



# EXTRACTION SERVICES

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## User Guide

# RNA Extraction

Version 02

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## General Information

This document describes the procedure to follow when requesting RNA extraction. The detailed instructions for the sample preparation, the submission and shipping requirements are all provided in this guide.

To avoid any delay in the processing of the request, the instructions provided in the present guide must be followed carefully.

All samples submitted must come from healthy donors.

## Sample Preparation

### Starting Material

Quality and yield of RNA can be strongly influenced by the conditions under which samples are collected, stored, and prepared. We have observed that variations in these steps can affect extraction performance, regardless of the protocol used. It is therefore important to follow good laboratory practices carefully when preparing samples.

Different starting materials are accepted for the RNA extraction service.

Validated sample types:

Human / Animal: Blood and Biopsies

Plant: Leaves

Other: Cultured cell

For other types of samples, contact the [Client Management Office](#) to discuss the possibility of developing new options based on the project description.

### Requirements by Sample Type – Human / Animal

#### Blood

Collection: Blood samples must have been collected using standard [PAXgene® Blood RNA Tube](#).

It is essential to follow the manufacturer's instructions during sample collection and preparation to ensure high-quality biological samples.

Minimum volume required: 2-3 mL

Container: Original collection tube

Identification: The sample name indicated on the tube must be unique, legible, and simple, and must match exactly the name submitted in the [Sample Submission Form](#). Any discrepancy will result in processing delays.

Note: You may use the original collection tube's barcode as the sample identifier, provided it is clearly visible and not covered by another label.

## Biopsies

### Frozen biopsy without preservative solution

Instructions:

Make sure to follow best practices for sample collection and preservation in order to obtain high-quality biological specimens. Ideally, tissue samples should be collected and immediately snap-frozen in liquid nitrogen and stored in a -80°C freezer.

Quantity required: 50 mg

Container: 1.5 to 2 mL micro-tube

Identification: The sample name indicated on the tube must be unique, legible, and simple, and must match exactly the name submitted in the [Sample Submission Form](#). Any discrepancy will result in processing delays.

### Frozen biopsy stored in a preservative solution ([TRIzol](#), [QIAzol](#), [RNA Later](#))

The preservative solutions standardly used are: [TRIzol](#), [QIAzol](#), [RNA Later](#).

If another preservative solution is used, contact the [Client Management Office](#) to verify the impact on our extraction protocols.

Instruction: prepare the sample according to supplier instructions.

If it is not possible to provide a homogenized sample, following the addition of the preservative solution, place the tube in an upright position at -80°C. The biopsy must be completely immersed in the solution.

Quantity required: 50 mg in prescribed amount of preservative solution

Container: 1.5 to 2 mL micro-tube

Identification: The sample name indicated on the tube must be unique, legible, and simple, and must match exactly the name submitted in the [Sample Submission Form](#). Any discrepancy will result in processing delays.

### FFPE

Quantity required: please contact [Client Management Office](#)

Container: 1.5 to 2 mL micro-tube

Identification: The sample name indicated on the tube must be unique, legible, and simple, and must match exactly the name submitted in the [Sample Submission Form](#). Any discrepancy will result in processing delays.

## Requirements by Sample Type – Plant

Sample preparation: Samples should be immediately frozen using liquid nitrogen and stored at -80°C.

Quantity required: 100 mg

Container: 1.5 to 2 mL micro-tube

Identification: The sample name indicated on the tube must be unique, legible, and simple, and must match exactly the name submitted in the [Sample Submission Form](#). Any discrepancy will result in processing delays.

## Requirements by Sample Type – Cultured cell

Frozen cultured cell store at -80°C with or without preservative solution

The preservative solution standardly used are: [TRIzol](#), [QIAzol](#), [RNA Later](#).

If another preservative solution is used, contact the [Client Management Office](#) to verify the impact on our extraction protocols.

Instruction: follow best practices for cell cultured.

If preservative solution is used, please follow the supplier instructions to prepare the sample accordingly.

Requirement: 1-10 Millio cells

Container: 1.5 to 2 mL micro-tube

Identification: The sample name indicated on the tube must be unique, legible, and simple, and must match exactly the name submitted in the [Sample Submission Form](#). Any discrepancy will result in processing delays.

# Service Request Form and Sample Submission

All service request form and sample submissions must be done on the web through Nanuq by using a user account. To obtain a user account, contact the [Client Management Office](#).

The laboratory work will only begin once all documentation has been submitted. Incomplete documentation will cause delays.

## Service Request Form

1. Log into [Nanuq](#).
2. Click "[Add new request](#)" under the section "Request" and follow the instructions.

The "new request" option should not be used for an existing request.

Do not use the "Back" button in your browser to go back to previous pages. Use the left-hand menu to navigate the form.

Click "Next" to move to the subsequent page of the request.

At any time during the process, save the work by clicking "Save and continue later". Drafts are accessible through "[My request lists](#)" under "Request". Requests will stay in drafts until they are submitted. To change a request under draft, click "Modify" in the lefthand menu.

To request the return of samples once the project is complete, go to the "Sample Information" tab and provide the information requested.

3. Click on "Submit" for the request to be approved by the [Client Management Office](#). Unsubmitted requests will not be processed.

## Sample Submission

Once the service request is complete and submitted, submit the samples.

1. Log into [Nanuq](#).
2. If applicable, find the request using "[My request list](#)" and open it.
3. Click on the "Sample submission" tab followed by "Add new samples".
4. Follow the instructions on the screen.  
For assistance, contact [Client Management Office](#).
5. Make sure the status of the sample submission is "Submitted" by going to the "Sample submission" tab in the Service request.

Repeat these steps to add a new sample to the request or send replacement samples.

## Sample Shipment Preparation

### Waybill

Once samples are submitted, go back to the "Sample submission" tab, select the submission(s) associated with the package being prepared and click on "Print Waybill." By default, only one copy will be printed. However, two copies are required.

### Package Preparation

Send the tubes in a box with dividers or any other container that will keep the tubes in order. Place the tubes in the box from left to right following the same order indicated in the [Sample Submission](#) form.

The container must stay closed throughout the shipping process.

One copy of the waybill must accompany the samples. Make sure that the waybill stays dry by placing it in a sealed plastic bag (type of Ziploc).

#### Delivery directly to the Expertise Center

Samples may be delivered directly to our laboratory.  
Regular business hours are Monday to Friday, between 8:00 a.m. and 4:00 p.m.  
Please contact the [Client Management Office](#) to coordinate the delivery.

#### Shipping by Courier Service

Shipments must be of appropriate size to accommodate the samples and enough dry ice to keep them frozen until arrival. Failure to do so may compromise sample quality.

Since our offices are closed on weekends, we strongly recommend that frozen samples be shipped **between Monday and Wednesday at the latest** to reduce the risk of sample loss due to courier delivery delays.

Samples crossing the Canadian border should be sent at the beginning of the week to avoid the risk of them being stored at the carrier's warehouse over the weekend. The use of clear phrases such as: "non-biohazardous biological samples", "For research use only" and "No commercial value" on the commercial invoice will help expedite customs clearance.

### Samples Shipment

The delivery address and instructions for the shipping of samples are found on the waybill.

One copy of the waybill must be clearly visible on the outside of the package. It can be taped directly to the package or placed in a clear protective envelope taped to the package.

## For More Information

### Client Management Office

Telephone: 514-398-7211

Email: [infoservices@genomequebec.com](mailto:infoservices@genomequebec.com)

Web site: <https://genomequebec.com/en/technological-services/centre-dexpertise-et-de-services-2/>

## Additional Information

N/A