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Nucleic Acid Sample QC Market - A Global and Regional Analysis: Focus on Product Type, Technology, Downstream Application, End User, and Country - Analysis and Forecast, 2025-2035

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Abstracts

The global nucleic acid sample QC market is emerging as a vital segment within molecular biology and genomics workflows, driven by the growing need to ensure the quality, purity, concentration, and integrity of DNA and RNA samples before downstream analysis. As laboratories increasingly rely on high-precision techniques such as next-generation sequencing, PCR, qPCR, and other molecular diagnostic applications, sample quality control has become an essential checkpoint for improving accuracy, reproducibility, and overall workflow efficiency.

Valued at $267.2 million in 2024, the global nucleic acid sample QC market is projected to reach $483.9 million by 2035, reflecting steady expansion across research, clinical, and biopharmaceutical settings. The market is expected to grow at a CAGR of 5.66% from 2025 to 2035, supported by rising investments in genomics research, expanding applications of personalized medicine, and increasing adoption of molecular testing in disease diagnosis and drug development.

The market is also benefiting from the broader shift toward automation, higher sample throughput, and standardized laboratory processes. As the volume and complexity of nucleic acid-based analysis continue to rise, demand for reliable QC solutions is expected to strengthen, positioning this market as a foundational enabler of modern life science and diagnostic workflows.

Nucleic Acid Sample QC Market Segmentation:

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Segmentation 1: Global Nucleic Acid Sample QC by Product

Instruments

Consumables and Reagents

Software

Consumables Segment to Continue Dominating the Nucleic Acid Sample QC Market (by Product)

Based on product, the nucleic acid sample QC market has been led by consumables, which held a 66.6% share in 2024.

Segmentation 2: Global Nucleic Acid Sample QC Market by Technology

Spectrophotometry

Fluorometry

Capillary/Microfluidic Electrophoresis

Others

Spectrophotometry Segment to Continue Dominating the Nucleic Acid Sample QC Market by Technology)

Based on the technology, the nucleic acid sample QC market has been led by spectrophotometry, which held a 40.0% share in 2024.

Segmentation 3: Global Nucleic Acid Sample QC Market by Downstream Application

NGS Library Preparation and Sequencing

PCR/qPCR Assay Development

Clinical Molecular Diagnostics

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Transcriptomics and Gene Expression

Others

NGS Library Preparation and Sequencing Segment to Continue Dominating the Nucleic Acid Sample QC Market by Downstream Application)

Based on the downstream application, the nucleic acid sample QC market has been led by NGS Library Preparation and Sequencing, which held a 39.9% share in 2024.

Segmentation 4: Global Nucleic Acid Sample QC Market by End User

Academic Research Institutes and Laboratories

Pharmaceutical and Biotechnology Companies

Contract Research Organizations

Clinical Diagnostic Centers

Applied Testing

Academic Research Institutes and Laboratories Segment to Continue Dominating the Nucleic Acid Sample QC Market by End User)

Based on the end user, the nucleic acid sample QC market has been led by academic research institutes and laboratories, which held a 44.9% share in 2024.

Segmentation 5: Global Nucleic Acid Sample QC Market by Region

North America

U.S.

Canada

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- Europe
  - Germany
  - U.K.
  - France
  - Italy
  - Spain
  - Netherlands
  - Poland
  - Portugal
  - Russia
  - Rest-of-Europe
- Asia-Pacific
  - Australia
  - China
  - India
  - Japan
  - Malaysia
  - South Korea
  - Thailand
  - Taiwan

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- Singapore
- Indonesia
- Philippines
- Rest-of-Asia-Pacific

Latin America

- Argentina
- Brazil
- Chile
- Mexico
- Colombia
- Rest-of-Latin America

Middle East and Africa

- K.S.A.
- U.A.E.
- South Africa
- Rest-of-Middle East and Africa

North America

North America accounted for the largest share of the global nucleic acid sample QC market in 2024 and is expected to maintain its leading position throughout the forecast period from 2025 to 2035. The region’s dominance is supported by its strong genomics

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research ecosystem, widespread adoption of molecular diagnostics, and the presence of advanced laboratory infrastructure across academic, clinical, and biopharmaceutical settings. High investment in precision medicine, sequencing-based research, and translational healthcare continues to sustain demand for reliable nucleic acid quality control solutions. In addition, the strong presence of major market players and early adoption of automation further reinforce North America's leadership in this market.

Europe

Europe represents a significant market for nucleic acid sample QC, supported by a well-established life sciences sector, expanding molecular testing capabilities, and strong public and private investment in biomedical research. The region benefits from increasing use of nucleic acid-based analysis in clinical diagnostics, disease research, and pharmaceutical development. Countries across Western Europe continue to emphasize laboratory quality standards, workflow accuracy, and regulatory compliance, which support the adoption of sample QC technologies. Moreover, the region's growing focus on genomics, cancer research, and personalized healthcare is expected to create sustained opportunities for market expansion, making Europe an important contributor to overall global revenue.

Asia-Pacific

Asia-Pacific is expected to be the fastest-growing region in the global nucleic acid sample QC market during the forecast period. Growth in this region is being driven by expanding healthcare infrastructure, rising investments in biotechnology and genomics research, and increasing adoption of molecular diagnostics across developing and developed economies. Countries such as China, Japan, India, South Korea, and Australia are witnessing growing demand for advanced laboratory technologies due to a rising focus on disease detection, population-scale genomics, and research modernization. In addition, increasing government support, improving laboratory capabilities, and a growing number of research institutions are expected to accelerate the adoption of nucleic acid sample QC solutions across Asia-Pacific.

Latin America

Latin America is emerging as a developing market for nucleic acid sample QC, supported by gradual improvements in healthcare infrastructure, rising awareness of molecular diagnostics, and increasing participation in life sciences research. Although the region currently accounts for a smaller share of global revenue compared with North

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America and Europe, demand is steadily growing in response to the expanding use of nucleic acid testing in infectious disease diagnostics, academic research, and clinical laboratories. Countries such as Brazil, Mexico, and Argentina are expected to remain key contributors to regional growth. Ongoing investments in laboratory capacity and diagnostic modernization are likely to support long-term market development across Latin America.

Middle East and Africa

The Middle East and Africa region holds a comparatively smaller share of the global nucleic acid sample QC market, but it is expected to present gradual growth opportunities over the forecast period. Market expansion is being supported by improving access to molecular testing, increasing healthcare investments, and a rising focus on strengthening diagnostic and research capabilities in selected countries. Demand is particularly driven by the need for better laboratory quality assurance in disease diagnosis, public health testing, and biomedical research applications. While infrastructure and budget limitations remain key challenges in some areas, continued investment in healthcare modernization and laboratory development is expected to support future adoption across the region.

Recent Developments in the Global Nucleic Acid Sample QC Market

In August 2025, Analytik Jena expanded its presence in Latin America by establishing its first regional subsidiary, Analytik Jena Brasil Ltda.

In March 2025, DeNovix introduced the Helium 1 µL Spectrophotometer, designed for nucleic acid and protein quantification, capable of rapidly assessing dsDNA concentrations and offering key purity ratio results for sample quality control.

In February 2025, Analytik Jena announced an update that significantly improves efficiency and digital integration for laboratories using its SPECORD PLUS UV/Vis spectrophotometers. Through the latest version of the ASpect UV software, the instruments can now be operated directly via an external Laboratory Management System (LMS) using a SOAP interface. This allows laboratories to create methods, start measurements, and automatically transfer results back to the LMS without switching between separate software platforms.

In April 2024, Eppendorf Group expanded its global footprint with the opening of

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a new branch office in Johannesburg, South Africa, marking its first direct presence in Africa. The facility, located in Waterfall City, serves as a regional hub for 12 Southern African countries, including Botswana, Namibia, Mozambique, Zambia, Zimbabwe, Lesotho, Angola, Madagascar, Swaziland, Malawi, and Mauritius.

How can this report add value to an organization?

Product/Innovation Strategy: This report helps organizations align product development with evolving laboratory requirements across nucleic acid quality control workflows. It highlights key demand drivers, application trends, and technology adoption patterns, enabling companies to identify innovation opportunities in accuracy, automation compatibility, turnaround time, and workflow integration. It also supports prioritization of R&D investments toward solutions that address emerging needs in research, diagnostics, and biopharmaceutical settings.

Growth/Marketing Strategy: This report supports growth and marketing decisions by identifying high-potential regions, end-user segments, and demand trends shaping the global market. It enables organizations to refine market-entry plans, strengthen value propositions, and develop targeted messaging based on customer needs and purchasing behavior. The insights also help companies allocate commercial resources effectively and design expansion strategies aligned with regional growth opportunities and application-specific demand.

Competitive Strategy: This report provides a structured view of the competitive landscape, helping organizations benchmark their position against established players and emerging participants. It offers insights into market structure, competitive strengths, and strategic differentiation factors such as performance, service, and workflow fit. This enables companies to make informed decisions on partnerships, positioning, portfolio expansion, and competitive response strategies in a steadily evolving market environment.

Methodology

Key Considerations and Assumptions in Market Engineering and Validation

The base year considered for the calculation of the market size is 2024. A historical analysis has been done for the period FY2022-FY2023. The market

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size has been estimated for FY2024 and projected for the period FY2025-FY2035.

The scope of this report has been carefully derived based on interactions with experts in different companies worldwide.

The global nucleic acid sample QC market contribution of nucleic acid sample QC, anticipated to be launched in the future, has been calculated based on the historical analysis of the product.

Revenues of the companies have been referenced from their annual reports for FY2022 and FY2024. For private companies, revenues have been estimated based on factors such as inputs obtained from primary research, funding history, market collaborations, and operational history.

The scope of the report exclusively covers companies that are actively engaged in the development of nucleic acid sample QC products. The instruments, consumables, reagents, and software have been covered in the report. Instruments such as spectrophotometers, fluorometers, capillary/microfluidic electrophoresis systems, and other instruments are considered along with their associated consumables and reagents.

The report only provides information related to the kits and reagents, consumables, and instruments used in the QC of nucleic acid samples. Services related to the nucleic acid sample QC have been excluded from the scope of the report.

Primary Research:

The primary sources involve industry experts in nucleic acid sample QC, including the market players offering nucleic acid sample QC. Resources such as CEOs, vice presidents, marketing directors, and salespersons have been interviewed to obtain and verify both qualitative and quantitative aspects of this research study.

The key data points taken from the primary sources include:

Validation and triangulation of all the numbers and graphs

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- Validation of the report’s segmentation and key qualitative findings
- Understanding the competitive landscape and business model
- Current and proposed production values of a product by market players
- Percentage split of individual markets for regional analysis

Secondary Research

Open Sources

- Certified publications, articles from recognized authors, white papers, directories, and major databases, among others.
- Annual reports, SEC filings, and investor presentations of the leading market players
- Company websites and detailed study of their product portfolio
- Gold standard magazines, journals, white papers, press releases, and news articles
- Paid databases

The key data points taken from the secondary sources include:

- Segmentations and percentage shares
- Data for market value
- Key industry trends of the top players of the market
- Qualitative insights into various aspects of the market, key trends, and emerging areas of innovation
- Quantitative data for mathematical and statistical calculations

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Key Market Players and Competition Synopsis

The global nucleic acid sample QC market is moderately consolidated, with competition shaped by the presence of diversified life science instrumentation companies as well as niche specialists focused on nucleic acid measurement and analytical workflows. Leading participants such as Agilent Technologies, Thermo Fisher Scientific, QIAGEN, Bio-Rad Laboratories, Revvity, and Danaher benefit from strong global distribution networks, established laboratory relationships, and broad capabilities across molecular biology, genomics, and diagnostic workflows. Their competitive strength is further supported by recurring consumables demand, integrated software ecosystems, and ongoing investments in automation and workflow efficiency.

At the same time, specialized companies including DeNovix, Implen, Promega, Blue-Ray Biotech, Lumiprobe, Antylia Scientific, and others contribute to market dynamism by offering focused expertise, flexible solutions, and targeted support for research and clinical laboratory requirements. Competition in this market is driven by measurement accuracy, reproducibility, low sample-volume handling, ease of use, turnaround time, and compatibility with downstream applications such as sequencing, PCR, and molecular diagnostics. As laboratories increasingly prioritize workflow standardization and data reliability, market players are differentiating themselves through innovation, service support, and application-specific performance.

Some prominent names established in the global nucleic acid sample QC market are:

Agilent Technologies, Inc.

Bio-Rad Laboratories, Inc.

DeNovix Inc.

Eppendorf SE

QIAGEN N.V.

Revvity, Inc. (PerkinElmer, Inc.)

Thermo Fisher Scientific Inc.

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Promega Corporation

Danaher Corporation

Blue-Ray Biotech Corp.

Endress+Hauser

Antylia Scientific (Part of Brookfield and La Caisse)

Implen GmbH

Lumiprobe Corporation

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Contents

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7 COMPETITIVE BENCHMARKING & COMPANY PROFILES

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List Of Figures

LIST OF FIGURES

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List Of Tables

LIST OF TABLES

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