

PACBIO® GUIDELINES FOR DNA SHIPPING AND HANDLING

Listed third-party products are not officially endorsed by PacBio and are provided only as possible options.

Prior to shipping, please ensure that high-quality, high-molecular-weight DNA has been extracted. We recommend that heat exposure to DNA be minimized or eliminated during DNA extraction and transport. For example, incubation at 37° C for 1 hour has been shown to cause DNA damage that may result in impaired sequencing performance. Lyophilized DNA may also be used as long as heat is not applied during the process.

For shipping, freezing DNA samples is recommended. Adding [DNAstable® Plus \(Biomatrix\)](#) preservative to samples is recommended prior to shipment on dry ice to help minimize breakdown during transport, particularly liquid samples shipped overseas, or in situations where the environment is uncontrolled. DNAstable Plus preservative will not affect SMRTbell™ library preparation.

Shipment with dry ice can sometimes be a challenge for long transports due to evaporation or shipping regulations. An alternative is to use cold packs (e.g., ice (-4° C) or gel (-20° C)) depending on the number of DNA samples and duration of transport. When an ample quantity of cold packs is used in a Styrofoam® box, samples will remain at a sufficiently low temperature until arrival (assuming no delays in transport).

If DNA samples are shipped in tubes, they should be capped tightly to prevent accidental spillage or cross contamination. Sealing tops by wrapping Parafilm® wrap as an additional safeguard is recommended. Please ship DNA samples in secondary containment to prevent tubes from breaking or cracking.

Submission of samples in 96-well, fully skirted plates is also acceptable, provided that plates are appropriately sealed and placed in secondary containment (e.g., a cardboard freezer box). Customers should ensure each well is tightly sealed to withstand shipping conditions and avoid accidental spillage or cross contamination.

The following are available for sealing plates for shipping:

- MicroAmp® Clear Adhesive Films ([Life Technologies, Cat. #4306311](#))
- MicroSeal® 'F' Foil ([Bio-Rad, Cat. #MSF-1001](#))
- Adhesive foil seal ([Beckman Coulter, Cat. #BK538619](#))

Freeze the sealed plate in a secondary containment (e.g., a cardboard freezer box) at -20° C prior to shipment with dry ice. Do not ship plates without secondary containment as these may crack when placed directly on dry ice.

Please check for sufficient dry ice at the top, bottom, and sides of the container with the plate (e.g., cardboard freezer box). Overloading of dry ice is encouraged. If a shipment contains multiple plates, please ensure there is padding between the plates to prevent seal punctures. Pack plates snugly to minimize shifting or jostling during shipment.

Finally, when using courier companies, ensure that the receiving lab's correct contact information has been provided, including the phone number of the point of contact. Provide the courier company's tracking number and phone number to the receiving party so they can track delays or mishandling of sample delivery. For overseas shipping, schedule your shipments to go out early in the week (e.g., Monday or Tuesday) for arrival on a weekday. Minimize weekend package deliveries since they may be left unattended in uncontrolled environments.

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