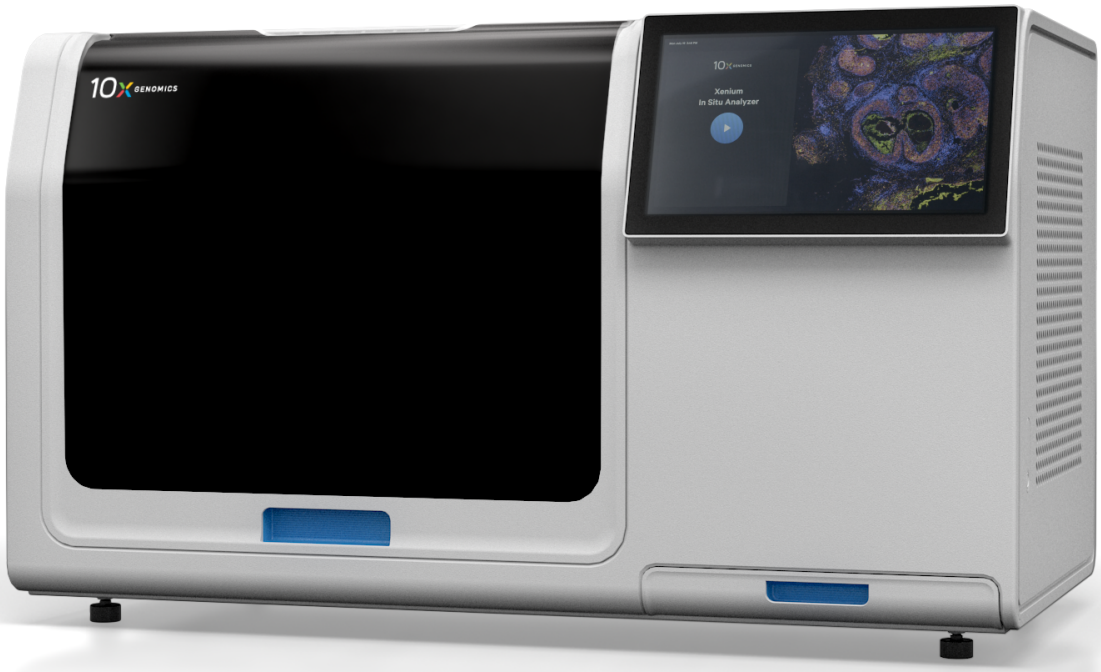
10x GENOMICS

In situ analysis of cells in their true context

Xenium Analyzer



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High throughput

Large imaging areas and multiple slides per run

High resolution

Single cell and subcellular resolution with Z-dimension information

Easy to use

Automated to expand access
Intuitive analysis tools

Introducing Xenium

Using high-throughput single cell analysis to understand cellular diversity in tissues has opened new avenues of investigation and fueled new discoveries. These insights are only made richer when combined with spatial information. Examining spatial cellular patterns reveals details of the organization of normal and diseased tissue, the immune response and the complex arrangement of neural tissue.

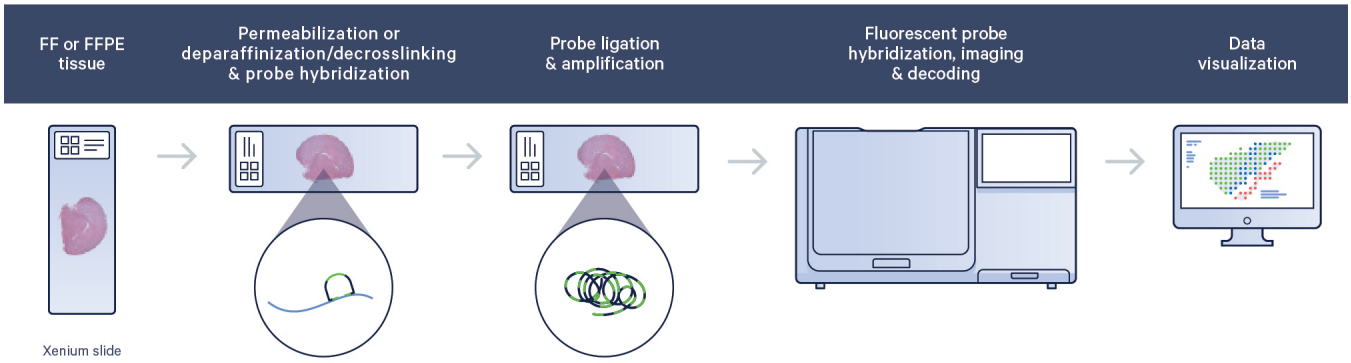
Xenium puts this analysis into much-needed context. The Xenium Analyzer instrument is designed for fully automated high-throughput analysis of cells in their tissue environment. Part of an end-to-end solution that includes pre-designed, validated panels and analysis tools for visualizing and studying spatial patterns of expression, the Xenium Analyzer is next-level in situ. Xenium may also be combined with single cell and spatial discovery techniques to bring greater resolution and enable a deeper look into gene expression patterns, helping researchers develop and refine hypotheses.

In Situ Analysis

Xenium in situ analysis detects and preserves the cellular localization of hundreds of RNA targets directly in a tissue section without the need for conventional sequencing. This provides researchers with a detailed map of gene expression patterns without sacrificing resolution or target number.

Technology overview

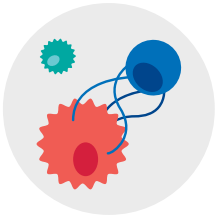
Xenium in situ analysis uses circularizable probes specific to target transcripts followed by enzymatic amplification to create a target for fluorescent probe hybridization. On the Xenium Analyzer, microscope images of the tissue detect the location of each fluorescent probe, which is then removed. Successive rounds of fluorescent probe hybridization, imaging, and removal creates a unique optical signature that reveals the identity of the RNA at a location within each cell of a tissue. In the future, Xenium will allow the detection of both RNA and protein in the same tissue section, revealing complex and nuanced expression patterns.



Build spatial transcriptome maps with Xenium In Situ. Fresh Frozen or FFPE tissues are sectioned onto a Xenium slide. Sections are treated to access RNA for labeling with circularized DNA probes. Next, probe ligation generates a circular DNA probe which is enzymatically amplified. The slide is placed in the Xenium Analyzer for hybridization, imaging, decoding and data processing.

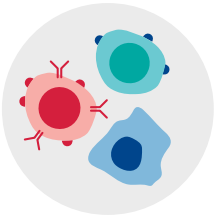
Applications and research areas

Xenium allows researchers to identify gene expression patterns of cells in their original tissues, providing detailed spatial information that will aid research in many application areas, including:



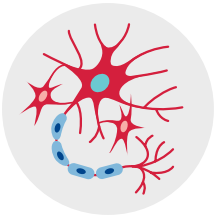
Oncology

Reveal the spatial features of heterogeneity in the tumor and immune microenvironment and identify biomarkers with potential therapeutic impact.



Immunology

Characterize the immune system and spatial localizations in response to infectious disease, allergic inflammation and autoimmune disorders.



Neuroscience

Uncover spatial expression patterns in complex neural tissues in response to disease and traumatic injury.

Product description	Product code
Xenium Analyzer	1000481

Product specifications	
Parameter	Specifications
Weight	~420lbs (~190.5kg)
Dimensions (W x D x H)	52.6" [133.5 cm] x27.0" [68.5 cm] x 31.1" [79.0 cm]
Electrical Requirements	200-240 VAC, 50-60Hz
Usable Temperature Range	19-25 ˚C (61-77˚F)
Humidity Range	30-80% RH (non-condensing)
Resolution	~0.2 microns/pixel; <50nm lateral localization precision per image
Run Time	Up to 3 runs per week
Throughput	Up to 2 slides per run; 12 x 24 mm imageable area per slide
Sample Type	FF and FFPE tissue sections
Targets and Plexy Level	Up to 400 RNA transcripts

Your map to spatial biology

Today's spatial biology is mapping in unprecedented detail the organization of cells within tissues. These maps, produced on the Xenium Analyzer, will allow researchers to navigate the genesis of human disease and the pathway to discovering therapies. Xenium will open the door to answering tough biological questions that were once out of reach. Our team of technical experts is here to guide and support you on your road to spatial discovery.

Take your spatial journey with us.

Note: The information presented in this document includes 10x Genomics, Inc.'s estimates regarding the performance and specifications of the to-be-launched Xenium platform. An internet connection is required for the installation and use of Xenium instruments. 10x Genomics collects certain system logs generated by Xenium instruments, which may be used by 10x Genomics for the purposes of monitoring and improving product performance. Such logs do not include any biological data regarding experimental samples. In addition, when you contact 10x Genomics for troubleshooting or other technical support for your Xenium instrument, 10x Genomics personnel may remotely access the Instrument for the purposes of providing such support. Remote access is currently required for most forms of 10x Genomics technical support. For further information, please consult with your 10x sales representative.

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

LIT000175 - Rev B - Brochure - In situ analysis of cells in native tissue - Xenium Analyzer

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