
SOP for GenTegra RNA Use for Collaborators

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Purpose:

GenTegra RNA product use is for stabilizing your RNA samples and protecting them for dry shipment without dry ice. Your samples will be reconstituted at the JGI. Use of RNA GenTegra is only when you can't ship your RNA samples in liquid format, or are restricted from shipping on dry ice. You must have prior approval to ship your samples treated with RNA GenTegra. You must ship your samples treated and DRIED.

Important notes prior to using RNA GenTegra:

- 1.) *Before you use GenTegraRNA, make sure that you have received approval from the JGI Project Management Office, and that you have received a set of labels for your GenTegra treated samples from the JGI to apply to the GenTegraRNA treated tubes.*
- 2.) *The JGI does **NOT** support GenTegra treated RNA in the **LIQUID** format.*
- 3.) *The JGI does **NOT** support **PLATE** format at this time.*
- 4.) *You will need to contact GenTegra to order supplies.*
- 5.) *Please contact GenTegra to order 0.5 mL screwcap microtubes containing the translucent drying compound.*
- 6.) *It is recommended to test GenTegra RNA on a small amount of your sample.*

GenTegra company information and supplier:

For ordering GenTegra RNA tubes (**0.5 mL screwcap microtubes**) contact either orders@gentegra.com or sales@gentegra.com

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For GenTegra RNA product information and user guide:

Product

sheet: <https://gentegra.com/wp-content/uploads/2022/07/GentegraFlyerRNAV4af.pdf>User

guide: https://gentegra.com/wp-content/uploads/2022/11/GenTegraRNA-User-Guide-v1_2022-Nov1.pdf

Protocol: Sample Drying and Storage:

1. Purchase GenTegra RNA **0.5 mL screwcap microtubes** directly from GenTegra by contacting either orders@gentegra.com or sales@gentegra.com

2. **The JGI recommends that you test your sample first using GenTegra RNA on a small aliquot of your sample**

3. Determine the amount of purified RNA ($\mu\text{g}/\text{mL}$) in the sample and calculate the amount to be added into the preGenTegra tubes, (*taking into account that when your sample arrives at the JGI, it will be rehydrated in 25 μL of nuclease-free water*)

Note: The maximum concentration when reconstituted into 25 μL of water should be no more than 800 ng/ μL .

Note: RNA should be resuspended in *nuclease-free water* prior to adding to the GenTegra RNA tube.

4. Label your GenTegra RNA treated tube with the label provided by the JGI.

5. Apply up to 20 μg of RNA in 20-50 μl to GenTegra RNA tube. To ensure complete mixing of RNA and the GenTegra-RNA, apply a minimum volume of 20 μL . For concentrated samples you can add water to a final volume $\leq 50 \mu\text{L}$, taking into consideration that the maximum concentration should be $\leq 800 \text{ ng}/\mu\text{L}$ when reconstituted in 25 μL of water.

6. Incubate for 5 minutes at room temperature (21-25°C).

7. Mix by gently pipetting up and down 10 times to solubilize and mix in the GenTegra matrix.

Note: GenTegra RNA is supplied as a transparent coating at the bottom of each GenTegra RNA Tube.

8. Leave the tube open for drying. Drying should occur at room temperatures (20°C–25°C) **with no added heat**. Ensure that your RNA sample is **completely dry**.

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Please note that the drying times will vary based on your volume. The following table are only recommendations and are approximate. Please check your sample frequently.

Recommended Drying Times at Room Temperature:

Sample Volume	Drying times with SpeedVac (no heat)
20 μ L	~2 hours
21-50 μ L	~2-4 hours

*** For a 40 μ L sample drying time in speed vac with no heat was about 1 hour at the JGI during the testing phase.**

9. Tightly recap sample tubes after drying and ensure that your sample is labeled. Store and/or ship at room temperature.

Shipping Instructions:

1. Confirm approval from JGI Project Management Office, to ship GenTegra treated RNA sample/s.
2. Before using GenTegra RNA, wait for both your JGI shipping approval e-mail and your set of labels to be sent to your lab.
3. Label your GenTegra treated samples with the JGI labels you receive from the JGI.
4. Dry down your sample/s in the GenTegra RNA labeled tubes.
5. Ship your dried sample/s in the GenTegra tubes in SECONDARY containment for protection and to keep samples together.
6. Ensure that the box for GenTegra RNA is checked on the JGI shipping checklist, with the number of treated tubes you are sending.
7. Ship sample/s with a copy of both the JGI shipping email and shipping checklist.

Additional Information

For a summary of the in-house testing and results performed at the JGI please contact your Project Manager.

GenTegra RNA treated samples offers a way to store RNA samples for long term, without degradation, and ship dried RNA samples at ambient temperature. Our procedure is directly from GenTegra online procedure and referenced here. An online handbook is available at:

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https://gentegra.com/wp-content/uploads/2022/11/GenTegraRNA-User-Guide-v1_2022-Nov1.pdf

GenTegra RNA preserves RNA samples at room temperature. For optimal recovery do not exceed 20ug in a tube.

GenTegra RNA is a dissolvable stabilizer, that forms a protective coating around the RNA. The sample must then be completely dried for maximum protection and stability for storage at ambient temperatures prior to shipping the sample. GenTegraRNA stops RNA degradation at the source by stopping RNase activity as soon as it is added to the RNA solution. GenTegraRNA also prevents hydrolysis and oxidation.

Supplies:

(Please note JGI does not support plate format at this time)

1. GenTegra RNA **0.5 mL screwcap microtubes** (GTR5025-S (Trial kit); GTR5100-S; GTR5100-NL; GTR5003-S (Evaluation kit)) can be purchased from GenTegra directly by contacting either orders@gentegra.com or sales@gentegra.com
2. Nuclease-free water

Change History:

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