Genomics Core Lab - Rm N109
Dalhousie University
1348 Summer Street
Halifax, Nova Scotia, B3H 0A8

Contact: Genomics@dal.ca

Sample submission guidelines for 10X Genomics Visium Platform

Prior to sample submission:
Visium runs are time sensitive so please contact Genomics@dal.ca prior to beginning your assay so we can coordinate slide preparation and instrument availability.
Complete the sample submission form.
Provide a cell phone number for a point of contact for any potential issues during assay preparation.

Sample drop off or shipping:
If dropping off samples by hand to the Genomics Core lab, contact Genomics@dal.ca to ensure a seamless handover.

If shipping samples, please only ship on Monday or Tuesday to prevent weekend delays.
For fresh 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: Mat Nightingale
Genomics Core Lab
1348 Summer Street
Life Science Research Institute
Dalhousie University
Halifax, Nova Scotia, B3H 0A8

Receiving Conditions

Fresh Frozen Samples
RNA quality

- RNA quality assessment should be carried out before placing tissue sections on slides.
- RNA Integrity Number (RIN) should be >4.
- If you'd like us to perform this QC step please supply two 20 µm FFPE sections prior to preparing your slides.

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 compound **do not** overlap with other tissue sections and associated OCT compound if placing multiple sections on one 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.

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 Dalhousie Genomics Core as soon as possible after sectioning.
- Store slides individually (one slide per slide mailer or 50ml falcon tube) -80°C.

10X Genomics provides guidance on slide preparation for fresh frozen tissue which can be found here.

FFPE Samples (Preferred)
RNA quality

- 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.
- If you'd like us to perform this QC step please supply two 20 µm FFPE sections prior to preparing your slides.

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 one slide.
- Avoid tears, cracks, or folds.
- Recommended section thickness for most tissue types is 5 µm.

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.

10X Genomics provides guidance on slide preparation for FFPE tissue which can be found here.

Fixed Frozen Samples

RNA quality

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

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 one slide.
- Avoid tears, cracks, or folds.
- Recommended section thickness for most tissue types is 10 µm.

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.

10X Genomics provides guidance on slide preparation for Fixed Frozen samples which can be found here.

Validated slides

	Vendor	**Part number**
Epredia Shandon ColorFrost Plus Slides	Fisher Scientific	6776214
Fisherbrand Superfrost Plus Microscope Slides	Fisher Scientific	12-550-15
Poly-Prep Slides	Millipore Sigma	P0425
VWR Superfrost Plus Micro Slides, Premium	VWR	48311-703