

Global DNA/RNA Sample Extraction & Isolation Market to Reach USD 5.87 Billion by Region Forecast 2033 - Emergen Research

The rising incidence of genetic disorders and chronic diseases is fueling the need for advanced diagnostic tools and personalized medicine.

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/EINPresswire.com/ -- The global [DNA/RNA Sample Extraction and Isolation market](#) is projected to grow from an estimated USD 3.14 billion in 2024 to USD 5.87 billion by 2033, at a Compound Annual Growth Rate (CAGR) of 7.20%. The market's expansion is largely driven by increased investments in research and development (R&D) and the growing demand for efficient genetic analysis tools.



Key Market Drivers

Growing Investments in Research and Development

A significant factor propelling market growth is the increase in funding from both public and private sectors for R&D. Investments encourage the development of advanced extraction technologies and protocols, fostering collaborations between academic institutions and industry leaders. For instance, in 2021, the United States invested USD 552 billion in R&D, while China followed closely with USD 463 billion, according to the Organization for Economic Cooperation and Development (OECD). These investments are expected to accelerate the demand for efficient DNA/RNA extraction solutions.

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Advancements in Extraction Kits

The introduction of next-generation DNA/RNA extraction kits has improved efficiency, speed, and reliability. These kits offer easy extraction processes, reduce contamination risks, and produce high-quality output. Their ability to handle various sample types enhances their appeal, further boosting market demand. A notable example is Purigen Biosystems, Inc.'s launch of the Ionic Cells to Pure DNA Low Input Kit in October 2020, which provides a simplified and automated 60-minute workflow for researchers working with limited biological samples.

Increasing Prevalence of Genetic Disorders and Chronic Diseases

The rising incidence of genetic disorders and chronic diseases is fueling the need for advanced diagnostic tools and personalized medicine. Effective DNA/RNA extraction methods are crucial for diagnosing and analyzing genetic material for treatment planning. According to the World Health Organization, around 240,000 newborns die annually due to genetic diseases, with an additional 170,000 deaths in children aged one month to five years. These alarming statistics underscore the importance of high-quality extraction solutions.

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Market Challenges

High Cost of Extraction Kits and Instruments

Despite the growing demand, the high cost of extraction kits and instruments remains a significant challenge. Many research centers and smaller laboratories, particularly in developing regions, struggle to afford advanced extraction solutions. Additionally, the maintenance and operational costs of high-tech machines deter potential buyers, limiting widespread adoption and slowing overall market growth.

Market Segmentation

By Product: Consumables Lead, Instruments Gain Traction

The market is segmented into consumables and instruments. The consumables segment, which includes extraction kits and reagents, dominates due to their frequent use in laboratory procedures. However, the instruments segment is experiencing rapid growth, driven by technological advancements and the rising demand for automation and high-throughput capabilities in laboratories. As automation continues to evolve, demand for sophisticated extraction instruments is expected to increase.

In June 2023, Merck, known as MSD outside of the United States and Canada, announced the completion of the acquisition of Prometheus Biosciences, Inc. ("Prometheus"), with Prometheus

now a wholly-owned subsidiary of Merck and its common stock no longer listed or traded on the Nasdaq Global Market.

Some of the key companies in the global DNA/RNA Sample Extraction and Isolation Market include:

F. Hoffmann-La Roche Ltd
ACON Laboratories, Inc.
Tecan Trading AG
QIAGEN
Merck KGaA
Thermo Fisher Scientific Inc.
Promega Corporation
Abnova Corporation
Bio-Rad Laboratories, Inc
Minerva Biolabs GmbH

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DNA/RNA Sample Extraction and Isolation Latest Industry Updates

In September 2023, QIAGEN has expanded its eco-friendly QIAwave product range with the introduction of two new nucleic acid extraction kits: the QIAwave RNeasy Plus Mini Kit and the QIAwave DNA/RNA Mini Kit, which are eco-friendly versions of the RNeasy Plus Mini Kit and the All DNA/RNA Mini Kit.

In January 2021, OraSure Technologies, Inc.'s OMNIgene ORAL (OM-505) saliva collection kit was included in Ambry Genetics' Emergency Use Authorization (EUA) for its Ambry COVID-19 RT-PCR saliva test.

In March 2020, Zymo Research Corporation collaborated with Tecan to develop a ready-to-use processing solution for extracting viral DNA/RNA from nasopharyngeal swabs, oropharyngeal swabs, saliva, sputum, plasma, and serum.

DNA/RNA Sample Extraction and Isolation Market Segmentation Analysis

Product Outlook (Revenue, USD Million; 2020-2033)

Consumables
Instruments

Application Outlook (Revenue, USD Million; 2020-2033)

PCR

NGS
Cloning
Microarray
Blotting Techniques
Other Applications

End User Outlook (Revenue, USD Million; 2020-2033)

Clinical Diagnostic and Forensic Laboratories
Research Academics and Institutions
Pharmaceutical and Biotechnology Companies
Contract Research Organizations
Others

Regional Outlook (Revenue, USD Million; 2020-2033)

North America
United States
Canada
Mexico
Europe
Germany
France
United Kingdom
Italy
Spain
Benelux
Rest of Europe
Asia-Pacific
China
India
Japan
South Korea
Rest of Asia-Pacific
Latin America
Brazil
Rest of Latin America
Middle East and Africa
Saudi Arabia
UAE
South Africa
Turkey
Rest of MEA

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The DNA/RNA Sample Extraction and Isolation market is poised for significant growth, driven by increasing R&D investments, advancements in extraction technologies, and rising healthcare needs. However, cost challenges may slow adoption in certain regions. As the industry progresses, continued innovation and strategic collaborations will be crucial to overcoming market constraints and meeting the growing demand for reliable genetic analysis solutions.

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