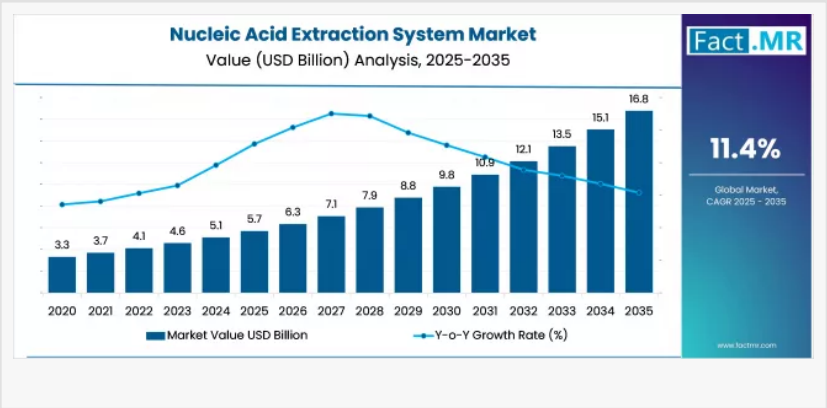
Nucleic Acid Extraction System Market to Expand at a CAGR of 11.4% by 2035 | Fact.MR

Analysis of Nucleic Acid Extraction System Market Covering 30 Countries Including Analysis of US, Canada, UK, Germany, France, Nordics, GCC countries



ROCKVILLE, MD, UNITED STATES, July 23, 2025 /EINPresswire.com/ -- Nucleic Acid Extraction System Market, valued at US$ 5.7 billion in 2025, is projected to reach US$ 16.8 billion by 2035, growing at a robust compound annual growth rate (CAGR) of 11.4%, according to industry analysis. The market's expansion is driven by rising demand for molecular diagnostics, advancements in genomics research, and the increasing adoption of automated, high-throughput extraction systems.

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Rising Demand for Nucleic Acid Extraction Systems

The surge in demand for nucleic acid extraction systems is fueled by the growing prevalence of infectious diseases, genetic disorders, and cancer, necessitating precise DNA and RNA extraction for diagnostics and research. Molecular testing methods like PCR and next-generation sequencing (NGS) rely on high-quality nucleic acids, driving the need for efficient systems. The rise in personalized medicine and liquid biopsy applications, particularly for circulating tumor DNA (ctDNA), further boosts demand for systems that can handle complex samples with high sensitivity and purity.

Technological advancements, such as automated systems with robotics and laboratory information management system (LIMS) integration, enhance efficiency and reduce contamination risks. The expansion of biobanking, clinical trials, and fields like single-cell sequencing and transcriptomics also drives demand. Additionally, increased funding from government bodies like the NIH and private stakeholders supports the adoption of advanced extraction platforms in clinical and research settings.

Regional Insights: North America, Asia Pacific, and Europe Lead

North America dominates the market, driven by the U.S.'s advanced healthcare infrastructure and leadership in NGS and precision medicine. Significant investments from the NIH and CDC, along with programs like the All of Us Research Program, fuel demand for high-throughput extraction systems. The U.S.'s robust biotech sector and progressive FDA regulations for in vitro diagnostics further solidify its market leadership.

Asia Pacific is the fastest-growing region, with China's market spurred by the Precision Medicine Plan and expanding clinical testing infrastructure. Companies like MGI Tech and BGI drive innovation, supported by 5G integration for real-time data processing. Japan's focus on cell and gene therapies and South Korea's biotechnology advancements contribute to regional growth. India's Genome India Project and increasing healthcare investments also bolster demand.

Europe, led by the UK and Germany, benefits from strong genomics programs like Genomics England and advanced healthcare systems. The EU's focus on regulatory harmonization and personalized medicine drives adoption in cancer research and infectious disease monitoring, supporting steady market growth.

Key Players and Competitive Landscape

Key players in the nucleic acid extraction system market include Thermo Fisher Scientific, Inc., Illumina, Inc., Agilent Technologies, Inc., Tecan Group AG, Sigma Aldrich Corp., Becton Dickinson and Company, QIAGEN, Bio-Rad Laboratories Inc., PerkinElmer, Inc., F. Hoffmann-La Roche, and DiaSorin S.p.A. These companies lead with platforms like Thermo Fisher's KingFisher and QIAGEN's QIAcube, focusing on automation and high-throughput solutions. Recent developments include QIAGEN's October 2024 launch of ccfDNA kits for liquid biopsy and Bio-Rad's July 2024 DNA extraction kits for single-cell genomics. Strategic partnerships, acquisitions, and localized manufacturing in Asia Pacific enhance market reach.

Market Segmentation and Trends

The market is segmented by product (DNA extraction, RNA extraction, protein extraction), application (hospitals & diagnostic centers, life science, pharmaceuticals, academic, medical and clinical research), and region (North America, Latin America, Western Europe, Eastern Europe, East Asia, South Asia & Pacific, Middle East & Africa). DNA extraction dominates due to its use in diagnostics and NGS, while RNA extraction is the fastest-growing segment, driven by mRNA therapeutics and infectious disease testing. Hospitals and diagnostic centers lead applications, but medical and clinical research is growing rapidly due to investments in genomics and precision medicine.

Challenges: Cost and Technical Barriers

High initial costs for automated systems and recurring reagent expenses limit adoption in small labs and developing regions. A shortage of skilled personnel for operating and maintaining complex systems leads to errors and inconsistent yields. Sample variability, particularly with challenging materials like FFPE tissues, affects extraction quality. Stringent regulatory requirements, such as FDA and CE-IVD certifications, delay product launches, while data privacy concerns in genomics add compliance challenges.

Future Outlook: Diagnostics and Automation Drive Growth

In the short term (2025-2028), rising infectious disease testing and clinical diagnostics will boost demand. The medium term (2028-2032) will see Asia Pacific and North America lead due to infrastructure expansion and automation. In the long term (2032-2035), advancements in single-cell sequencing and biobanking will sustain the 11.4% CAGR. With a focus on precision medicine and automated workflows, the nucleic acid extraction system market is poised for robust expansion through 2035.

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Fumaric Acid Market is expected to reach at a valuation US$ 969.0 Mn by the end of 2033

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