

Technical Note

GenTegra[®]-RNA Sample Evaluation Plan

GenTegra-RNA

Overview

This technical evaluation plan may be used as a guide for accelerated stability testing using GenTegra-RNA tubes in the dry state.

Required Items

The GenTegra-RNA Sample evaluation uses the following items:

- Three GenTegra-RNA tubes
- Your RNA samples

Before You Begin

1. Download a copy of the GenTegra RNA user manual at www.gentegra.com/Library
2. Select an RNA sample to use for evaluation .
 - For best results, quantitate the RNA sample and run on a gel or examine via Bioanalyzer to check quality before you apply to GenTegra Tubes.
 - GenTegra RNA tubes can accommodate between 1-20 µg of RNA in a volume of 20-50 µL.
3. Prepare four aliquots of your sample, three applied to GenTegra RNA tubes and one stored frozen as a control in your typical tube.
4. Choose an accelerated* testing program, depending the amount of time available for evaluation and need for long-term stability data. Store your control RNA at the temperature of your choice.

Programs

Program 1: One week evaluation

- Aliquot 1 - GenTegra tube, **dry state**, one week at room temperature (25°C)
- Aliquot 2 - GenTegra tube, **dry state**, one week at 37°C (equivalent to two weeks at 25 °C)
- Aliquot 3 - Frozen control, one week at -80 °C

Program 2: Two week evaluation

- Aliquot 1 - GenTegra tube, **dry state**, two weeks at room temperature (25°C)
- Aliquot 2 - GenTegra tube, **dry state**, two weeks at 37°C (equivalent to four weeks at 25 °C)
- Aliquot 3 - Frozen control, two weeks at -80 °C

Program 3: One month evaluation

- Aliquot 1 - GenTegra tube, **dry state**, one month at room temperature (25°C)
- Aliquot 2 - GenTegra tube, **dry state**, one month at 37°C (equivalent to two months at 25 °C)
- Aliquot 3 - Frozen control, one month at -80 °C

Accelerated Stability Formulas

* Accelerated stability formulas are based on temperature dependence of rate-limiting oxidative damage.

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stores RNA samples at up to 76°C to demonstrate long term stability.

- 1 day at 37°C is equal to two days at 25 °C
- 1 day at 56°C is equal to eight days at 25 °C. Do not use TRIS buffers at this temperature.
- 1 day at 76°C is equal to 32 days at 25 °C. Do not use TRIS buffers at this temperature.

References

- *Nucleic Acids Research* (2002) 30:1354-1363
- *Nature* (1993) 362:709.715

Technical Evaluation

For Dry Study

1. Apply RNA to GenTegra tubes and dry according to the protocol described in the user manual.
2. Store RNA at indicated temperatures for appropriate length of time.
Room temperature samples may be left on your bench top.
3. Elevated temperature studies should be conducted using dry ovens set at the appropriate temperatures.
4. Following the storage period, recover RNA according to the protocol described in the user guide and use for downstream analysis. <http://www.gentegra.com/library/>

Downstream Analysis

1. Remove your control aliquot from the freezer and run alongside the samples recovered from GenTegra in each type of analysis.
2. Quantitate your RNA and run on a gel or examine via Bioanalyzer to assess yield and integrity.
You should also analyze your RNA control using the same methods.
3. Use recovered RNA for a downstream application of your choice to assess quality and purity.

For further information or support:

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