

Spatial Genomics and Spatial Transcriptomics Market by Type of Solution (Instruments, Consumables and Services), Type of Sample (DNA, RNA and Proteins), End Users (Pharmaceutical and Biotechnology Companies, and Academic and Research institutes), Research Areas (Oncology, Immunology, Neurology, Infectious and Others), and Key Geographical Regions (North America, Europe, and Asia-Pacific and the Rest of the World): Industry Trends and Forecasts, 2022-2035

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Abstracts

The global spatial genomics and spatial transcriptomics market is expected to reach USD 4.7 billion in 2022 anticipated to grow at a CAGR of 11.9% during the forecast period 2022-2035.

Since the first unveiling of the human genetic map in 1987, the field of omics-based analysis has undergone substantial evolution. Researchers have transitioned from solely decoding gene sequences to exploring the spatial distribution and interactions of cell types, delving into biomarkers such as DNA, RNA, and proteins. This approach, referred to as spatial phenotyping, aims to comprehend the arrangement of biological elements within tissues.

Conventional molecular profiling techniques, like microarrays, quantitative polymerase chain reaction (qPCR), flow cytometry, mass spectrometry, immunohistochemistry, and enzyme-linked immunosorbent assays (ELISA), while extensively used, tend to

dissociate tissue samples, resulting in the loss of vital spatial information across the genome, transcriptome, and proteome. Recognizing this limitation, innovators have merged cell imaging with molecular profiling to visualize and quantify cells and biomarkers within intact tissue samples. These integrated solutions, comprising platforms, associated reagents, and software applications, empower researchers to broaden their studies, gain deeper insights into disease morphology, identify novel biomarkers, and develop precise therapies.

Moreover, these spatial phenotyping platforms seamlessly integrate with existing Next-Generation Sequencing (NGS) workflows. Consequently, there's a growing inclination towards adopting these innovative devices to expand research endeavors, encompassing the spectrum from discovery to clinical phases. Recent surveys indicate a 44% intention among respondents to invest in spatial profiling platforms. Simultaneously, a study published in JAMA Oncology underscored the superiority of spatial phenotyping methods in analyzing biomarkers among patients with immunological diseases. Notably, in 2020, Nature Methods recognized Spatial Transcriptomics as its 'Method of the Year.'

To capitalize on the burgeoning opportunities in this specialized market, developers of spatial-omics solutions are striving to broaden the reach of their technologies among diverse clientele, including academic research centers, institutes, and biopharma companies. They are enhancing their devices with advanced features such as machine learning-based image analysis, automated sample processing, high-multiplexing, and tailored gene panels for specific biomarkers, including those associated with SARS-CoV-2.

Furthermore, the cost of conducting these intricate tests has notably decreased in recent years. Spatial analysis of highly complex stained panels now costs approximately USD 1,000 per slide, aligning with the cost of whole-genome sequencing via NGS. Additionally, these instruments efficiently process formalin-fixed paraffin-embedded (FFPE) tissue samples, vital as nearly 80% of translational research studies utilizing tissue samples rely on this sample type.

Some industry players have introduced customized access programs for biopharmaceutical companies, enabling them to leverage spatial omics technologies in guiding their drug development initiatives. The continual innovation and increasing adoption of spatial biology solutions indicate a promising outlook, suggesting sustained market growth for providers of spatial profiling solutions in the forecast period.

Report Coverage

An Executive summary including the main research insights about the current state and future of spatial omics solutions market.

Introduction to Spatial Omics Solutions: Explores the need, evolution, features, techniques, components, and potential applications in various disease areas.

Market Landscape of Spatial Omics Solutions providing an overview of 40+ players in spatial genomics, transcriptomics, and proteomics, detailing their offerings, types of samples analyzed, detection methods, etc.

Competitiveness analysis evaluates spatial omics technologies based on supplier strength and portfolio diversity.

Detailed profiles of solution providers offering in-depth profiles of key companies, their solutions, financial info (if available), recent developments, and future outlook.

Partnerships and collaborations analyze partnerships in spatial solutions, focusing on types, therapeutic areas, and key players involved from 2017-2022.

Patent Analysis delves into the patents filed/granted for spatial profiling solutions, discussing trends, geography, patent holders, and a valuation analysis.

Scientific articles review 600+ peer-reviewed articles on spatial omics solutions, highlighting publication trends, keywords, top journals, and publishers.

Genome sequencing technologies landscape exploring sequencing technologies, applications, providers, and technical specifications in the genome sequencing domain.

Market forecast analysis forecasts the future of spatial omics solutions market till 2035, segmenting projections based on solution type, sample, end-users, research areas, and geography.

Interview Transcripts containing interviews with key stakeholders in the spatial analysis market.

Key Market Companies

10x Genomics

Akoya Biosciences

Bruker

Canopy Biosciences

NanoString Technologies

Vizgen

Lunaphore Technologies

Molecular Machines & Industries

Resolve Biosciences

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