

Sample Preparation with DNAstable Plus

PLEASE NOTE: Before you use DNAstable Plus, make sure that you have received approval from the JGI Project Management Office and that you have received your pre-barcoded, labeled Matrix tubes in which to ship your samples to the JGI. We do **not** accept any tubes other than the pre-barcoded labeled Matrix tubes. Please note JGI does not support DNAstable Plus in plate format at this time.

Protocol: Sample Drying and Storage

Note: The JGI recommends that you test your sample first using DNAstable Plus on a small aliquot of your sample. It is important that your DNA sample is free from any DNases, and very pure, to prevent sample degradation.

1. Determine the amount of purified DNA ($\mu\text{g}/\text{ml}$) in the sample and calculate the amount to be added into the pre-barcoded Matrix tubes, (taking into account that when your sample arrives at the JGI, it will be rehydrated in 25 μL of 1X TE; pH8.0).

Note: DNA should be resuspended in 1X TE; pH8.0 prior to adding DNAstable Plus.

2. Using the pre-barcoded, labeled Matrix tubes sent from the JGI, add 25% (Vol:Vol) of DNAstable Plus reagent to each DNA sample up to 50 μg for optimal recovery. For optimal sample protection and recovery, do not exceed 50 μg .

3. Mix the sample thoroughly with gentle pipetting (avoid forming air bubbles).

4. Leave the tube open to dry overnight in laminar flow hood. For accelerated drying, please use a vacuum with no heat to ensure complete sample drying (e.g. SpeedVac).

5. Drying should occur at ambient laboratory temperatures (20°C–25°C) with relative humidity below 50%. It is critical that your DNA sample is **completely dry**.

Recommended Minimal Drying Times at Room Temperature:

Sample Volume	Drying times with SpeedVac (no heat)
5 μl	10 minutes
11 μl - 20 μl	30 minutes
21 μl - 50 μl	45 minutes
125 μl - 150 μl	75minutes

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6. Tightly recap sample tubes (pre-barcoded, labeled Matrix tubes) after drying and store at room temperature in a sealed moisture barrier foil bag (ordering information below). DNASTable Plus is sensitive to humidity. Therefore it is critical to maintain stored samples in an environment with relative humidity below 50%.

Shipping Instructions

Before using DNASTable Plus, wait for **both** your JGI shipping approval e-mail and your pre-barcoded, labeled Matrix tubes to be sent to your lab.

1. Confirm approval from JGI Project Management Office to ship DNASTable Plus-treated sample/s.
2. Dry down your sample/s using **only** the JGI pre-barcoded, labeled Matrix tube/s shipped to you after obtaining approval.
3. Ship your dried sample/s in a sealed moisture barrier foil bag with dessicant.
4. Please use a secondary container to protect your sample/s.
5. Ensure that the box for DNASTable Plus is checked on the JGI shipping checklist, including the number of treated tubes (pre-barcoded, labeled Matrix tubes).
6. Ship sample/s with a copy of both the JGI shipping email and shipping checklist.

Additional Information

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

DNASTable Plus offers a way to store DNA samples for the long term without degradation and to ship dried DNA samples at ambient temperature in a moisture-sealed bag. Our procedure comes directly from Biomatrix's online procedure and is referenced here:

<http://www.biomatrix.com/media/dnastable%20Plus/3001-0313.pdf>

DNASTable® Plus is a liquid comprised of a mixture of dissolvable stabilizers. The medium forms a protective coating around DNA. The sample must then be completely dried for maximum protection and stability for storage at ambient temperatures prior to shipping the sample.

Supplies:

DNASTable Plus supplies can be purchased at <http://www.biomatrix.com/dnastable.php>

DNASTable® Plus: 2mL: 53091-016

10mL: 52091-026

Moisture barrier foil bags: 14001-007

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