Princess Margaret Genomics Centre
101 College Street
PMCRT, Room 9-601A
Toronto, ON, M5G 1L7

PMGC SAMPLE SUBMISSION GUIDELINES FOR 10X GENOMICS VISIUM CYTASSIST

Prior to Submission Date

1. Visium is a very time-sensitive assay therefore, please coordinate with Spatial team (farzaneh.aboualizadeh@uhn.ca, amina.abow@uhn.ca) before mounting tissue sections on slides.
2. Please complete the **PMGC 10X Visium Submission Form** prior to sample submission date.
3. Please ensure an **immediate contact** is available for potential issues arising during PMGC preparation requiring decisions for sample processing.
4. Incomplete submission forms or delays in receiving form will cause delays to processing samples under optimal conditions and in a timely timely manner.

Sample Drop-off / Shipping

If dropping off samples: Please **schedule your drop off date and time in advance** with your PMGC contact person.

- Your PMGC contact will meet you at the **9th floor elevator lobby** of the Princess Margaret Cancer Research Tower (PMCRT) at your pre-arranged time. PMCRT is the East Tower of the MaRS building, near the corner of College and Elizabeth Street entrance.
- Email or call/text when you are at the designated meeting area and your PMGC contact will come to collect the samples.
- REMINDER: Transport samples using appropriate means of storage (e.g. on dry ice for frozen samples, ice pack for FFPE). Please confirm with PMGC if any questions.

If shipping samples: Please ship out on **Monday/Tuesday** to prevent weekend delays. For frozen samples, place a generous supply of dry ice to ensure dry ice will remain for the duration of the delivery time. For international clients, we recommend shipping with World Courier for tissues/cells. Within Canada, we recommend FedEX Next Day Priority services.

Shipping address:

Attn: (insert PMGC contact person)
Princess Margaret Genomics Centre
101 College St.
PMCRT, Rm 9-601A
Toronto, Ontario M5G 1L7
Canada

Farzaneh Aboualizadeh
For 10X Visium inquiries,
(416) 581-7439
Farzaneh.Aboualizadeh@uhn.ca

Dr. Troy Ketela, Head of Operations
For new project inquires,
(416) 634-8816
Geneservice@pmgenomics.ca

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Submission Receiving Conditions (Required)

1. Fresh Frozen Samples

1.1 RNA quality of the tissue:

- RNA quality assessment should be done before placing the tissue sections on slides. RNA Integrity Number (RIN) of freshly collected tissue sections should be ≥ 4.

1.2 Section placement on slides:

- Place the tissue sections within the allowable area. Place one tissue section per slide unless the sections are small enough to be captured together, ensure that tissue sections and associated OCT do not overlap with other tissue sections and associated OCT if placing multiple sections on slide.
- Avoid tears, cracks, or folds.
- Recommended section thickness for most tissue types is 10 µm. Tissues with higher fat content (e.g., breast tissue) may require sections closer to 20 µm.

1.3 Storage:

- Keep slides cold and transport on dry ice. **DO NOT leave slides at room temperature**.
- Slides need to be processed within 4 weeks so transfer them to PMGC as soon as you are done sectioning.
- Store slides individually (one slide per slide mailer or 50-ml falcon tube) -80°C.

Please refer to Fresh Frozen Tissue Preparation Guideline for details on how to prepare tissue sections.

2. FFPE Samples

2.1 RNA quality of the tissue:

- RNA quality of the tissue is assessed by calculating DV200 of RNA extracted from freshly collected tissue sections. Tissue with DV200 ≥30% are more likely to generate successful Visium Spatial Gene Expression libraries.

2.2 Section placement on slides:

- Place the tissue sections within the allowable area. Place one tissue section per slide unless the sections are small enough to be captured together, ensure that tissue sections and associated paraffin do not overlap with other tissue sections and associated paraffin if placing multiple sections on slide.
- Avoid tears, cracks, or folds.

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- Recommended section thickness for most tissue types is 5 µm.

2.3 Storage:

- Maintain slides containing tissue sections in a low moisture environment such as a desiccator.
- Transport slides at room temperature.
- Slides need to be processed within 2 weeks so please ensure that you schedule sample submission before mounting tissue sections on slides.

Please refer to FFPE Tissue Preparation Guideline for details on how to prepare tissue sections.

3. Fixed Frozen Samples

3.1 RNA quality of the tissue:

- RNA quality assessment should be done before placing the tissue sections on slides. A DV200 score of ≥50% is recommended for the Visium CytAssist Spatial Gene Expression for Fixed Frozen workflow.

3.2 Section placement on slides:

- Place the tissue sections within the allowable area. Place one tissue section per slide unless the sections are small enough to be captured together, ensure that tissue sections and associated OCT do not overlap with other tissue sections and associated OCT if placing multiple sections on slide.
- Avoid tears, cracks, or folds.
- Recommended section thickness for most tissue types is 10 µm.

3.3 Storage:

- Keep slides cold and transport on dry ice. DO NOT leave slides at room temperature.
- Slides need to be processed within 2 months.
- Store slides individually (one slide per slide mailer or 50-ml falcon tube) at -80°C .

Please refer to Fixed Frozen Tissue Preparation Guideline for details on how to prepare tissue sections.

Before you start, check below table for validated slides for all sample types:

		Vendor	Part Number
Blank Slides	Epredia Shandon ColorFrost Plus Slides	Fisher Scientific	6776214
	Fisherbrand Superfrost Plus Microscope Slides	Fisher Scientific	12-550-15

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	Poly-Prep Slides	Millipore Sigma	P0425
	VWR Superfrost Plus Micro Slides, Premium	VWR	48311-703

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