DAICEL arbor biosciences

SAMPLE PREPARATION GUIDE

myReads® Sample Preparation Guide

Please follow the instructions below carefully when planning your project and preparing, packaging, and shipping your samples. Shipments that do not follow these guidelines may result in sample loss/degradation during shipment, may be refused or destroyed at customs, and/or may not be eligible for any applicable service outcome commitment(s).

NEVER SHIP IRREPLACEABLE MATERIALS

SAMPLE QUALITY REQUIREMENTS

Table 1. DNA, RNA, and Libraries

	Standard DNA	Degraded DNA	Ancient DNA	Long Insert DNA	Standard RNA	Illumina-ready Libraries
Total mass (ng)	> 500 ng	>10 ng	Any	> 5000 ng	> 250 ng (> 2500 ng for depletion)	> 1000 ng
Modal fragment length	> 10 kbp	Any	< 1 kbp	> 10 kbp	n/a	Any
EDTA concentration	2 mM maximum					
UV 260:230	1.7-1.9	Any	Any	1.7-1.9	1.9-2.1	Any
Bioanalyzer (or similar) trace	Yes	Optional	Optional	Yes	Yes	Yes

Table 2. Tissues

	Plant	Ancient DNA Soft Tissue	Fresh Tissue
Mass	Maximum 80 mg fresh or frozen material	10-100 mg per sample	10-100 mg per sample
Format	Preferred: sliced into small pieces		
Labelling	Tubes clearly labeled on top and side. No holes.		
Recording	Weight of each sample must be recorded on submission form		

Preparation & Packaging

- Required format for all DNA samples and libraries:
  - Dried down fully (see Appendix 1: myReads Sample Drying Guide)
  - Placed in adhesive-sealed, colorless, skirted or half-skirted 96-well plate
  - Protect in a covered plate rack, if possible
  - Ship at room temperature (no ice needed)
  - *Ancient DNA – Contact us if an exception to shipping dried is required (only for Ancient DNA – no exceptions will be granted for Standard, Degraded, or Long Insert samples)*

- Required format for all RNA samples:
  - May be sent in liquid form. 100 uL volume MAXIMUM
  - Placed in adhesive-sealed, colorless, skirted or half-skirted 96-well plate
  - Protect in a covered plate rack, if possible
  - Use copious dry ice in styrofoam
  - Can send dried or at room temperature in RNA Stabilizer

Make sure to:

- Clearly label all samples in black marker on lid and side
- Indicate well positions (in plate) on Sample Submission Form in format "P1-A1"
- Package materials so that seals cannot be pierced and wells/tubes cannot be crushed in transit (e.g., wrap in bubble wrap or similar cushioning)
- Include a signed and dated copy of the appropriate Submission Form and email a spreadsheet copy to service@arbor.daicel.com
- Write your myReads Project ID on the outside of the box

Samples not packaged in this fashion will be shipped back to the return address.

Documentation & Shipping

- Include a printed and signed copy of the Sample Submission form
- International shippers (outside of USA):
  - Identify any export and import permits necessary for your species and inform Daicel Arbor Biosciences before shipment
  - Indicate "non-hazardous" as well as the type of ice used in both the item description and the Proforma Invoice
  - On institutional letterhead, include a document containing the following:
    - Species of origin
    - Whether or not the specimen is being used to study any agriculture disease or pest
    - An accurate invoice/packing list accounting for all vials that also includes the name of the responsible scientist sending the materials
    - This paragraph, modified as appropriate:

      "Non-hazardous, sterile DNA from {species}{common name}, suspended in {solution type} in plastic tubes. For scientific analysis only. NON-INFECTIOUS, NON-HAZARDOUS, NOT PATHOGENIC, NOT AN ETIOLOGIC AGENT. Contain no known pathogens or viruses and are not hazardous to human health. Not a biohazard and in case of damage will not affect other organisms. Safe for air transport and all substances comply with applicable regulations. End use for laboratory research purposes only. No monetary value."

Failure to include these descriptions with international shipments can result in unexpected and potentially harmful delays in customs.

- **Ship to:**

Daicel Arbor Biosciences
myReads c/o Jennifer Klunk
5840 Interface Drive, Suite 101
Ann Arbor, MI, 48103
USA

+1 734 223 5014
service@arbor.daicel.com

SAMPLE DRYING GUIDE

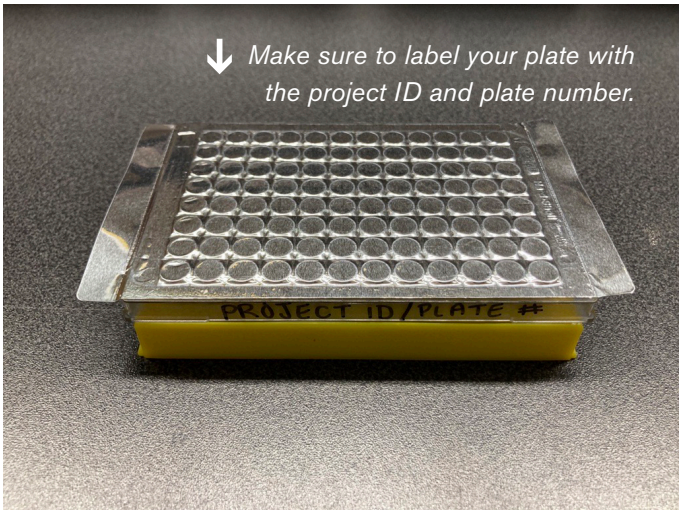
myReads® Sample Drying Guide

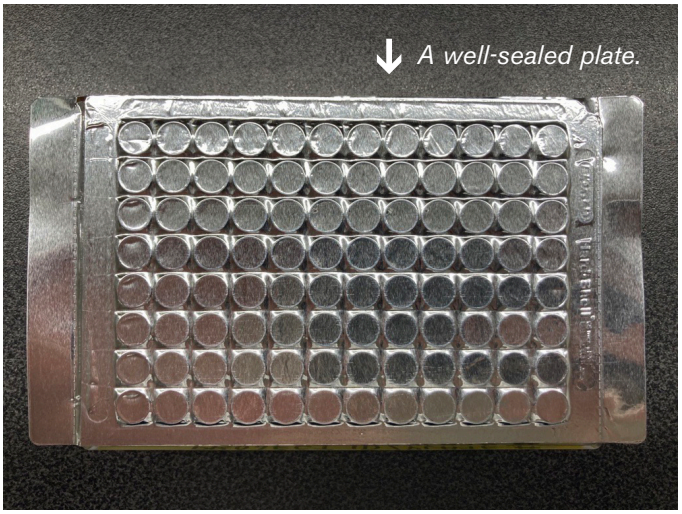
Please follow the instructions below carefully when preparing your DNA samples for submission.
Samples which do not meet these requirements will not be processed and may incur additional fees.

What: All DNA submissions are required to be fully dried and in plate format.

Why: Samples that are in liquid format (even if frozen) are vulnerable to thawing, and potentially splashing, resulting in cross contamination. If samples are in liquid format and a well is crushed during the journey, the samples will leak out and be lost. With dried samples, there is a chance for recovery from a damaged tube/plate. Dried nucleic acids are typically stable at room temperature for several months and can survive an extended delay due to customs holds/shipment errors/etc. The reason we ask for samples to be dried is because we want them to arrive safely!

How: Below, we suggest three options for drying . Other methods are acceptable as long as your plate is full- or semi-skirted and your seal is an adhesive foil. *(Pro-tip — make sure you press thoroughly around and between the wells when you seal the plate!)*





Suggested plastics/consumables:

- 96-well clear semi-skirted plate: Bio-Rad, catalog number HSS9601 | Purchase Here
- Adhesive foil seal: VWR, catalog number 60941-076 | Purchase Here

Three Options for Drying

1. Vacuum centrifugation (vacuum concentration):
   - *Suggested vacuum concentrator protocol:* Time for drying will vary based on starting volume and equipment. For standard/fresh samples: Preheat a vacuum centrifuge to high heat (60C). Set the plate into the vacuum centrifuge without a plate seal and start the protocol, seal the plate when the liquid has evaporated. Check every 15 minutes to monitor progress. For heavily degraded/ ancient samples: Set vacuum centrifuge to no heat, or lowest possible heat. Set the plate into the vacuum centrifuge without a plate seal and start the protocol, seal the plate when the liquid has evaporated. Check every 30 min-utes to monitor progress.
   - § *Pros & cons:* Fast, but requires special equipment.

2. Passive drying:
   - *Suggested passive drying protocol:* Leave the plate open in a gently heated (~37°C) thermal cycler until the liquid has evaporated. Seal plate. *(Pro-tip — make sure no bugs or bits of fluff fall into the wells during drying!)*
   - § *Pros & cons:* No special equipment needed, but slow.

3. Bind to a silica membrane:
   - *Suggested silica membrane binding protocol:* Follow the protocol of the kit through the binding, washing, and drying steps, but do not perform the final elution, just seal the plate instead. Send myReads the specifications for volume and type of elution buffer.
   - § *Pros & cons:* No special equipment required, but silica membrane plates are more expensive than regular plates and purification always results in some loss of gDNA mass.
   - § *Suggested kits:*
     - Standard: QIAquick 96 PCR Purification Kit, Qiagen, catalog number 28181 | Purchase Here
     - Highly Degraded: QIAquick Nucleotide Removal Kit, Qiagen, catalog number 28306 | Purchase Here

What if I don't comply? You have two options: 1) we reseal your shipping box and ship it right back to you, at your cost; or 2) you pay a $500/plate reformatting fee, which must be paid before we touch your samples.

Questions? Email us at service@arbor.daicel.com.

DAICEL arbor biosciences

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phone: 1-734-998-0751
twitter: @ArborBio

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