The Sequencing Center

DNA Sample Submission Guidelines

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Shipping Address

The Sequencing Center
Attn: Sequencing Lab
1020 Luke Street, Suite D
Fort Collins, CO 80524
USA

Contact Info

(970) 682-1288 (Direct to Lab)
(877) 425-2235
(970) 980-5975
info@thesequencingcenter.com
www.thesequencingcenter.com

Note About Guidelines

These guidelines are flexible and attempt to answer many of the questions we are asked about sample submissions. Keep in mind that we are here to facilitate your research and will work with you to obtain the best result at a reasonable cost. If you have any questions regarding these guidelines, please contact us at **(970) 682-1288** (direct to Lab), **(877) 425-2235**, **(970) 980-5975**, or info@thesequencingcenter.com

DNA Samples

Tubes

Please submit DNA samples in 1.5-mL microcentrifuge tubes or 2-mL screw cap tubes.

Packaging Guidelines for the Primary Container (Sample Container)

1. For DNA, please send a minimum volume = 20 µL with minimum concentration = 20 ng/µL, and sample purities of A260/280 = 1.7 - 1.9 and A260/230 = 2.0 - 2.2. For best results, if possible, please send larger volumes (i.e. 30 uL or more) and higher concentrations (i.e. 30 ng/uL or more).
   Please contact us if you have questions about the required volumes or concentrations.

2. If you expect shipping time will take longer than 1 day, please wrap the lid of each sample tube with parafilm to protect against evaporation during transit.

3. Place sample tubes in a hard protective container (ie. 50-mL centrifuge tube or used pipet tip box). Using a protective container will reduce the risk of your sample tubes being crushed during transport or individual samples being lost within the packing materials (packing peanuts, paper, etc.)

4. Reinforce screw caps with adhesive tape. Use a metal crimp seal or skirted stopper for metal and glass.

5. Affix or write with permanent marker or other marking method a proper label on the primary sample container (e.g. vial) to clearly identify the contents.

Packaging Guidelines for the Secondary Container

1. Use a watertight/leak proof container. Reinforce the container using adhesive tape to contain the individual vials (e.g. zip-lock type bag).

2. Surround each primary container (e.g. vial) with sufficient absorbent packing material such that it would completely absorb the contents should the primary container break during transit.

3. Include a packing list in the secondary container. Place the packing list in a separate sealable

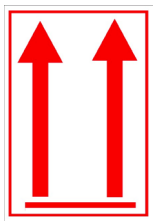
waterproof package (i.e. zip lock bag). The packing list contents should include:

- List of the labels that identify each sample container (i.e. labels on each vial/tube)
- Amount of liquid (mL) in each vial/tube
- Email a digital copy of the packing list to info@thesequencingcenter.com.

Packaging Guidelines for the Outer Container

1. Use an outer container (i.e. cardboard shipping box) of sufficient strength to protect the inner containers and samples. We discourage the use of flat shipping envelopes designed for shipping paper documents.

2. Affix an accurate address label with the name, complete address and phone number for both the shipper and the recipient. Note: Only list the principal investigator or primary contact in the address label. This will help avoid delays or miscommunication between your organization and our Lab. If possible, please avoid using anyone not directly related to your research as the primary contact.



3. If sample orientation is important during transit and handling, please affix a universally recognized “double up arrows” sticker, like the one shown to the right.

4. Clients occasionally ship DNA samples overnight (i.e. next-day delivery) at room temperature.

    a. The Sequencing Center does not recommend using liquid nitrogen to ship DNA samples due to cost. However, if you wish to refrigerate your samples during shipping, we recommend using ice packs or dry ice.

    b. If you plan to refrigerate your samples during shipment, then please read the section “Guidelines for Shipping Refrigerated Samples” and follow any instructions provided to you by your carrier.

High quality DNA results in high quality results. We cannot guarantee good results when low quality DNA is submitted to the lab. The Sequencing Center offers DNA cleanup and normalization services. If you require these services but do not wish to pay for them, please perform them prior to sending your DNA or amplicons.

Be aware of potential hazards that may contaminate your DNA:

- Do not extract or manipulate or open the tubes with DNA in environments where amplicons of any kind are handled.

- Always use strict aseptic techniques and high quality molecular grade materials and reagents.

- Any non-molecular grade reagent has the potential for carrying background genetic material which may be detected by our sensitive protocols and methods.

Genomic DNA Samples

We encourage customers to use high quality DNA extraction kits for isolating DNA. Please inform us of difficult DNA.

1. Qiagen has good extraction kits for a wide variety of sample types. Great tissue and stool kits.
www.qiagen.com

2. MoBio has good extraction kits for a wide variety of sample types. Great soil kits.
www.mobio.com

3. Mpbio
www.mpbio.com

4. Promega
www.promega.com

5. Invitrogen
www.invitrogen.com

6. epibio
www.epibio.com

Regardless of extraction technique we request that, if possible, you determine the concentration and A260/280 ratio to see if the DNA quality is appropriate. If you determine that your DNA quality is low, we suggest using a DNA clean-up kit (e.g. MoBio) to purify the DNA. If you can barely get your own samples to amplify, then they will probably not pass our quality control tests. We provide one PCR amplification attempt in the quoted cost/sample. If a significant number of your samples do not amplify, and we determine your DNA is low quality, we will offer to clean up your DNA for a small fee.

Please include the sample volume and concentration (ng/ µL) in the packing list. In general we request at least 20 µL volume with a concentration normalized around 20 ng/µL. If this is a problem just let us know.

Shipping Samples in 96-Well Plates

Clients that wish to submit their samples in 96-well plates should submit a minimum of 10 µL per well. We recommend that clients prepare their plates for shipping using the following methods:

Packaging Guidelines for the Primary Container (Sample Container)

1. For DNA send a volume of at least 10 µL per well.

2. If you are shipping samples unrefrigerated then carefully and securely seal your plates with strip caps and ship the samples at an ambient temperature. However, if you prefer to send your samples frozen, then good quality foil tape is also acceptable. Do not use clear tape because it pulls loose easily under freezing conditions.

3. Place your plate inside a pipet tip box or similar box to prevent the plate from flexing during shipping as flexing may cause the tape to pull loose. Another option is to pack your plates inside a small box then pack the small box inside a second larger box.

4. If you are mailing custom primers in micro tubes, place them inside of a 50-ml poly tube or other form of protective container. Do not tape primer tubes to the outside of your template plate as this could lead to the tube being smashed, broken, or otherwise damaged during transit.

5. Affix or write with permanent marker or other marking method a proper label on primary container (e.g. plate) containing a sample to identify the contents and relate them to the packing list, described below.

Packaging Guidelines for the Secondary Container

1. Use a watertight/leak proof container and reinforce the container using adhesive tape as necessary to contain the sample contents (e.g. zip-lock type bag).

2. Surround each primary container (e.g. plate) with sufficient absorbent packing material to completely absorb the contents should the primary container break during transit.

3. Include a packing list with a complete list of the contents including the scientific name and the amount in ml for liquids for each vial/tube. Place this packing list in a separate container (i.e. zip-lock bag) to prevent it from becoming wet and unreadable.

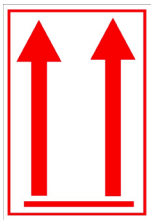
Please email a copy of the packaging list to info@thesequencingcenter.com.

Packaging Guidelines for the Outer Container

1. Use an outer container (i.e. cardboard shipping box) of sufficient strength to protect the inner containers and samples. We discourage the use of flat shipping envelopes designed for shipping paper documents.

2. Affix an accurate address label with the name, complete address and phone number for both the shipper and the recipient. Note: Only list the principal investigator or primary contact in the address label. This will help avoid delays or miscommunication between your organization and our Lab. If possible, please avoid using anyone not directly related to your research as the primary contact.

3. If sample orientation is important during transit and handling, please affix a universally recognized "double up arrows" sticker, like the one shown below.



4. Clients occasionally ship DNA samples overnight (i.e. next-day delivery) at room temperature.

    a. The Sequencing Center does not recommend using liquid nitrogen to ship DNA samples due to cost. However, if you wish to refrigerate your samples during shipping, we recommend using ice packs or dry ice.

    b. If you plan to refrigerate your samples during shipment, then please read the section "Guidelines for Shipping Refrigerated Samples" and follow any instructions provided to you by your carrier.

Guidelines for Shipping Refrigerated Samples

The following guidelines are for clients shipping samples to The Sequencing Center using dry ice, ice packs or other means of refrigeration. Due to continuing changes in state and federal regulations, clients should always check with their shipping department to ensure regulatory compliance.

Guidelines for shipping refrigerated samples to The Sequencing Center are as follows:

1. Place samples in a Styrofoam cooler with cold packs/blue ice or dry ice. **Do not** use wet ice to ship your samples.

2. Place enough cushioning material (e.g. paper towels) around your samples to prevent movement within the Styrofoam cooler. Failure to provide cushioning material could result in damage or breakage of your sample tubes.

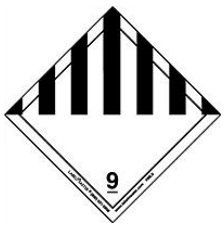
3. Place the Styrofoam cooler inside a cardboard box to ensure acceptance by carrier.

    a. A new outer box without any other labels or excess of tape works best.

    b. If you must re-use box, then make sure to either remove or black out any other pre-existing labels on the shipping box.

4. Packages shipped with dry ice must permit the release of carbon dioxide gas. If you are submitting samples with dry ice, the outer cardboard box must have the following:

    a. A Miscellaneous Dangerous goods #9 hazard label fixed to the outside of package, like the one shown to the right.



    b. A label indicating “Carbon Dioxide, solid UN1845” on the outside of the package.

    c. A label with the net weight of dry ice on the outside of the package.

    d. An air waybill with the following information:

        i. Classification (i.e. Carbon Dioxide, solid, 9, UN1845),

        ii. The number of packages

        iii. The net quantity of dry ice per package