

# JEWISH MARKET REPORTS

## **Potential Impact of Covid-19 on Nucleic Acid Isolation and Purification Market | Leading Companies Analysis 2027**

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Trusted Business Insights presents an updated and Latest Study on Nucleic Acid Isolation and Purification Market 2019-2026. The report contains market predictions related to market size, revenue, production, CAGR, Consumption, gross margin, price, and other substantial factors. While emphasizing the key driving and restraining forces for this market, the report also offers a complete study of the future trends and developments of the market. The report further elaborates on the micro and macroeconomic aspects including the socio-political landscape that is anticipated to shape the demand of the Nucleic Acid Isolation And Purification market during the forecast period (2019-2029). It also examines the role of the leading market players involved in the industry including their corporate overview, financial summary, and SWOT analysis.

**Get Sample Copy of this Report @ Nucleic Acid Isolation and Purification Market Size Report, 2020-2027 (Includes Business Impact of COVID-19)**

Industry Insights, Market Size, CAGR, High-Level Analysis: Nucleic Acid Isolation And Purification Market

The global nucleic acid isolation and purification market size was estimated at USD 2.4 billion in 2019 and is expected to register a CAGR of 7.2% over the forecast period. Several RNA species represent a wide, untapped class of biomolecules that play a vital role during disease progression. This has enhanced the pipeline for RNA therapeutics, which in turn, drives the application of nucleic acid isolation and purification protocols for drug development.

The isolation of nucleic acid is one of the essential achievements of modern science that brings advancement in human life. A rise in the utilization of high-throughput and automated extraction technologies has significantly simplified the DNA or RNA isolation processes. Besides, the expansion of next-generation sequencing (NGS) technologies drives the market for nucleic acid isolation and purification, because DNA and RNA purification play a critical role in obtaining accurate NGS data.

Nucleic acid-based diagnostics are extensively employed in laboratory settings to diagnose a wide range of medical conditions. Increasing prevalence of cancer, infectious diseases, genetic disorders, and neglected tropical diseases surge the demand for isolation of DNA or RNA for the nucleic acid-based diagnostics, hence providing high-value avenues in the market for nucleic acid isolation and purification.

The continuous advancements in agriculture science and technology have considerably revolutionized the genetically modified (GM) crop production. The introduction of multiple traits in GM crops through genetic engineering technologies provide herbicide tolerance, drought tolerance, and insect resistance to crops. These processes significantly increase the implementation of DNA extraction procedures in GM crop production.

The development of automated nucleic acid isolation and purification solutions by key companies enables a faster, cleaner, and more consistent nucleic acid extraction process. For instance, in November 2019, Purigen Biosystems, Inc., launched its Ionic Purification System that allows automated nucleic acid extraction from biological samples in an hour with increased yields and improved purity.

#### Product Insights of Nucleic Acid Isolation And Purification Market

Kits and reagents accounted for the largest revenue share in 2019. The wide availability of convenient and safe extraction kits to isolate DNA or RNA from their respective hosts contributes to the segments maximum share. These kits easily isolate DNA or RNA from eukaryotic cells, bacteria, plasmid, virus, plants, seeds, and yeast for several downstream applications, including polymerase chain reactions and different sequencing methods.

Ongoing development of new DNA or RNA isolation and purification kits by the key vendors further drives segment growth. Recently, in April 2019, Thermo Fisher introduced MagMax nucleic acid isolation kits based on magnetic bead technology. These kits isolate RNA or DNA from microbiome samples, microorganisms, viral particles, and gram-negative bacteria.

Instruments are recognized as the fastest developing products in the market for nucleic acid isolation and purification. Continuous development of technologically advanced and reliable robotic systems that are based on different technologies, such as magnetic beads, spin columns, and microfluidics, positively impact segment growth. For instance, in January 2019, QIAGEN introduced QIAcube Connect, which performs automated nucleic acid extraction and purification.

#### Type Insights of Nucleic Acid Isolation And Purification Market

The DNA isolation and purification segment includes isolation and purification of genomic, viral, plasmid, and other types of DNA, which accounted for the dominant share in terms of revenue. The most widely extracted and purified nucleic acid types are genomic and plasmid DNA. Besides, the segment is projected to grow at the fastest rate during the forecast period.

The utilization of viral DNA and plasmid DNA is anticipated to grow at a lucrative pace over the years. This is because viral DNAs are increasingly used as vectors for gene therapy and nanobiological weapons for fighting with other viruses. Similarly, the employment of plasmid DNA has significantly increased in gene therapy and vaccine development in the past few years.

The RNA isolation and purification segment witnessed a lower penetration in 2019 as RNA is less stable as compared to DNA. Therefore, special care is required to ensure the purity of RNAs. However, miRNA isolation has received research attention lately as miRNA highly impacts biological pathways and alters a biological state of several genes. This has allowed the researchers to widely use miRNAs as a new research tool for therapeutic development.

#### Method Insights

The magnetic bead-based method accounted for the largest revenue share in the global market for nucleic acid isolation and purification. The segment is anticipated to grow at the fastest growth rate during the forecasted period. This method has gained immense popularity among researchers as it utilizes high capacity paramagnetic particles to isolate nucleic acids providing higher yields and purity when compared to other methods.

Researchers are also engaged in the development of open-source protocols for magnetic bead-based methods. This accelerates the segment growth as open-source protocols are adopted readily in academic institutes. The Bio-On-Magnetic-Beads (BOMB) is an open-source platform comprising of protocols for magnetic bead methods that are capable of assisting a diverse range of nucleic acid manipulation experiments.

Column based method also holds substantial revenue share in the nucleic acid isolation and purification market. It is commonly used in diagnostic laboratories as it requires no hazardous chemicals; and is a reliable, rapid, and consistent method. In addition, the silica membrane column-based method is extensively applied as it is convenient and yields high-quality DNA in a shorter time.

#### Application Insights of Nucleic Acid Isolation And Purification Market

The drug discovery and development segment emerged as the dominant application in terms of revenue generation in 2019. This is attributive to the technological advancements in proteomics and genomics fields, which has broadened the development of therapeutics such as antisense therapy, gene therapy, and DNA vaccines in the healthcare industry.

In addition, isolation and purification techniques have revolutionized the development of antimicrobial drugs. These techniques allow rapid detection of pathogenic activity at DNA and RNA level, which has resulted in the detection of antimicrobial-resistant genes, and strain characterization by genotyping, thus accelerating the drug development segment growth.

Oncology is projected to expand as a fast-growing application as the circulating nucleic acids in plasma and serum act as an early diagnostic marker for cancer. This factor plays an essential role in personalized diagnosis and prognosis in clinical oncology. The nucleic acid aptamers are also gaining immense popularity in targeted cancer therapy.

#### End-use Insights

Hospitals and diagnostic centers held the largest revenue share due to a rise in the usage of nucleic acid-based therapeutics for early and accurate diagnosis of genetic and inherited diseases. The growing number of genetic fingerprinting, prenatal testing, and liquid biopsies also tend to raise the application of extraction processes at a considerable rate in hospitals and diagnostic centers.

On the other hand, pharmaceutical and biotechnology companies are anticipated to register the fastest growth in the near future. Isolation and purification of DNA or RNA are essential steps of drug discovery, target identification, and testing stages during drug development. Several pharma firms are making significant investments in R&D for drug discovery projects, which is expected to drive the adoption rate of nucleic acid extraction kits.

A rise in the adoption of CRISPR technology to identify and validate novel therapeutics boosts drug discovery procedures. The incorporation of genome editing techniques and a decline in the cost of R&D further accelerates drug discovery procedures. The confluence of these factors drives the adoption rate of nucleic acid extraction kits by pharma and biotech companies during their drug development projects.

#### Regional Insights of Nucleic Acid Isolation And Purification Market

North America accounted for the largest revenue share in 2019. This is attributive to the growing application of nucleic acid isolation in food processing, agriculture, and

environmental testing. The presence of food safety regulatory bodies for surveillance of processed food products in U.S., such as the Food and Drug Administration (FDA) and the Food Safety and Inspection Service (FSIS), stipulate the DNA isolation procedures for each type of food product.

Moreover, the local presence of several key players, such as Thermo Fisher, Illumina, and Agilent Technologies, is driving technological progression in this region. These players are pooling significant efforts for the development of automatic systems for downstream applications, including next-generation sequencing and real-time PCR.

Asia Pacific region is expected to witness the fastest growth rate in the near future. China is one of the attractive markets due to growth in DNA and RNA library preparation for next-generation sequencing in China. Moreover, a large number of life science laboratories in China perform nucleic acid purification experiments boosting the regional progress.

#### Market Share Insights of Nucleic Acid Isolation And Purification Market

Prominent participants operating in the market for nucleic acid isolation and purification include QIAGEN; Illumina, Inc.; Danaher; F. Hoffmann-La Roche Ltd.; Merck KGaA; Thermo Fisher Scientific, Inc.; Agilent Technologies; Bio-Rad Laboratories, Inc.; GE Healthcare; Promega Corporation; and Norgen Biotek Corp.

The key companies are involved in several partnerships and agreement models to strengthen their omics businesses, which, in turn, surges market growth. Moreover, market vendors are undertaking several strategic initiatives to expand their market presence, especially in emerging nations.

For instance, in July 2019, Kerafast, Inc., a U.S.-based life sciences company, entered into an agreement with the Institute of Forest Genetics and Tree Breeding based in Coimbatore, India, to commercialize its ArborEasy DNA Isolation Kit. This agreement allowed the Kerafast to strengthen its sales in the Indian market.

#### Segmentations, Sub Segmentations, CAGR, & High-Level Analysis overview of Nucleic Acid Isolation And Purification Market Research Report

This report forecasts revenue growth at global, regional, and country levels and provides an analysis of the latest industry trends in each of the sub-segments from 2019 to 2030. For the purpose of this study, this market research report has segmented the global nucleic acid isolation and purification market report on the basis of product, type, method, application, end use, and region:

Product Outlook (Revenue, USD Million, 2019 – 2030)

Kits & Reagents

Instruments

Type Outlook (Revenue, USD Million, 2019 – 2030)

DNA Isolation & Purification

Genomic DNA Isolation & Purification

Plasmid DNA Isolation & Purification

Viral DNA Isolation & Purification

Others Types

RNA Isolation & Purification

miRNA Isolation RNA & Purification

mRNA Isolation & Purification

Total RNA Isolation & Purification

Other Types

Method Outlook (Revenue, USD Million, 2019 – 2030)

Column-based Isolation & Purification

Magnetic Bead-based Isolation & Purification

Reagent-based Isolation & Purification

Other Methods

Application Outlook (Revenue, USD Million, 2019 – 2030)

Oncology

Precision Medicine

Diagnostics

Drug Discovery & Development

Agriculture and Animal Research

Other Applications

End-Use Outlook (Revenue, USD Million, 2019 – 2030)

Academic Research Institutes

Pharmaceutical & Biotechnology Companies

Contract Research Organizations

Hospitals and Diagnostic Centers

Other End-use

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