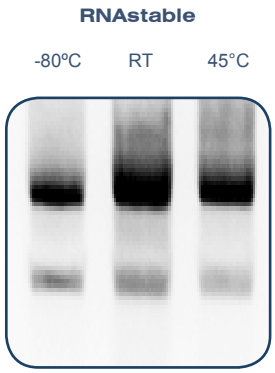
## Long-term Stability and Sample Integrity.

RNAstable protects total RNA, mRNA and miRNA. Samples can be safely stored for **12 years at room temperature and protected from degradation.**




**ABOVE** Results from Agilent 2100 Bioanalyzer indicate no detectable degradation of samples stored in RNAstable for 29 months at room temperature (graph B), as compared to -80°C freezer control samples (graph A) and with accelerated aging (graph C) at **45°C for 29 months** (equivalent to RNA stored in RNAstable for **12 years at room temperature).** The unprotected control sample stored at RT degraded after 3 months.




**ABOVE** Lane 1- RNA Samples stored in a -80°C freezer. Lane 2- Samples stored in RNAstable were protected from degradation for 29 months at room temperature. Lane 3- RNA samples stored in RNAstable at 45°C for 29 months (equivalent to RNA stored in RNAstable for **12 years at room temperature).** The unprotected control sample stored at RT degraded after 3 months.

### From Nature to the Lab.

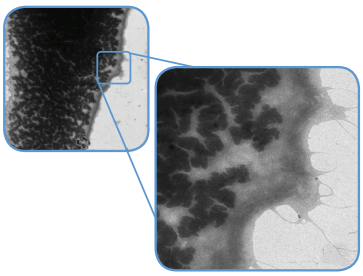
RNAstable is based on the natural principles of anhydrobiosis ("life without water"), a biological mechanism employed by organisms such as tardigrades and brine shrimp that enables their survival while dry for up to 120 years. Anhydrobiotic organisms protect their DNA, RNA, proteins, membranes and cellular systems, and can be revived by rehydration. By exploiting these unique characteristics, RNAstable preserves total RNA dry at ambient temperatures. RNAstable works by forming a glass-like shell, securely "shrink-wrapping" RNA samples and protecting against degradation.

Total RNA preserved in RNAstable at room temperature is perfectly suitable for microarray analysis without additional purification steps.

| Storage condition | Background | Noise | % Present | GAPDH (3'/5' ratio) | ß-actin (3'/5' ratio) |
|---|---|---|---|---|---|
| RNAstable (RT) | 37.3 ± 1.6 | 1.6 ± 0.2 | 59.3 ± 1.0 | 1.14 ± 0.06 | 4.22 ± 0.71 |
| Control (-80°C) | 37.4 ± 1.6 | 1.7 ± 0.1 | 59.4 ± 1.3 | 1.10 ± 0.06 | 4.10 ± 0.20 |

**ABOVE** Results from GLYCOv3 microarrays (built by Affymetrix for the Consortium of Functional Glycomics) scanned using Affymetrix ScanArray 3000. The number of present and absent calls and the average signals intensity did not reveal any significant differences between samples stored frozen or those maintained at room temperature in RNAstable for 14 days. Data kindly provided by Dr Steven R. Head, The Scripps Research Institute (Biotechniques, 47 : 667-670, 2009).

**BELOW** Electron micrograph of the RNAstable protective barrier shows the thermo-stable, glass-like shell that forms around nucleic acid molecules to stabilize and prevent degradation at room temperature.



## RNAstable is available in the following formats:

| PRODUCT | CATALOG NO. | CONTAINS |
|---|---|---|
| RNAstable Trial Kit | 93220-001 | (3) Tubes RNAstable, (1) Tube Sterile Water, (1) resealable sample pouch |
| RNAstable Tube Kit | 93221-001 | (25) Tubes RNAstable, (1) Tube Sterile Water, (2) resealable sample pouches |
| RNAstable Tube Kit | 93221-011 | (75) Tubes RNAstable, (3) Tube Sterile Water, (6) resealable sample pouches |
| RNAstable 96-well Plate | 90220-001 | (1) 96-well Plate, (2) Tubes Sterile Water, (1) resealable sample pouch |
| RNAstable LD | 53201-013 | 2 mL |
| RNAstable LD | 52201-013 | 10 mL |

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