

NMNH Biorepository Standards and Services

Effective 29 May 2012

The mission of the NMNH Biorepository is to provide excellent stewardship of frozen collections housed in the Biorepository and to support their use.

The Biorepository primarily holds NMNH non-human animal , bacterial and plant genetic resources (GR; aka “tissues”); in the future, environmental samples are expected. It is operated under the auspices of NMNH according to the terms of Smithsonian Institution and NMNH policies on collections, safety and security.

NMNH may accept specimens and/or samples into the Biorepository that meet legal, informational and physical criteria. NMNH reserves the right to apply other criteria for specimen/sample acceptance, at its discretion.

NMNH can support the documentation of genomic research projects by accepting voucher material, including cryo-preserved specimen/samples and associated traditional museum specimens. (see below, ‘**SERVICES**’ and ‘**VOUCHERS FOR GENOME PROJECTS**’).

STANDARDS

Legal

1. Specimens/samples must be accompanied by written documentation that demonstrates that they were collected, exported, and imported legally. If the documentation is only available in digital form, electronic files must be provided.
2. The party sending the specimens must clearly state, in writing, the nature of the transaction: gift, loan, or deposit.
 - In the absence of other agreements or requirements, NMNH’s default position is to accept specimens/samples as donations, including transfer of all rights with the transfer of the specimen/samples, using the following standard language:

The National Museum of Natural History of the Smithsonian Institution will be irrevocably and unconditionally given, transferred, and assigned all right, title and interests in, to and associated with the voucher (s). A Deed of Gift will be signed prior to transfer.

- In general, loans must also be negotiated with the relevant NMNH collecting unit.
- NMNH may charge a service fee for specimens/samples that are placed on deposit. Any terms of use, such as access and benefit sharing agreements must be stated in writing at the time of the transaction.

3. The Biorepository cannot hold specimens/samples that are being retained as evidence or for legal purposes.
4. Deposits and loans must have written agreements that specify the duration, conditions, responsible parties, and purpose of the transaction.
5. NMNH has the right to decline donations and transfers, in whole or in part, at its discretion.

Physical

NMNH Biorepository will accept:

1. Fresh, frozen, alcohol-preserved, EDTA-preserved, or RNAlater-preserved genetic resources.
2. Extracted nucleic acids.
3. Whole organisms or environmental samples provided they fit in a standard 2 ml, 3 ml or smaller vial (For larger whole organisms such as genome project phenotype vouchers, see below).

NMNH Biorepository will not accept without prior consultation

(NMNHBIOREPOSITORY@si.edu):

1. Formalin-fixed material.
2. Whole organisms that cannot fit into a cryovial.
3. Any material where the legality is in doubt.
4. PCR or sequencing products.
5. Human tissue samples of any kind.
6. Cell lines or tissue cultures.
7. Any material containing known or suspected zoonotic organisms, toxins or radioactive compounds.

Acceptable containers:

1. 2 ml cryovial, which fits in a 2" freezer box.
2. 3 ml cryovial, which fits in a 3" freezer box.
3. 0.5 ml Matrix rack (96 tubes, for DNA).
4. 1.0 ml Matrix rack (96 tubes, for tissue).
5. 2" x 2", 2" x 3", or 3" x 3" Ziploc bags or envelopes for plant tissues.

Incoming specimens/samples in incompatible containers may be re-housed at the sender's expense. If the sender anticipates that there may be a need for re-housing, they should provide NMNH with advance notice.

Information

1. The incoming transaction of specimens/samples must include an electronic inventory of the specimens /samples appropriate for inclusion in the NMNH's collections management systems. Inventories should be provided in comma or tab-delimited text.
2. Specimens/samples must be labeled with a legible, resilient label appropriate for use at ultra-low temperatures.

3. Labeling must correspond with the inventory such that an individual sample (vial) can be distinguished among the entire transaction. Use of a unique numbers for each vial is preferred.
4. NMNH will label each vial with a Biorepository number. NMNH may also re-label or supplement the labels on specimens/samples to ensure inventory control. Re-labeling may be done at the sender's expense.
5. An example of specific information required will be provided by the Biorepository.

Access

1. Physical access to the Biorepository is limited to authorized NMNH staff only.
2. For loans and deposits, intellectual access to specimens/samples and/or associated data by NMNH and/or a third party must be negotiated, with the terms of access documented in writing.

SERVICES

Provided:

1. Safe and secure storage of frozen collections.
2. Housing in mechanical or liquid nitrogen freezers, at temperatures of -190° C, -150° C, -80° C, -30° C, -20° C, or 4° C. Storage temperature will be at the discretion of Biorepository personnel unless otherwise specified by the sender, but will generally be kept as cold as possible.
3. Processing of internal and external loans and assistance with shipping preparation.
4. Re-housing and re-labeling of specimens/samples as needed.
5. Technical advice on collecting techniques.

Not provided without prior consultation (NMNHBIOREPOSITORY@si.edu):

1. Sub-sampling of whole or partial organisms for storage.
2. Extraction of nucleic acids or other biochemical components for researchers.

VOUCHERS FOR GENOME PROJECTS

NMNH's standards (above) apply to vouchers for genome projects. Offers of donations or requests to deposit voucher material will be accepted on a case-by-case basis. To initiate donation or deposit of cryo-preserved and/or traditionally preserved vouchers (fluid, pinned, dry, etc.), send a request to NMNHBIOPREPOSITORY@si.edu, with a detailed description of the voucher (taxon, single or multiple organisms, fresh, frozen, etc.).

NMNH has the right to decline offers of gifts or deposits of vouchers. NMNH may specify, on a case-by-case basis, conditions for vouchers. In general, NMNH expects:

- Single organisms if the genome is derived from a single individual and its phenotype is substantially intact, including critical taxonomic characters.
- Multiple organisms— if the genome is derived from multiple individuals pooled for extraction or if the single organism was consumed. Provide multiple individuals of both sexes with critical taxonomic characters, drawn from the same population as the genome.

NMNH Biorepository may change standards and services at its discretion. For more information, contact NMNHBiorepository@si.edu.