

# **Spatial Biology & Multi-Omics Market Forecasts to 2034 – Global Analysis By Product (Spatial Transcriptomics Platforms, Spatial Genomics Systems, Spatial Proteomics Platforms, Multi-Omics Integration Platforms, Other Products), By Component, By Technology, By Omics Type, By Application and By Geography**

<https://marketpublishers.com/r/S604A1ACC5A8EN.html>

Date: March 2026

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: S604A1ACC5A8EN

## **Abstracts**

According to Statistics MRC, the Global Spatial Biology & Multi-Omics Market is accounted for \$339.98 million in 2026 and is expected to reach \$841.89 million by 2034 growing at a CAGR of 10.6% during the forecast period. Spatial Biology & Multi-Omics refers to integrated technologies that analyze biological molecules such as DNA, RNA, proteins, and metabolites—while preserving their spatial organization within tissues or cells. These approaches combine genomics, transcriptomics, proteomics, and metabolomics with spatial mapping tools to reveal how molecular interactions occur within complex biological systems. The technology enables deeper understanding of disease mechanisms, tumor microenvironments, and cellular heterogeneity. Spatial biology and multi-omics platforms are increasingly used in precision medicine, biomarker discovery, and drug development, helping researchers visualize molecular activity and interactions within their natural biological context.

### **Market Dynamics:**

#### **Driver:**

Growing demand for precision medicine research

Precision medicine focuses on tailoring treatments based on an individual's genetic, molecular, and cellular characteristics. Spatial biology technologies allow researchers to study gene expression and protein interactions within the spatial context of tissues. This helps scientists better understand disease mechanisms at a cellular level. Pharmaceutical and biotechnology companies are increasingly using these technologies to identify therapeutic targets and develop personalized therapies. As healthcare shifts toward more patient-specific treatment strategies, the adoption of spatial biology and multi-omics technologies continues to rise.

**Restraint:**

Complex data analysis and interpretation

Complex data technologies generate massive and highly complex datasets that combine genomic, transcriptomic, proteomic, and spatial information. Interpreting such multidimensional data requires advanced computational tools and specialized expertise. Many research institutions face challenges in integrating and analyzing this data effectively. The lack of standardized data processing pipelines further complicates the process. As a result, the complexity of data management can limit the widespread adoption of spatial biology and multi-omics platforms.

**Opportunity:**

Expansion in oncology and biomarker discovery

Cancer research increasingly relies on understanding tumor microenvironments and cellular heterogeneity. Spatial biology technologies enable researchers to analyze how cancer cells interact with surrounding tissues and immune cells. This provides valuable insights for identifying novel biomarkers and therapeutic targets. Multi-omics integration further enhances the ability to detect disease-specific molecular signatures. Pharmaceutical companies are actively investing in these technologies to improve cancer diagnosis and treatment development. As oncology research expands globally, demand for spatial biology solutions is expected to increase.

**Threat:**

Limited skilled bioinformatics professionals

Handling multi-omics data requires expertise in computational biology, data science,

and advanced statistical analysis. However, there is a limited workforce with the necessary skills to manage and interpret these complex datasets. This shortage can slow research progress and limit the effective use of spatial biology technologies. Many organizations also face challenges in training personnel to operate sophisticated analytical tools. Without adequate expertise, the potential benefits of these technologies may not be fully realized.

### **Covid-19 Impact:**

The COVID-19 pandemic had a notable impact on the Spatial Biology & Multi-Omics market. Researchers used multi-omics technologies to study the molecular mechanisms of SARS-CoV-2 infection and immune responses. Spatial biology tools helped scientists understand how the virus affected different tissues and cell types. This increased research interest and funding for advanced omics technologies. However, pandemic-related disruptions initially slowed laboratory operations and research activities in many institutions. Overall, the pandemic accelerated the adoption of advanced biological analysis technologies in infectious disease research.

The spatial transcriptomics platforms segment is expected to be the largest during the forecast period

The spatial transcriptomics platforms segment is expected to account for the largest market share during the forecast period as these platforms enable high-resolution mapping of gene expression within tissue samples. Researchers can analyze how genes are expressed in specific cells while preserving the spatial context of the tissue environment. This capability is particularly valuable in studying complex diseases such as cancer, neurological disorders, and inflammatory conditions. Pharmaceutical companies and academic institutions widely use spatial transcriptomics for biomarker discovery and therapeutic target identification. The technology also supports integration with other omics approaches for deeper biological insights.

The drug development segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the drug development segment is predicted to witness the highest growth rate due to increasing use of spatial biology and multi-omics technologies in pharmaceutical research. These technologies help identify disease mechanisms, validate drug targets, and monitor therapeutic responses more accurately. Integrating multi-omics data allows researchers to better understand complex biological

pathways involved in diseases. Pharmaceutical companies are increasingly incorporating spatial analysis into preclinical and translational research workflows. This improves the efficiency of drug discovery and reduces the risk of clinical trial failures.

### **Region with largest share:**

During the forecast period, the North America region is expected to hold the largest market share owing to strong research infrastructure and high investments in biotechnology and genomics. The region hosts many leading biotechnology companies, pharmaceutical firms, and academic research institutions. Government funding and private investments strongly support omics-based research initiatives. Additionally, the presence of advanced sequencing technologies and bioinformatics expertise accelerates innovation in spatial biology. Numerous collaborations between industry and academic organizations also contribute to technological advancements.

### **Region with highest CAGR:**

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by expanding biotechnology industries and increasing investments in life science research. Countries such as China, Japan, South Korea, and India are strengthening their genomic and biomedical research capabilities. Governments across the region are supporting omics research through funding programs and innovation initiatives. The rising number of pharmaceutical and biotechnology companies is also contributing to the adoption of advanced research technologies. Additionally, growing healthcare awareness and demand for precision medicine are accelerating market growth.

### **Key players in the market**

Some of the key players in Spatial Biology & Multi-Omics Market include 10x Genomics, Inc., NanoString Technologies, Inc., Illumina, Inc., Akoya Biosciences, Inc., Thermo Fisher Scientific Inc., Bruker Corporation, Standard BioTools Inc., BGI Genomics, Parse Biosciences, Lunaphore Technologies SA, Olink Holding AB, Oxford Nanopore Technologies plc, SciLifeLab, Visium Diagnostics and ImmunoGenomics, Inc.

### **Key Developments:**

In January 2026, 10x Genomics entered a strategic collaboration with CareDx to launch ImmuneScape, a multiomics research initiative. The program will use 10x's Xenium

spatial and Chromium Flex single cell platforms to create high-resolution maps of immune mechanisms in transplant rejection, aiming to advance personalized transplant medicine.

In May 2024, Bruker Corporation completed its acquisition of NanoString Technologies for \$392.6 million in cash, buying the assets and rights associated with the company after NanoString filed for bankruptcy. This strategic acquisition was aimed at bolstering Bruker's portfolio in the rapidly growing spatial biology market by integrating NanoString's CosMx and GeoMx spatial platforms.

#### Products Covered:

Spatial Transcriptomics Platforms

Spatial Genomics Systems

Spatial Proteomics Platforms

Multi-Omics Integration Platforms

Other Products

#### Components Covered:

Instruments

Reagents & Kits

Consumables

Software

Other Components

#### Technologies Covered:

Next-Generation Sequencing

In Situ Hybridization

Mass Spectrometry Imaging

Multiplexed Immunofluorescence

AI & Multi-Omics Integration

Other Technologies

#### Omic Types Covered:

Genomics

Transcriptomics

Proteomics

Metabolomics

Other Omic Types

#### Applications Covered:

Oncology Research

Neurology Research

Immunology Research

Drug Development

Biomarker Discovery

Other Applications

## Regions Covered:

### North America

United States

Canada

Mexico

### Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

### Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

### **What our report offers:**

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

### **Free Customization Offerings:**

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

#### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

#### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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