

# Europe Nucleic Acid Sample Preparation Market By Technology (Spin-Column Based Technology, Magnetic-Bead Based Technology and Others), By Application (Genomics, Proteomics and Others), By Region, Competition, Forecast and Opportunities, 2018-2028F

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## Abstracts

Europe Nucleic Acid Sample Preparation Market has valued at USD1.25 billion in 2022 and is anticipated to project robust growth in the forecast period with a CAGR of 8.62% through 2028. Nucleic acid sample preparation is a complex process that involves extracting and purifying DNA or RNA from various biological samples. This critical step is of utmost importance in numerous applications, including clinical diagnostics, drug discovery, and genomic research, among others. In Europe, there is a significant surge in demand for these procedures due to the region's robust healthcare sector and its unwavering focus on innovative medical solutions.

One of the key drivers fueling the growth of this market is the escalating prevalence of infectious diseases and genetic disorders. The ongoing COVID-19 pandemic has shed light on the crucial role of rapid and accurate testing, which heavily relies on efficient nucleic acid sample preparation. Similarly, the detection and treatment of genetic disorders often require genetic testing, which, in turn, necessitates the availability of high-quality nucleic acid samples.

Another significant factor contributing to the expansion of this market is the increasing investment in research and development (R&D) activities. Governments, academic institutions, and private companies are allocating substantial resources to genomics and molecular biology research, thereby creating a surge in demand for advanced nucleic

acid sample preparation products and services.

Moreover, the growing awareness and adoption of personalized medicine play a pivotal role in the market's expansion. Personalized medicine aims to tailor treatments to an individual's unique genetic makeup, and this often involves genetic testing that, in turn, necessitates efficient nucleic acid sample preparation.

However, it is important to address the challenges faced by the market, such as the high cost of nucleic acid testing and stringent regulatory requirements. Finding solutions to these challenges will be crucial for sustaining the continued growth of the market.

## Key Market Drivers

### Growing Prevalence of Chronic Diseases

Chronic diseases, such as cancer, heart disease, and diabetes, are becoming increasingly prevalent in Europe. According to the World Health Organization, chronic diseases account for 77% of the disease burden and 86% of all deaths in Europe. This rising incidence is placing a massive burden on healthcare systems and driving the demand for efficient diagnostic and treatment solutions.

Nucleic acid sample preparation plays a vital role in diagnosing and treating chronic diseases. It involves the extraction and purification of DNA or RNA from biological samples, a process that is essential for genetic testing. By accurately isolating and preparing nucleic acids, healthcare professionals can uncover crucial genetic information that aids in the diagnosis, prognosis, and personalized treatment plans with for patients with chronic diseases.

Genetic testing, in turn, is crucial for diagnosing many chronic diseases. For example, certain types of cancer can be detected early through genetic testing, allowing for more effective treatment strategies. Likewise, genetic testing can identify individuals at risk of developing heart disease, enabling preventive measures to be taken. By identifying genetic markers and variations, healthcare providers can tailor treatment approaches and interventions to suit an individual's specific needs.

The growing prevalence of chronic diseases is driving the demand for nucleic acid sample preparation in Europe. As more people require genetic testing for diagnosis and treatment purposes, the need for efficient and accurate nucleic acid sample preparation solutions increases. This demand is further fueled by the rise of personalized medicine,

which involves tailoring treatments based on an individual's genetic makeup. Personalized medicine often relies on genetic testing, which, in turn, depends on reliable and robust nucleic acid sample preparation methods.

By investing in advanced nucleic acid sample preparation technologies, healthcare systems can improve the accuracy and efficiency of genetic testing, leading to earlier diagnoses, more precise treatment plans, and better patient outcomes. These advancements in diagnostic and treatment solutions have the potential to alleviate the burden of chronic diseases on individuals and healthcare systems alike, paving the way for a healthier and more sustainable future.

### Rising Demand of Molecular Diagnostics

Molecular diagnostics involve testing samples at a molecular level to detect health conditions and diseases. It is a highly specialized field that utilizes advanced techniques and technologies to analyze genetic material, such as DNA and RNA, for diagnostic purposes. By examining the genetic makeup of an individual, molecular diagnostics can provide valuable insights into their health, including the presence of infections, genetic disorders, and even certain types of cancer. This level of precision and accuracy makes molecular diagnostics an indispensable tool in modern medicine.

Nucleic acid sample preparation is a crucial step in molecular diagnostics. It involves the careful extraction and purification of DNA or RNA from biological samples, such as blood or tissue, to obtain a high-quality genetic material that can be further analyzed. This process requires precision and expertise to ensure that the extracted genetic material is free from impurities and suitable for downstream applications. As the demand for molecular diagnostics continues to rise, the need for efficient and reliable nucleic acid sample preparation solutions becomes increasingly important.

This correlation between molecular diagnostics and nucleic acid sample preparation is particularly evident in Europe. The Nucleic Acid Sample Preparation Market in Europe is thriving, driven by various factors. The increasing demand for advanced genomic research and diagnostic applications has fueled the growth of this market, as researchers and clinicians recognize the potential of molecular diagnostics to revolutionize healthcare. Additionally, the rise of personalized medicine and the growing awareness of the benefits of early diagnosis have further propelled the demand for molecular diagnostics and, consequently, nucleic acid sample preparation solutions.

Furthermore, the increased demand for Next-Generation Sequencing (NGS) has

significantly contributed to the growth of the Nucleic Acid Sample Preparation Market. NGS is a cutting-edge sequencing method that allows for the simultaneous sequencing of millions of DNA molecules, enabling researchers to obtain vast amounts of genomic data rapidly. This technology has revolutionized genomics research, facilitating breakthroughs in various fields, including molecular diagnostics. With its ability to provide comprehensive genetic information, NGS has become an invaluable tool in the diagnosis and management of diseases.

In conclusion, molecular diagnostics and nucleic acid sample preparation play integral roles in modern healthcare. The advancements in these fields, driven by factors such as the rising prevalence of chronic diseases, growing awareness of early diagnosis benefits, and the emergence of personalized medicine, have transformed the way we diagnose and treat diseases. By harnessing the power of molecular biology, researchers and clinicians can unlock new insights into human health, paving the way for more targeted and effective interventions.

## Key Market Challenges

### High Costs of Nucleic Acid Sample Preparation Instruments

Nucleic acid sample preparation is a critical process in which DNA or RNA is extracted and purified from biological samples. This process plays a vital role in various applications such as clinical diagnostics, drug discovery, and genomic research. With the increasing prevalence of genetic disorders and infectious diseases, as well as the growing importance of personalized medicine, the demand for efficient nucleic acid sample preparation is on the rise.

However, despite the promising prospects, the high cost of nucleic acid sample preparation instruments poses a significant challenge. These instruments, which are essential for, often the sample preparation process, often come with hefty price tags. For instance, droplet digital PCR (ddPCR) instruments, used for accurate quantification of nucleic acids, can cost approximately USD100,000.

The high costs associated with these instruments have the potential to limit the adoption of advanced molecular diagnostics technologies, particularly among smaller laboratories and research institutions with limited budgets. This financial barrier may slow down the overall growth of the market and hinder the broader dissemination of advanced molecular diagnostics techniques.

Therefore, it is crucial to find innovative solutions and cost-effective alternatives that can address this challenge and make nucleic acid sample preparation more accessible to a wider range of users. By doing so, we can unlock the full potential of these technologies and accelerate advancements in molecular diagnostics for the benefit of patients and the healthcare industry as a whole.

## Key Market Trends

### Rise in Personalized Medicine

Personalized medicine, also known as precision medicine, is an innovative approach that tailors medical treatment to the unique characteristics of each patient. By utilizing genetic or other biomarker information, personalized medicine optimizes therapies to maximize effectiveness and minimize harmful side effects based on individual needs.

Nucleic acid sample preparation plays a crucial role in enabling personalized medicine. This essential process involves the extraction and purification of DNA or RNA from biological samples, ensuring high-quality genetic material for subsequent analyses such as genotyping, sequencing, and gene expression analysis. These analyses are fundamental for identifying specific genetic mutations and variations that can significantly impact an individual's susceptibility to certain diseases or their response to particular treatments.

The rise in personalized medicine has driven a growing demand for nucleic acid sample preparation. As healthcare providers and researchers increasingly rely on genetic information to guide clinical decisions, the need for efficient and reliable sample preparation solutions continues to grow. This trend is particularly prominent in Europe, where the expanding demand for advanced genomic research and diagnostic applications is propelling the nucleic acid sample preparation market forward.

Technological advancements, such as Next-Generation Sequencing (NGS), have further accelerated this trend. NGS offers more comprehensive and precise genetic information, making it a powerful tool in the field of personalized medicine. With its ability to analyze a vast amount of genetic data, NGS empowers healthcare professionals to make informed decisions and develop tailored treatment strategies based on an individual's unique genetic profile.

## Segmental Insights

## Technology Insights

Based on the category of technology, the spin-column based technology segment emerged as the dominant player in the Europe market for nucleic acid sample preparation in 2022. Spin-column based technology, a widely recognized and highly efficient method, excels in isolating high-quality DNA or RNA with utmost precision. Its versatility extends to handling a diverse array of sample types and volumes, catering to various applications in the field.

When compared to other conventional methods such as organic extraction or magnetic bead-based approaches, spin-column based technology showcases its superiority in terms of speed and cost-effectiveness. By significantly reducing the time required for nucleic acid isolation and purification, it emerges as a pivotal asset in high-throughput genomic studies, allowing researchers to accelerate their progress and achieve remarkable breakthroughs.

## Application Insights

The genomics segment is projected to experience rapid growth during the forecast period. The rising prevalence of genetic disorders across Europe is driving the demand for genomics-based diagnostics and research. Nucleic acid sample preparation, a critical step in genomics research, including Next-Generation Sequencing (NGS), plays a vital role in identifying genetic mutations and variations associated with these disorders.

NGS is increasingly being used as a substitute for PCR due to its greater efficiency in genotyping and sample preparation. This increased efficiency not only saves time but also allows for more comprehensive genomic research, thereby further fueling the demand for nucleic acid sample preparation.

The field of genomics enables the study of an individual's complete set of DNA, providing valuable insights into their predisposition to certain diseases and conditions. This knowledge opens the door to personalized medicine, where treatments can be tailored to an individual's unique genetic makeup.

Moreover, the study of genomic variation among different populations represents the next frontier of genetic medicine. Research based on European-derived DNA samples is playing a crucial role in addressing equity issues in genetic research and medicine, as historically under-represented populations are now being included in studies, ensuring a



more inclusive and comprehensive understanding of genetic diversity.

## Regional Insights

Germany emerged as the dominant player in the Europe Nucleic Acid Sample Preparation Market in 2022, holding the largest market share in terms of value. Germany's healthcare system stands out as one of the most effective in Europe. It boasts a robust funding structure and places a strong emphasis on research and innovation. This commitment has paved the way for the development of advanced diagnostic and therapeutic technologies, particularly in the realm of nucleic acid sample preparation.

Germany's investment in scientific research and development (R&D) is unrivaled, positioning it as a leading player in biotechnology. This substantial investment has yielded groundbreaking innovations in genomics and nucleic acid sample preparation, solidifying Germany's dominance in the market.

The prevalence of genetic disorders and cancer in Germany has created a pressing need for nucleic acid sample preparation technologies. These cutting-edge technologies play a pivotal role in accurately diagnosing these conditions and devising personalized treatment approaches.

## Key Market Players

BGI Group (MGI Tech Co. Ltd.)

F. Hoffmann-La Roche Ltd.

Danaher. (Beckman Coulter, Inc.)

Eppendorf SE

Bioneer Corporation

Endress+Hauser Group Services AG (Analytik Jena GmbH)

Merck KGaA

Norgen Biotek Corp

## Report Scope:

In this report, the Europe Nucleic Acid Sample Preparation Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

### Europe Nucleic Acid Sample Preparation Market, By Technology:

Spin-Column Based Technology

Magnetic-Bead Based Technology

Others

### Europe Nucleic Acid Sample Preparation Market, By Application:

Genomics

Proteomics

Others

### Europe Nucleic Acid Sample Preparation Market, By Region:

Germany

United Kingdom

France

Russia

Spain

Italy

Rest of Europe



## Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Europe Nucleic Acid Sample Preparation Market.

## Available Customizations:

Europe Nucleic Acid Sample Preparation Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

## Company Information

Detailed analysis and profiling of additional market players (up to five).

## Contents

### 1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
  - 1.2.1. Markets Covered
  - 1.2.2. Years Considered for Study
  - 1.2.3. Key Market Segmentations

### 2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

### 3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

### 4. VOICE OF CUSTOMERS

### 5. EUROPE NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK

- 5.1. Market Size & Forecast
  - 5.1.1. By Value
- 5.2. Market Share & Forecast
  - 5.2.1. By Technology (Spin-Column Based Technology, Magnetic-Bead Based Technology and Others)
  - 5.2.2. By Application (Genomics, Proteomics and Others)

- 5.2.3. By Country
- 5.2.4. By Company (2022)
- 5.3. Market Map

## **6. FRANCE NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK**

- 6.1. Market Size & Forecast
  - 6.1.1. By Value
- 6.2. Market Share & Forecast
  - 6.2.1. By Technology
  - 6.2.2. By Application

## **7. GERMANY NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK**

- 7.1. Market Size & Forecast
  - 7.1.1. By Value
- 7.2. Market Share & Forecast
  - 7.2.1. By Technology
  - 7.2.2. By Application

## **8. UNITED KINGDOM NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK**

- 8.1. Market Size & Forecast
  - 8.1.1. By Value
- 8.2. Market Share & Forecast
  - 8.2.1. By Technology
  - 8.2.2. By Application

## **9. ITALY NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK**

- 9.1. Market Size & Forecast
  - 9.1.1. By Value
- 9.2. Market Share & Forecast
  - 9.2.1. By Technology
  - 9.2.2. By Application

## **10. SPAIN NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK**

## 10.1. Market Size & Forecast

### 10.1.1. By Value

## 10.2. Market Share & Forecast

### 10.2.1. By Technology

### 10.2.2. By Application

## **11. NETHERLANDS NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK**

## 11.1. Market Size & Forecast

### 11.1.1. By Value

## 11.2. Market Share & Forecast

### 11.2.1. By Technology

### 11.2.2. By Application

## **12. POLAND NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK**

## 12.1. Market Size & Forecast

### 12.1.1. By Value

## 12.2. Market Share & Forecast

### 12.2.1. By Technology

### 12.2.2. By Application

## **13. ROMANIA NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK**

## 13.1. Market Size & Forecast

### 13.1.1. By Value

## 13.2. Market Share & Forecast

### 13.2.1. By Technology

### 13.2.2. By Application

## **14. BELGIUM NUCLEIC ACID SAMPLE PREPARATION MARKET OUTLOOK**

## 14.1. Market Size & Forecast

### 14.1.1. By Value

## 14.2. Market Share & Forecast

### 14.2.1. By Technology

### 14.2.2. By Application

## **15. CZECH REPUBLIC NUCLEIC ACID SAMPLE PREPARATION MARKET**

## **OUTLOOK**

### 15.1. Market Size & Forecast

#### 15.1.1. By Value

### 15.2. Market Share & Forecast

#### 15.2.1. By Technology

#### 15.2.2. By Application

## **16. MARKET DYNAMICS**

### 16.1. Drivers

### 16.2. Challenges

## **17. MARKET TRENDS & DEVELOPMENTS**

### 17.1. Recent Developments

### 17.2. Product Launches

### 17.3. Mergers & Acquisitions

## **18. EUROPE NUCLEIC ACID SAMPLE PREPARATION MARKET: SWOT ANALYSIS**

## **19. PORTER'S FIVE FORCES ANALYSIS**

### 19.1. Competition in the Industry

### 19.2. Potential of New Entrants

### 19.3. Power of Suppliers

### 19.4. Power of Customers

### 19.5. Threat of Substitute Product

## **20. COMPETITIVE LANDSCAPE**

### 20.1. BGI Group (MGI Tech Co. Ltd.)

#### 20.1.1. Business Overview

#### 20.1.2. Company Snapshot

#### 20.1.3. Products & Services

#### 20.1.4. Current Capacity Analysis

#### 20.1.5. Financials (In case of listed)

#### 20.1.6. Recent Developments

- 20.1.7. SWOT Analysis
- 20.2. F. Hoffmann-La Roche Ltd.
- 20.3. Danaher. (Beckman Coulter, Inc.)
- 20.4. Eppendorf SE
- 20.5. Bioneer Corporation
- 20.6. Endress+Hauser Group Services AG (Analytik Jena GmbH)
- 20.7. Merck KGaA
- 20.8. Norgen Biotek Corp

## **21. STRATEGIC RECOMMENDATIONS**

## **22. ABOUT US & DISCLAIMER**

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