



# EAZA Biobank Sampling Protocol

- NOTE:**
- ALL samples should be collected and shipped in accordance with national legislation
  - Gloves should always be worn when collecting samples to prevent contamination
  - Samples may be taken from live animals **opportunistically** during routine veterinary or other procedures, or from deceased animals prior to sending away for necropsy.

## General sampling procedure

**Whole blood:** up to 5mL in plastic EDTA (or PAXgene) blood collection tubes.  
Invert 5 times to mix.

OR

**Tissue:** up to 1 cubic cm in plastic tube (such as a 2mL screw-cap tube) or bag.  
From live animals, tissue types include skin, muscle or umbilical cord  
Freeze at -20 or -80°C immediately or preserve in ethanol (70-90%).  
NOTE: Do not use formalin or methylated alcohol.

**Serum/plasma:** 1-10mL in plastic tube. Must be spun and separated.

NOTE: serum or plasma should only be provided if it is accompanied by a blood or tissue sample.

**Other sample types:** For other sample types not listed above, contact the Biobank Coordinator.

If a specific sample type is requested for an EAZA Biobank approved project, it will be accepted by the EAZA Biobank.



## Post-mortem considerations

For deceased animals, it is strongly **encouraged to collect a sample before the carcass is sent away** for necropsy or otherwise disposed of.

**Tissue:** Collect at least 1 cm<sup>2</sup> of skin (ex: ear margin), or 1 cubic cm of tissue from the tongue (this will not interfere with a post-mortem exam, if sent away). For in-house post-mortem exams, any tissue (muscle, liver, spleen etc.) or blood sample will be accepted. A larger sample volume, where possible will be accepted.

**NOTE:** If sent for necropsy, it is also encouraged to agree with the institution(s) performing this service that a sample may be saved for the EAZA Biobank and is to be returned to the zoo.

Freeze at -20 or -80 °C immediately or preserve in ethanol (70-90%).

## Group/colony sample collection

For animals managed in a colony or group management style, samples are still valuable, and we encourage collection and submission of samples from a portion of the group (example: aim to collect samples from approximately 10% of the group. Prioritize animals with individual identifiers and known unrelated animals).

**NOTE:** For small animals, a whole carcass can be submitted.

## Data-only sample share

If an institution prefers to only make sample data available to the EAZA Biobank, rather than share a physical sample, please contact the Biobank Coordinator and see our data-only share guidance.

# Storage and Shipping

## Labeling

Label the sample tube or bag with **animal identifier** (GAN/ local ID), **species, tissue type, and date of sampling**.

## Storage

Store samples in a freezer (-20 to -80°C) until shipment is possible. If preferred, collect samples over a period for batch shipment.

## Packaging

- Primary package:** sample tube/ bag
- Secondary packaging:** plastic container/bag with absorbent material (enough to absorb sample content)
- Tertiary packaging:** Cardboard box – include 'UN3373' diamond logo (see left) and the text **"Biological substance Category B"** and **"refrigerate upon arrival"** on the outside of the packaging.



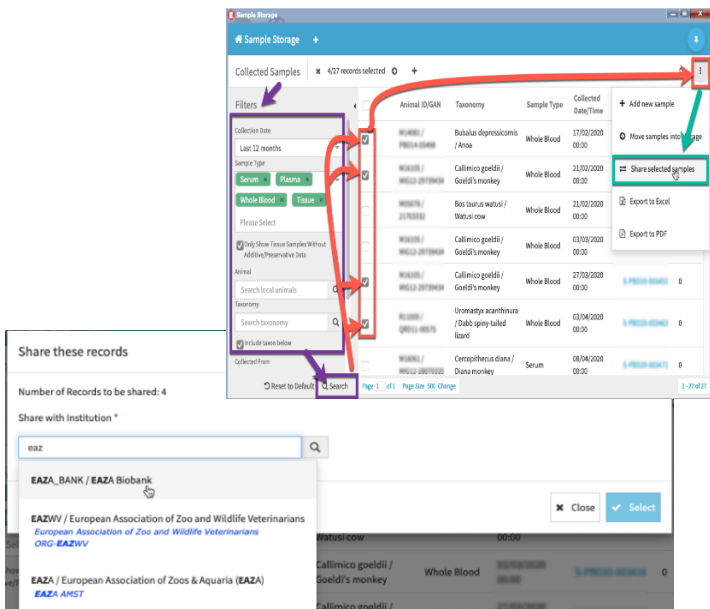
**NOTE:** Please enclose the following in your shipment:

- ZIMS specimen report, or list of samples, EAZA Biobank MTA (if not sent electronically), and contact details of the sender.
- An icepack or dry ice to keep the samples frozen. Icepacks are not needed for samples in ethanol.
- **Please contact the Biobank Hub to coordinate shipping and avoid arrival on a weekend.**

## ZIMS Sample storage and record sharing

It is possible to share sample data electronically via **ZIMS Sample Storage module**.

Please create a sample record in the ZIMS Sample Storage module, select record(s) to share and share with the 'EAZA Biobank' institution.



## CITES

Some sample from certain species may require CITES Permits. General rules according to CITES regulations:



Within the EU: there is no need for CITES export/ import permits (exemptions may apply).

Outside the EU: CITES export permits must be applied for at the national CITES office.

**Remember to apply for permits ahead of shipping samples.**

CITES Exemption: exemption is possible for a registered scientific institution (article VII, §6) All four EAZA Biobank Hubs have the CITES exemption, your institution may be eligible to apply

## Biobank Hub Addresses

Please send samples to the Biobank Hub relevant for your country

**Contact the Hub before shipping samples.**

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### Edinburgh Hub

Shipping Country: UK, Qatar, UAE, Kuwait, Kazakhstan, Pakistan



Att: EAZA Biobank Samples  
c/o: RZSS WildGenes Biobank  
Address: Royal Zoological Society of Scotland (RZSS)  
134 Corstorphine Road  
Edinburgh EH126TS, UK  
Email: [biobank@rzss.org.uk](mailto:biobank@rzss.org.uk)

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### Berlin Hub

Shipping Country: Germany, Austria, Croatia, Czech Republic, Hungary, Poland, Russia, Slovakia, Slovenia, Switzerland, Ukraine, Romania, Serbia, Bosnia and Hercegovina, Bulgaria, Moldavia, Iran



Leibniz Institute for Zoo  
and Wildlife Research  
IN THE FORSCHUNGSVERBUND BERLIN E.V.

Att: Dr. Jörns Fickel  
Address: Department of Evolutionary Genetics Leibniz  
Institute for Zoo and Wildlife Research (IZW)  
Alfred-Kowalke Strasse 17  
10315 Berlin, Germany  
Email: [fickel@izw-berlin.de](mailto:fickel@izw-berlin.de)

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### Antwerp Hub

Shipping Country: Belgium, Luxembourg, The Netherlands, France, Greece, Israel, Italy, Turkey, Georgia, Armenia



Att: Dr. Philippe Helsen  
Address: Centre for Research and Conservation  
Royal Zoological Society of Antwerp (KMDA)  
Koningin Astridplein 20-26  
2018 Antwerp, Belgium  
Email: [Philippe.Helsen@kmda.org](mailto:Philippe.Helsen@kmda.org)

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### Copenhagen Hub

Shipping Country: Denmark, Estonia, Finland, Latvia, Lithuania, Norway, Sweden, Portugal, Spain, Ireland (temporary)



Att: Dr. Christina Hvilsom  
Address: Copenhagen Zoo  
Roskildevej 38  
2000 Frederiksberg, Denmark  
Email: [ch@zoo.dk](mailto:ch@zoo.dk)

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Samples may be donated or loaned to the Biobank, please see our Material Transfer Agreement. It is the responsibility of the lending institution to keep the Biobank up to date with contact details.