Product data sheet

Spatial Transcriptomics

Product Overview

The 10x Genomics Xenium Analyzer is a high throughput and flexible In Situ Platform which enables high-plex in situ analysis at subcellular resolution on fresh frozen (FF) and formalin fixed paraffin embedded (FFPE) tissue. Xenium allows the following workflows:

Xenium In Situ Gene Expression (v1):
Targets op to 480 gene targets per slide and has a variety of probe panel options which makes the workflow very flexible; these includes: pre-designed panels, custom add-ons, standalone custom or advanced custom panels.

Xenium In Situ Gene and Protein Expression:
An extension to the v1 workflow targeting both RNA and protein simultaneously. Protein is detected through one of six available antibody subpanels and is restricted to FFPE tissue sections.

Xenium Prime 5k Gene Expression:
Targets 5000 genes per slide with the option of adding a custom add-on probe panel (up to 100 custom gene targets). The Prime workflow is limited to two species: human and mouse.

The Xenium Analyzer utilizes DAPI-staining to perform cell segmentation by nuclear expansion. To optimize cell segmentation, users can either include the Xenium Cell Segmentation Add-on Kit (during the Xenium run), and/or perform manual staining (e.g. IF-staining) after the Xenium run. Please find a list of tissues validated using the Xenium Cell Segmentation kit here. If performing manual segmentation or optimization of segmentation is required, Cellpose, a free Deep learning-based image segmentation tool, can be used.

What is Included

- Tissue detachment test (optional)
- Xenium workflows (V1, V1&protein, or Prime 5K)
- Xenium run
- Data delivery
- Post-stain image alignment upon request.

Input Requirements

Xenium slides with high-quality tissue sections:

- Fresh frozen (FF)
- Formalin fixed paraffin embedded (FFPE)
- Tumor microarrays (TMAs).

Gene panels

Choose a panel that is suited for your research project: 10x Genomics pre-designed panels, custom add-ons, standalone custom, advanced custom panels (e.g. other species).
If add-on or custom probe panels are required, design and order probes through 10x Genomics (due to IP rights). Remember to send the probe *j.son* file to SCOP.

Data Deliverables

- Xenium Ranger output files
- Re-segmented with a custom Cellpose model upon request.
- Segmentation refinement using Baysor
- Combined clustering and cell annotation across slides
- Generation of an annotated data object.

Disclaimer

SCOP does not offer the following services: preservation/embedment of tissue, tissue sectioning and/or mounting (contact RMPP), post-stain (e.g. IF-staining, H&E-staining), building cell segmentation models, custom data analysis.