



CANADA'S MICHAEL SMITH  
GENOME SCIENCES CENTRE

*From Nobel roots.*

## TISSUE



## USER GUIDE

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GENOME SCIENCES CENTRE

## ABOUT US

Our [CAP](#), [DAP](#), [ISO 15189](#), and [ISO 27001](#) certified technology platform is a high-throughput, large-scale DNA and RNA sequencing and analysis facility that has been designed to maximize analytical capacity, diversity, efficiency, scalability and flexibility.

Our state-of-the-art clinical, sequencing, bioinformatics, and proteomics platforms are ready to be put to use for your research or clinic.

We partner with researchers, guide experimental design, execute high quality processing of complex and valuable biological samples and provide extensive bioinformatics analyses with the aim of making genomics research accessible to our partners and collaborators within the scientific community.

Please feel free to contact us at [SOW@bcgsc.ca](mailto:SOW@bcgsc.ca) if you have any questions about the services we provide.

## ABOUT THIS GUIDE

This user guide describes requirements and recommendations for the preparation and submission of [tissue](#).

The recommended starting materials and amounts described in this guide work well for human or mouse derived nucleic acids. *For best results, please submit the recommended amount of starting material or more.*

If working with other organisms, please file a [Collaborative Services Inquiry](#) at <https://bcgsc.ca/services/collaborative-services-inquiries>.

If you are submitting a different sample type, please refer to the other user guides at [bcgsc.ca/services](https://bcgsc.ca/services).

## CONTACTS

Submissions

[GSC\\_submissions@bcgsc.ca](mailto:GSC_submissions@bcgsc.ca)

Statements of Work

[SOW@bcgsc.ca](mailto:SOW@bcgsc.ca)

Data Support and Access

[data\\_support@bcgsc.ca](mailto:data_support@bcgsc.ca)

Shipping

[GSC\\_submissions@bcgsc.ca](mailto:GSC_submissions@bcgsc.ca)

General

[info@bcgsc.ca](mailto:info@bcgsc.ca)



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# 1. SAMPLE PREPARATION

## 1.1. TERMS USED

|      |                                  |
|------|----------------------------------|
| FFPE | formalin-fixed paraffin-embedded |
| HMW  | high molecular weight            |
| OCT  | optimal cutting temperature      |
| TNA  | total nucleic acid               |

## 1.2. ACCEPTABLE SAMPLE TYPES

We accept a variety of samples for TNA extraction and sequencing including **blood**, **fresh frozen tissues**, **FFPE tissues**, **saliva and buccal (cheek) swabs**.

## 1.3. GENERAL GUIDELINES

Cell samples are accepted in tube format.

Tissue samples should be shipped **frozen on dry ice at  $-80^{\circ}\text{C}$** .

Blood or saliva samples can be submitted at ambient temperature according to instructions on the collection tubes.

## 1.4. FRESH FROZEN TISSUE IN OCT

All samples **must be frozen at  $-80^{\circ}\text{C}$** . Sections should be  **$50\text{ }\mu\text{m} \times 10\text{ mm} \times 1\text{ mm}$** . A minimum of **4 sections** should be supplied in **2 mL round-bottom tubes**.

## 1.5. HUMAN/ANIMAL TISSUE

Fresh tissue must be snap frozen in liquid nitrogen right after harvesting and **stored at  $-80^{\circ}\text{C}$** . Frozen samples should be shipped on dry ice; any freeze thaw cycles should be avoided.

If necessary, cut the tissue into smaller pieces of suitable size for **2 mL round-bottom cryovials**.

The surgical sample should be of a size that will fit easily into the cryovial so that the frozen tissue can easily be removed from the tube later without the need to thaw it. Tissue size per cryovial should be  **$> 2 \times 3 \times 10\text{ mm}$**  and  **$< 5\text{ mm}^3$** . The width of the tissue should be no larger than approximately 50% of the diameter of the cryovial.

Please submit at least **100 mg of soft tissue** that is minced. If known please provide the weight in milligrams.

For potentially contaminated tissue such as intestine, please ensure guts are cleared out.

## 1.6. SKIN-PUNCH

One **3–4 mm skin punch**, snap frozen or OCT-embedded.



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## 2. ONLINE SAMPLE SUBMISSION

Refer to [Introduction to Our Collaborative Services guide](#) for instructions on using the [Online Sample Submission System](#). We recommend that you fully review this guide to working with us before initiating your submission.

*The online sample submission form must be completed and approved prior to submitting your samples to the GSC.*

If you have any questions, contact us at [GSC\\_Submissions@bcgsc.ca](mailto:GSC_Submissions@bcgsc.ca).



### 3. SAMPLE SHIPPING AND DROP-OFF

*Before shipping your sample, please make sure that your sample submission form has been reviewed and approved.*

#### 3.1. DRY ICE SHIPPING REQUIREMENTS

If shipping samples on dry ice, please adhere to the requirements listed below.

| DO NOT FULLY SEAL                                                                                                                                                                                                                                                                                         | USE ENOUGH DRY ICE                                                                                                                                                                                                                                                                  | AFFIX UN1845 LABEL                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>For safety, <b>dry ice must never be sealed</b> in a container with an airtight seal.</p> <p>A typical shipping container is an internal foam box with cardboard box exterior.</p> <p>To allow sublimating CO<sub>2</sub> to vent, <b>DO NOT completely tape the Styrofoam top or the box top.</b></p> | <p>Samples must be shipped with a <b>minimum of 10 lbs (4.54 kg) of dry ice.</b></p> <p>Dry ice sublimates at rate of 5–10 lbs per 24 hours.</p> <p>If you anticipate any delays during shipping (more than 24 hours), ensure that there is enough dry ice to sample integrity.</p> | <p>To comply with dangerous goods regulations, the outermost container must be labeled with a <b>hazard class 9 label (UN1845)</b>, and a <b>net weight of dry ice</b> (in kilograms).</p>  |



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## 3.2. SAMPLE SUBMISSION BY COURIER

### 3.2.1. BEFORE SHIPPING

*Before shipping your sample, please make sure that your sample submission form has been reviewed and approved.*

### 3.2.2. WHERE TO SHIP

*We recommend shipping Monday to Wednesday — we cannot accept packages on weekends.*

Once your sample submission form is reviewed and approved, ship your samples to:

Dr. Andrew Mungall  
Biospecimen Core, Room 508  
Canada's Michael Smith Genome Sciences Centre  
100 – 570 West 7th Avenue  
Vancouver BC V5Z 1B3 Canada

email: [amungall@bcgsc.ca](mailto:amungall@bcgsc.ca)

tel: 604-707-5900 ext. 675411

### 3.2.3. AFTER SHIPPING

Once samples have been shipped, please notify us of your shipment by email to

[GSC\\_Submissions@bcgsc.ca](mailto:GSC_Submissions@bcgsc.ca).

*Make sure to include the shipment tracking number so we can monitor the progress during transit.*

## 3.3. SAMPLE SUBMISSION BY DROP-OFF

### 3.3.1. BEFORE DROPPING OFF

*Before dropping off your sample, please make sure that your sample submission form has been reviewed and approved.*

When you are on your way to us with the sample, please email us at [GSC\\_Submissions@bcgsc.ca](mailto:GSC_Submissions@bcgsc.ca) so that we know when to expect you.

### 3.3.2. SAMPLE DROP-OFF AND PLATE PICKUP HOURS

9:30 – 11:30 am & 1:30 – 3:30 pm

Monday – Friday

### 3.3.3. ADDRESS

Canada's Michael Smith Genome Sciences Centre  
100 – 570 West 7th Avenue  
Vancouver BC V5Z 1B3 Canada

Once you arrive at our location, please call our office directly at **604-707-5900** ext. **675411**.



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*Bringing genomics to life.*