**Sample Submission and Shipping Guidelines**

The Center for Applied Genomics (CAG) recognizes the variety and spectrum of sample collection types and will make accommodations for unique sample sets and conditions.

We offer a variety of Biobanking Services and Automation strategies.

DNA isolation from whole fresh is available or frozen ETDA blood samples, FFPE, Saliva, Buccal Swabs, and FTA Cards.

Biological Integrity and Sample Organization is critical for the success of your project, and we recognize that every project is unique. Please read the following guidelines. Contact your Project Manager for further details.

**Shipment Sample Manifest**: An excel document will be provided to you prior to sample shipment. Please return this to your Project Manager 24 hours before shipment.

1. Whole Blood in purple, pink or lavender(with EDTA) top tubes (2mL )
2. FFPE tissue samples (4 to 5 of 5-10 micron sections, 3 minimum, 250 mm2 surface area)
3. Extracted DNA – Quality of DNA will be heavily predicated upon your downstream application’s sample recommendations. When submitting samples, please consider this. The following are some general quality guidelines.
4. DNA Sample Criteria:
   1. Must be pure, intact, and of high molecular weight and free of contaminating nucleic acids from other individuals or other species
   2. Should be quantified using a double stranded DNA specific method such as PicoGreen. We consider OD quantification (such as NanoDrop) to be inaccurate for our requirements.
   3. Must be at a concentration of 30 ng/µl or greater
   4. Volume must be a minimum of 50 µl
   5. Total amount of DNA required is 1.5 µg or greater (50 µl at 30 ng/µl).
   6. Buffer must be 10mM Tris/ 1mM EDTA
   7. OD 260/280 must be between 1.8 and 2.0
   8. DNA must not be PCR amplified (no WGA samples)
5. Shipping Guidelines:
   1. All shipments must comply with all applicable local, state and federal laws governing packing, marking and labeling. Blood, fluids and other specimens containing or suspected to contain infectious substances must be shipped according to applicable government and international Air Transport Association (IATA) regulations. Please contact us for additional details. Please ship for overnight delivery when possible for receipt Monday through Friday, no Saturday or Sunday delivery is possible. Please include sample descriptions in the packages. Promptly send us your shipment tracking information to allow us to monitor the shipment.
   2. If using microcentrifuge tubes, screw-top lids are preferred. Please use parafilm to cover lid for added seal precaution and clearly label tubes with water-resistant tags to ensure ink is not removed. Place individual tubes into a 50 mL conical tube filled with packing material (such as paper towels) to absorb the stress of shipping. Fill the void with paper to avoid physical damage during transport.
   3. Ship samples using Overnight Shipment through either FedEx or UPS.
   4. Customers from US should ship samples on **5 lb of dry ice** for overnight delivery from Monday through Thursday. **DO NOT ship on Friday**.
   5. International customers **MUST ship samples on Mondays ONLY with 20-25 lb dry ice**.
   6. For Blood, use adequate packaging following shipping guidelines for biological materials with double bagging and absorbent pads.

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| **Sample Type** | **Shipment temperature** | **Material Amounts** |
| **DNA** | Dry ice or Blue ice | 1.5ug in low TE ( 50ul min volume) |
| **RNA** | Dry ice | 1ug min. in DEPC water (10ul min volume) |
| **FFPE slides** | Room Temperature | 5 slides, 5 microns minimum |
| **Fresh Blood** | Blue ice | 2 ml |
| **Frozen blood** | Dry ice | 1-2 ml |
| **Fresh Frozen tissue** | Dry ice | 5-10mg |
| **Other** |  | Inquire |