Expand access and simplify sample management with Visium CytAssist

The new Visium CytAssist is a compact, benchtop instrument that facilitates the transfer of transcriptomic and proteomic analytes from standard microscope slides to Visium slides, enabling spatial profiling insights to be gained from even more samples. Compatible with hematoxylin and eosin (H&E)- or immunofluorescence (IF)-stained FFPE tissue sections, the CytAssist instrument allows pre-sectioned tissues to be used for the Visium workflow and eliminates the need to directly section onto Visium slides. Further maximize your Visium experiments by pre-screening tissue sections using standard histological techniques to find biologically significant sections then precisely align those sections within the Visium Capture Area using the CytAssist instrument.

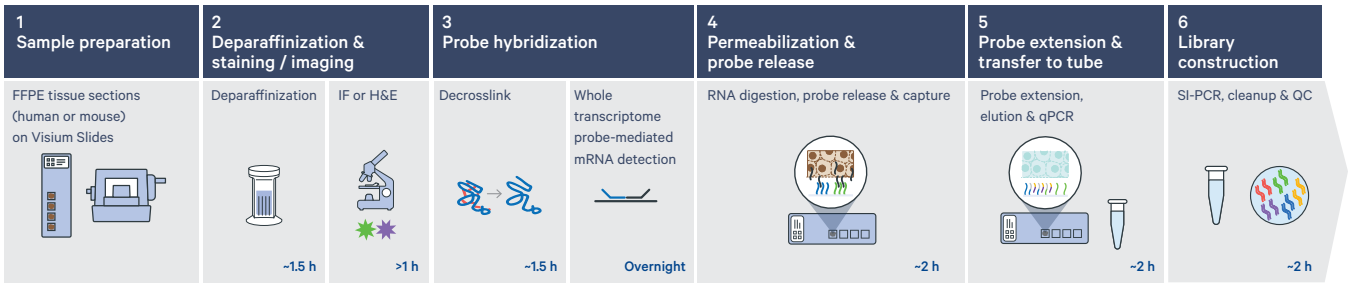
Highlights

- Simplify sample handling with facilitated transfer of transcriptomic and proteomic analytes from standard slides onto the Capture Area of a Visium slide
- Eliminate the need to section directly onto the Visium slide, and expand sample compatibility to pre-sectioned and archived* slides
- Maximize insights from Visium experiments by pre-screening tissue sections with standard histological techniques to select the most biologically significant sections
- Precisely capture analytes from up to two FFPE tissue sections per run in less than one hour using CytAssist specific slides and reagents

*Per specified storage conditions.

Workflow comparison

Standard Visium for FFPE



FFPE with Visium CytAssist

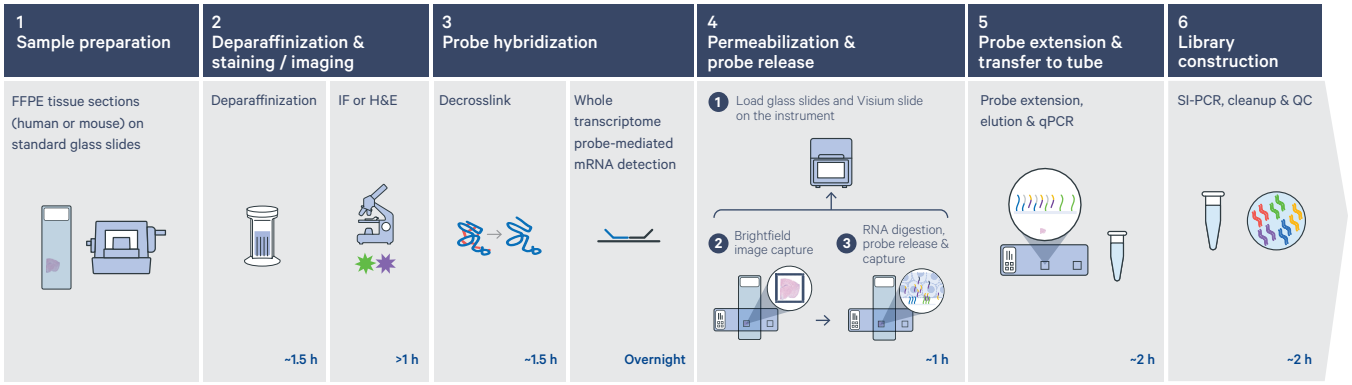


Figure 1. Visium CytAssist enables simplified automated transfer of transcriptomic and proteomic analytes in FFPE samples from standard glass slides to Visium capture slides. A. In the standard Visium for FFPE workflow, an FFPE tissue section is placed directly onto a Visium slide Capture Area, deparaffinized, stained, and imaged (either H&E for morphology or IF for protein co-detection). The gene expression profiling for the FFPE assay leverages RNA-templated ligation of probe pairs for highly specific and sensitive detection of the whole transcriptome (Step 3). The ligated probe pairs are captured on the slide following tissue permeabilization, extended to incorporate complements of the spatial barcodes, and sequencing libraries are prepared (Steps 4–6). **B.** In the Visium CytAssist workflow, the first three steps—sectioning, deparaffinization, staining—and imaging (H&E or IF) take place on a standard glass slide. After probe hybridization (Step 3), two standard glass slides and a two Capture Area Visium slide are placed in the CytAssist instrument so that the tissue sections on the standard slides can be aligned on top of the two Visium Capture Areas. Within the instrument, a brightfield image is captured to provide spatial orientation for data analysis, followed by hybridization of transcriptomic and proteomic analytes to the Visium slide (Step 4). The remaining steps, starting with probe extension, follow the standard Visium FFPE workflow outside of the instrument (Step 5–6).

Visium CytAssist product compatibility

Visium CytAssist is designed for compatibility with the following Visium assays:

- Visium Spatial Gene Expression for FFPE slides with two capture areas; 6.5 x 6.5 mm or 11 x 11 mm
- Visium Spatial Gene Expression for FFPE and Visium Spatial Gene and Protein Expression

Visium CytAssist Target Specifications	
Weight	~18 lbs
Dimensions	9" x 13" x 9" (W x D x H)
Samples per run	two tissue sections
Launch assay compatibility	Visium Spatial Gene Expression for FFPE and Visium Spatial Gene and Protein Expression
Temperature range	25–55°C
System run time	1–90 minutes (1 minute for image capture only)

Contact us
10xgenomics.com | info@10xgenomics.com

SAM000529 - Rev B - Visium CytAssist workflow flyer

10x GENOMICS