

# U.S. Microarray Market Size, Share & Trends Analysis Report By Product & Services (Instruments, Consumables, Software & Services), By Type (DNA Microarray, Protein Microarray), By Application, By End Use, And Segment Forecasts, 2025 - 2033

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## Abstracts

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### U.S. Microarray Market Size & Trends

The U.S. microarray market size was estimated at USD 2.65 billion in 2024 and is projected to grow at a CAGR of 5.7% from 2025 to 2033. The market is driven by the surging demand for personalized medicine, especially in precision oncology and pharmacogenomics. With rising investments from the NIH, universities, and biotech firms, microarrays are invaluable for identifying biomarkers, profiling gene expression, and tailoring therapeutic regimens-ultimately improving patient outcomes. In addition, the escalating prevalence of cancer and chronic diseases further enhances reliance on high-throughput genomic tools like microarrays for early detection and drug discovery.

Recent advancements in cancer research have significantly leveraged microarray instruments and reagents to enhance diagnostic accuracy and molecular profiling. Microarray platforms are increasingly used for gene expression profiling, allowing researchers to identify cancer-specific biomarkers, predict prognosis, and guide targeted therapies. In the U.S., companies such as Thermo Fisher Scientific, Agilent Technologies, and Illumina have introduced updated reagent kits optimized for high-throughput assays and low input RNA/DNA samples-critical for analyzing tumor biopsies. For instance, Thermo Fisher's GeneChip reagents support whole-transcriptome analysis in oncology research, while Agilent's SureTag DNA labeling kits

enable robust hybridization for comparative genomic hybridization (CGH) in cancer cytogenetics. Illumina's Infinium assay kits, widely compatible with the iScan system, allow for simultaneous interrogation of methylation and SNP profiles, aiding in epigenetic cancer studies.

Growing investment and innovation in U.S.-based microarray technologies are poised to accelerate market growth, particularly in next-generation applications such as intradermal patch delivery. In March 2023, Vaxess Technologies, a Massachusetts-based biotech firm, secured an additional USD 9 million in funding to advance its MIMIX sustained-release intradermal microarray patch platform. This novel platform aims to revolutionize vaccine and therapeutic delivery by enabling self-administered, extended-release dosing through a skin patch. The funding, led by prominent U.S. investors such as RA Capital Management and The Engine (MIT's venture fund), will support ongoing clinical trials for influenza and COVID-19 vaccines and broaden the platform's applications into oncology, autoimmune diseases, and metabolic disorders.

Beyond healthcare, microarray technologies are gaining momentum in U.S. agriculture and environmental science. In precision farming, microarrays are used to decode plant genomes and identify traits that enhance resistance to pests and climate stressors, which are addressing U.S. food security challenges. Additionally, environmental agencies and academic institutions are increasingly using microarray-based toxicogenomic assays to evaluate the impact of pollutants on gene expression in local ecosystems. This multifaceted applicability—from clinical research to sustainability continues to expand the role of microarray instruments and reagents in driving innovation across sectors in the United States.

## U.S. Microarray Market Report Segmentation

This report forecasts revenue growth at country levels and provides an analysis of the latest industry trends in each of the sub-segments from 2021 to 2033. For this study, Grand View Research has segmented the U.S. microarray market report based on products and services, type, application, and end use.

Product and Services Outlook (Revenue, USD Million, 2021 - 2033)

Consumables

Software and Services

Instruments

Type Outlook (Revenue, USD Million, 2021 - 2033)

DNA Microarrays

Protein Microarrays

Others

Application Outlook (Revenue, USD Million, 2021 - 2033)

Research Applications

Drug Discovery

Disease Diagnostics

Others

End Use Outlook (Revenue, USD Million, 2021 - 2033)

Research & Academic Institutes

Pharmaceutical & Biotechnology Companies

Diagnostic Laboratories

Others

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