



## Darwin Biobank Sample Collection Instructions for Zoo Partners

### Updated July 2025

#### For sample collection supplies, or questions, contact:

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General email [biobank@peeltx.com](mailto:biobank@peeltx.com) (Main Lab Phone: 385.500.3663, Ext.1006)

**Shipping Address Mon-Fri:** Peel Therapeutics, Altitude Lab, 48 S. Rio Grande St., Salt Lake City, UT 84101

**Shipping Address Saturday Arrival:** Peel Therapeutics, 638 Willow Bend Drive, Centerville, UT 84014

**Shipping Phone Number** (Mon-Fri & Saturday arrival same number): (210) 601 0969

#### Samples Requested

- Species: All Mammals (*At this time, we are not yet permitted to receive sea lions, seals, sea otters, manatees, polar bears, walrus, dolphins, whales*)
- Routine procedures: skin biopsy and whole blood
- Postmortem samples: whole blood, skin, muscle, heart, liver, kidney, spleen, brain, and any tumors or abnormal growths
- Birth samples: placenta and umbilical cord, neonate blood sample, neonate skin biopsy (ear notch) if available.

#### Sample Collection Kit Contents

- Insulated shipping box
- Ice packs
- Isopropyl alcohol prep pads
- 5 mm skin biopsy punches
- 5 ml tubes for skin biopsies (fill w/ complete media)
- 15 ml and 50 ml conical tubes for postmortem tissues and birth samples (fill w/ complete media)
- 4 mL Vacutainer EDTA Tubes for blood samples
- 500 mL bottle of Complete media (pink)
- Parafilm strips
- Conical tube labels
- Specimen bags

#### Receiving the Sample Collection Kit

Upon receiving the sample collection kit, store the components at the appropriate temperatures:

- Ice packs: Store in the freezer at -20°C.
- Complete media: Refrigerate at 4°C. **Remove complete media from refrigerator immediately prior to sample collection**
- Vacutainer EDTA tube and other contents: Keep at room temperature.

#### Shipping Instructions

- **Shipping Labels:** Please contact Patricia Araujo or Lauren Howard at Darwin Biobank for Fed Ex acct # to ship samples (contact information is above)
- **Notification of Sample Arriving:** Please notify Patricia Araujo at Darwin Biobank that a sample is being shipped. Notification can be via email, text or phone call (contact information is above)
- **Darwin Biobank Submission Form:** Please complete a separate Submission Form for each animal sampled. Form can be printed and placed in shipping box, or emailed to [paraujo@peeltx.com](mailto:paraujo@peeltx.com)

#### Shipping Procedure for Whole Blood and Complete Media samples:

1. Samples must be shipped within 24 hours of sample collection, for maximum viability.
2. Place frozen ice packs into an insulated shipping box
3. Place sealed sample tubes into specimen bags and ensure specimen bags are sealed.  
**Note:** Double check to ensure tubes are labeled with type of tissue, and bags are labeled with species, ID, and date collected.
4. Pack specimen bags into shipping box, placing 3-4 paper towels between specimen tubes and ice packs, to ensure no direct contact and inadvertent freezing during shipping.
5. Seal shipping box and add shipping label.
6. Arrange for FedEx pick up and overnight delivery to Peel Therapeutics in the Altitude Lab, Salt Lake City, Utah.
7. **PLEASE NOTE DIFFERENT SHIPPING ADDRESS FOR SATURDAY ARRIVALS.**

See Page 2 for Sample Collection Protocols.

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### Blood Collection

Amount needed: 4 mL whole blood minimum

Container: EDTA blood Tube (stored at room temperature)

Procedure:

1. Clip hair if possible from venipuncture site.
2. Clean site with isopropyl alcohol.
3. Fill EDTA Blood tube up to 4 mL. We will take up to 3 tubes if blood volume allows.
4. Once filled, gently invert tube 8-10 times.
5. Fill and add labels to tube(s).
6. Place tube(s) into specimen bags and label bag with species, ID and date.
7. Store sample(s) in refrigerator until shipment.

Shipping: Ship as soon as possible, within 24 hours of collection. Ship overnight on ice packs.

### Skin Biopsy Collection

- Container: 5 ml complete tube

• Procedure:

1. Remove complete media from refrigerator immediately prior to sample collection.
2. Clip hair and clean skin with isopropyl alcohol before collecting.
3. Collect 5 mm skin biopsy using provided punch, place into 5 ml tube and add Complete Media to conical tube, fill to top.
4. Label tube and seal with parafilm, place into specimen bag and label bag with species, ID, and date.
5. Store samples in refrigerator until shipment.

Shipping: Ship as soon as possible, within 24 hours of collection. Ship overnight on ice packs.

### Birth Sample Collection

Tissues needed: Umbilical cord, placenta. Whole blood and skin biopsy/ear notch from neonate (if available).

Container(s): 15 or 50 mL conical tubes. The size of the tube will depend on the size of samples.

**Skin/Blood: Follow protocols above for neonate blood and skin biopsy**

Procedure:

1. Gently clean debris from umbilical cord & placenta with saline to reduce contamination.
2. Remove complete media from refrigerator immediately prior to sample collection.
3. Umbilical cord: Collect 0.5 – 1 inch cross section of the umbilical cord adjacent to its attachment to the placenta and place into conical tube.
4. Placenta: Collect at least one 1 X 1 X 1 inch piece of cotyledon from the placenta & place into conical tube. (If the placenta is not cotyledonary, collect from the thickest part of the placenta.)
5. Fill conical tube containing sample to top with Complete Media, close lid.
6. Seal conical tube lids with parafilm. Label tube and seal with parafilm, place into specimen bag and label bag with species, ID, and date.
7. Store samples in refrigerator until shipment.
8. Shipping: Ship as soon as possible, within 24 hours of collection. Ship overnight on ice packs

### Postmortem Sample Collection

Tissues needed: skin, muscle, heart, liver, kidney, spleen, brain, any tumors or masses

Amount needed: 1 X 1 X 1 inch piece of each tissue

Containers: 15 or 50 ml conical tubes. The size of tube will be dependent on size of animal/tissue samples.

Procedure:

1. For skin, clip hair and clean skin with isopropyl alcohol before collecting.
2. Collect 1 X 1 X 1 inch cubed sample from each requested tissue. **If using 5 mm punch to collect postmortem skin samples, please collect up to 10 separate punches and place into one conical tube.**
3. Place piece of each tissue into its own 15 or 50 ml conical tube.
4. Add Complete Media to conical tube after tissue is added, filling conical tube to the top.
5. Close and seal tube lid with parafilm. Label tube with type of tissue.
6. Place all Complete Media sample tubes into specimen bags and label bag with species, ID and date.
7. Store in refrigerator until shipment.

Shipping: Ship as soon as possible, within 24 hours of collection. Ship overnight on ice packs. See Page 1.

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### Sample Collection Tips and Tricks Updated July 2025

We appreciate your time and expertise collecting samples to be preserved in the Darwin Biobank!

*To optimize the long-term sustainability of the samples, and ensure your animals' legacy endures, here are some things we've learned in our first 6 months.*

**Skin Samples:** Fibroblasts, found in skin, are the most reliable cell to grow in culture, and are a primary focus of Darwin Biobank. When we have more skin cells to work with, we can evaluate different cell culture methods and optimize species specific protocols.



For postmortem samples,  
**1 in X 1 in X 1 in skin section is ideal.**



If you prefer to use our **5 mm punch** to collect postmortem skin samples, please collect at least **5 to 10 separate punches**. They can all go in the same conical tube.

### Use of Complete Media

Our Complete Media is the special sauce that preserves your cells perfectly, and we appreciate you preventing contamination of the bottles, and storing them in the refrigerator.

Please **fill conical tubes with samples in them** to the top with Complete Media, so they remain submerged throughout the shipping process.

We know in our initial instructions we wrote “submerge tissues,” we are updating that now to “fill tube to the top” – go crazy, use as much as you need! We’ll make more!!

