

# **NGS-based RNA-sequencing Market Size, Share & Trends Analysis Report By Product & Service (Consumables, Instruments, Services), By Workflow (Pre-sequencing, Sequencing, Data Analysis), By Application, By End Use, By Region, And Segment Forecasts, 2025 - 2030**

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## **Abstracts**

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### **NGS-based RNA-sequencing Market Growth & Trends**

The global NGS-based RNA-sequencing market size is expected to reach USD 10.05 billion by 2030 and is anticipated to grow at a CAGR of 17.3% from 2025 to 2030, according to a new report by Grand View Research, Inc. This growth is attributed to rising demand for precision medicine, advancements in sequencing technologies, and increasing applications in diagnostics, drug discovery, and disease research. Expanding bioinformatics capabilities and declining sequencing costs further support widespread market adoption.

The COVID-19 pandemic has accelerated the adoption of NGS-based RNA-sequencing owing to its critical role in understanding viral mutations, host response, and pathogen transcriptomics. The urgent need for advanced genomic tools in vaccine and therapeutic development highlighted the value of RNA-sequencing, driving rapid integration into research and public health efforts. This shift has reinforced its importance in infectious disease monitoring and preparedness.

In addition, advancements in high-throughput sequencing technologies have

significantly enhanced the speed, accuracy, and scalability of RNA-sequencing. These innovations enable more comprehensive transcriptome profiling, reduce turnaround times, and lower costs, making NGS-based RNA sequencing more accessible for both research and clinical applications.

However, high initial costs associated with sequencing platforms and infrastructure, and ethical concerns surrounding genomic data usage are expected to hamper market growth. These challenges may limit adoption, particularly in resource-constrained settings and regions with stringent data privacy regulations.

### NGS-based RNA-sequencing Market Report Highlights

Based on product and service, the consumables segment dominated with the largest revenue share of 58.12% in 2024, due to continuous advancements in reagent chemistry and the growing demand for quality, efficient sequencing kits. However, services are expected to grow at the fastest CAGR over the forecast period.

Based on workflow, the sequencing segment held the largest market share in 2024, driven by increased adoption of advanced platforms offering faster turnaround and cost-effective processing. On the other hand, the data analysis segment is anticipated to witness the fastest CAGR of 18.49% over the forecast period.

Based on application, the drug discovery & development segment holds the largest revenue share for application in 2024. This is attributed to the growing use of RNA-sequencing in identifying novel targets and accelerating therapeutic development. However, the clinical diagnostics segment is projected to grow at the highest CAGR over the forecast period.

Based on end use, the pharmaceutical & biotechnology companies segment held the largest share in 2024. The growth is due to increased adoption of RNA-sequencing for biomarker discovery, clinical research, and personalized drug development. On the other hand, the hospitals & clinics segment is expected to register the fastest growth rate during the projected period.

North America dominated the NGS-based RNA-sequencing market owing to factors such as advanced healthcare infrastructure, strong research funding, and high adoption of precision medicine and genomic technologies. Asia Pacific is expected to grow at the fastest CAGR during the forecast period.

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