

Japan Next Generation Sequencing Market Size, Share & Trends Analysis Report By Technology (Whole Genome Sequencing, Whole Exome Sequencing, Targeted Sequencing & Resequencing), By Product, By Application, By Workflow, By End Use, And Segment Forecasts, 2025 - 2033

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Abstracts

Market Size & Trends

The Japan next-generation sequencing market size was valued at USD 387.5 million in 2024 and is projected to grow at a CAGR of 17.24% from 2024 to 2033. Key drivers of this growth include the declining costs associated with genetic sequencing and significant advancements in cloud computing and data integration technologies. Moreover, rising investments in cancer treatment and the broad application of next-generation sequencing (NGS) in cancer diagnosis and therapy are expected to propel market expansion further.

Rising Cancer Burden & Precision Medicine Initiatives

Japan faces some of the highest cancer rates and death rates worldwide, which continue to put a lot of pressure on its healthcare system. This increasing burden creates a strong need for advanced diagnostic tools that allow early detection, accurate characterizations of tumors, and improved treatment choices. Next-generation sequencing (NGS) has become a key technology in this effort, as it enables detailed genomic profiling of tumors, identification of actionable mutations, and monitoring of disease progression through liquid biopsies. The clinical usefulness of NGS in oncology is gaining recognition across Japan's hospitals and cancer research centers, leading to

broader adoption in routine cancer diagnostics.

Government-backed precision medicine initiatives further accelerate this trend by promoting the integration of NGS into mainstream clinical practice. National programs like the Cancer Genomic Medicine Program, established by Japan's Ministry of Health, Labour and Welfare, have appointed specialized cancer genome medical centers across the country, ensuring equitable access to advanced sequencing-based diagnostics. Additionally, companion diagnostics for targeted therapies are increasingly gaining approval from Japan's regulatory authorities, which boosts the clinical demand for NGS technologies. Since oncology remains the largest application area for NGS in Japan, the combined effect of rising cancer rates and supportive government precision medicine efforts is a strong driver of market growth.

Supportive Government Policies & Genomic Programs

The Japanese government has played a key role in increasing the use of next-generation sequencing (NGS) technologies by creating a supportive research and regulatory environment. National initiatives like the Japan Genomic Medicine Program and the Cancer Genomic Medicine Promotion Plan have allocated significant funding for large-scale genomic research, including population-based genome sequencing projects and clinical cancer genome studies. These programs aim to boost academic research and develop strong databases that form the basis for translational medicine, biomarker discovery, and new therapeutic development. By investing in infrastructure such as cancer genome sequencing centers and national biobanks, Japan enables researchers to access high-quality genomic data that speed up discoveries in disease mechanisms and personalized treatments.

The country's regulatory framework has progressed to support faster and smoother integration of NGS into research and clinical workflows. The Pharmaceuticals and Medical Devices Agency (PMDA) has established clear approval pathways for NGS-based diagnostic panels and companion diagnostics, lowering barriers for academic groups and industry researchers to develop new assays and platforms. These supportive policies foster collaborations among universities, hospitals, and biotechnology companies, creating a thriving research ecosystem. The alignment of government funding, regulatory support, and institutional participation makes Japan one of the most research-intensive markets for NGS worldwide, establishing it as a hub for genomics-driven innovation in Asia.

Japan Next Generation Sequencing Market Report Segmentation

This report forecasts revenue growth at country level and provides an analysis on the latest trends in each of the sub-segments from 2021 to 2033. For the purpose of this report, Grand View Research has segmented the Japan next generation sequencing market on the basis of technology, product, end use, workflow, and application:

Technology Outlook (Revenue in USD Million, 2021 - 2033)

Whole Genome Sequencing

Whole Exome Sequencing

Targeted Sequencing & Resequencing

DNA-based

RNA-based

Others

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

Consumables

Sample Preparation

Target Enrichment

Platforms

Sequencing

Data Analysis

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

Oncology

Diagnostics and Screening

Oncology Screening

Sporadic Cancer

Inherited Cancer

Companion Diagnostics

Other Diagnostics

Research Studies

Clinical Investigation

Infectious Diseases

Inherited Diseases

Idiopathic Diseases

Non-Communicable/Other Diseases

Reproductive Health

NIPT

Aneuploidy

Microdeletions

PGT

Newborn Genetic Screening

Single Gene Analysis

HLA Typing/Immune System Monitoring

Metagenomics, Epidemiology & Drug Development

Agrigenomics & Forensics

Consumer Genomics

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

Pre-Sequencing

Nucleic Acid Extraction

Library Preparation

Sequencing

NGS Data Analysis

NGS Primary Data Analysis

NGS Secondary Data Analysis

NGS Tertiary Data Analysis

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

Academic Research

Clinical Research

Hospitals & Clinics

Pharma & Biotech Entities

Other users

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