

North America Nucleic Acid Isolation And Purification Market Size, Share & Trends Analysis Report By Product (Kits & Reagents, Instruments), By Type, By Method (Column-based, Magnetic Beads), By Application, By End-use, By Country, And Segment Forecasts, 2025 - 2030

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Abstracts

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North America Nucleic Acid Isolation & Purification Market Growth & Trends

The North America nucleic acid isolation and purification market size is expected to reach USD 4.15 billion by 2030, growing at a CAGR of 10.0% from 2025 to 2030. This growth is driven by the increasing demand for advanced molecular diagnostics, rising investments in genomics and personalized medicine, and expanding drug discovery and clinical research applications. Technological advancements in automation and high-throughput systems fuel market expansion, alongside the growing prevalence of genetic disorders and infectious diseases that require accurate nucleic acid analysis.

Moreover, growing awareness and adoption of precision agriculture and environmental genomics are emerging as important growth drivers for the nucleic acid isolation and purification market. In precision agriculture, nucleic acid technologies enable detailed genetic analysis of crops and soil microbiomes, improving yield, disease resistance, and sustainability. Similarly, environmental genomics applications involve monitoring biodiversity and detecting pathogens in ecosystems. These expanding uses create new demand for advanced nucleic acid isolation tools, broadening the market beyond traditional healthcare and research sectors. As industries recognize the value of genetic

insights for optimizing resources and environmental management, market growth is further accelerated.

However, the high costs associated with advanced automated nucleic acid isolation systems and consumables pose a significant restraint, particularly for smaller laboratories and emerging markets. Additionally, the complexity of specific technologies and the need for specialized training can limit widespread adoption. Regulatory challenges and strict compliance requirements further slow market expansion. These factors collectively hinder accessibility and affordability, restricting growth despite rising demand for nucleic acid purification solutions.

North America Nucleic Acid Isolation And Purification Market Report Highlights

Based on product, the kits & reagents held the largest market share in 2024. This is attributed to their ease of use and broad application in research and diagnostics. Continuous innovation and cost-effectiveness further support their widespread adoption. The instruments segment is expected to grow fastest over the forecast period.

The DNA isolation & purification segment dominated the type market share in 2024 and is anticipated to grow at the fastest CAGR over the forecast period. This is driven by increasing demand for DNA analysis in genomics research, clinical diagnostics, and biopharmaceutical development. However, RNA isolation & purification are anticipated to grow at a significant CAGR over the forecast period.

The drug discovery & development as an application held the largest market share of 35.76% in 2024 and is anticipated to grow at the fastest CAGR over the forecast period. Rising R&D investments, increased use of nucleic acid analysis for target identification, and the growing demand for precision medicine and biomarker discovery drive this. However, Precision Medicine is anticipated to grow at a significant CAGR over the forecast period.

The magnetic beads segment dominated the method segment with the largest share in 2024 and is anticipated to grow at the fastest CAGR over the forecast period. This growth is attributed to its high efficiency, scalability, and ability to deliver rapid, pure nucleic acid isolation, making it ideal for high-throughput and automated applications. However, column-based methods are expected to grow significantly over the forecast period.

The hospitals and diagnostic centers segment dominated the end use segment with the largest share in 2024. This growth is attributed to the increasing adoption of nucleic acid-based diagnostic tests, the rising prevalence of infectious and genetic diseases, and the expanding clinical testing infrastructure across the region. However, pharmaceutical & biotechnology companies are expected to grow at the highest rate over the forecast period.

Companies Mentioned

Thermo Fisher Scientific, Inc.

QIAGEN

Merck KGaA

Illumina, Inc.

Danaher

F. Hoffmann-La Roche Ltd

Agilent Technologies

Bio-Rad Laboratories, Inc.

Takara Bio Inc.

Promega Corporation

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