

Global Molecular Biology Enzymes, Kits, and Reagents Market Size Study & Forecast, by Product (Kits, Reagents, Enzyme), Application (PCR, Sequencing, Epigenetic, Synthetic Biology), End User (Research Institutes, Pharma & Biotech Company, Hospitals) and Regional Forecasts 2025-2035

<https://marketpublishers.com/r/GD866F246298EN.html>

Date: August 2025

Pages: 285

Price: US\$ 3,218.00 (Single User License)

ID: GD866F246298EN

Abstracts

The Global Molecular Biology Enzymes & Kits & Reagents Market, valued at approximately USD 22.79 billion in 2024, is projected to expand at an impressive CAGR of 14.20% between 2025 and 2035. As the beating heart of modern life sciences, these tools empower researchers to decode genetic blueprints, engineer novel biological systems, and push the boundaries of molecular diagnostics. The industry's rapid ascent is underpinned by a confluence of driving forces—accelerating adoption of next-generation sequencing (NGS), expanding synthetic biology applications, and the urgent demand for precision medicine solutions. From enabling faster PCR amplification to facilitating highly sensitive epigenetic mapping, the market's product portfolio is becoming increasingly diverse and technologically advanced, meeting the growing need for reproducibility, sensitivity, and throughput in molecular research. The integration of AI-driven analytics, automated liquid handling systems, and cloud-based data sharing is further transforming how researchers use these reagents and enzymes in daily workflows.

The surging global investment in genomics research, coupled with large-scale population sequencing initiatives, is fuelling unprecedented demand for high-quality enzymes, kits, and reagents. Their role in PCR-based pathogen detection—particularly highlighted during the COVID-19 pandemic—has shifted from being primarily research-focused to encompassing front-line diagnostic applications. According to industry data,

the global sequencing output has doubled every 12 months in recent years, driving a parallel spike in reagent consumption. Moreover, breakthroughs in enzyme engineering, such as thermostable polymerases and high-fidelity reverse transcriptases, are enabling more complex assays and expanding the capabilities of synthetic biology. However, challenges such as stringent regulatory approvals, high production costs, and supply chain constraints remain hurdles to wider adoption, even as technological innovations promise to mitigate these issues in the near term.

From a geographical standpoint, North America held the largest market share in 2024, propelled by its sophisticated research infrastructure, strong academic–industry collaborations, and extensive biotechnology funding ecosystem. The U.S., home to global leaders in genomics and molecular diagnostics, continues to set the pace with its cutting-edge R&D initiatives and advanced healthcare adoption of molecular technologies. Europe follows closely, led by countries such as Germany, the UK, and France, where investments in precision oncology and infectious disease research are substantial. Meanwhile, the Asia Pacific region is emerging as the fastest-growing market over the forecast period, driven by rapidly expanding biotech sectors in China, Japan, and India. Government-backed genome projects, surging demand for biopharmaceutical production, and a rising prevalence of chronic diseases are fuelling uptake of molecular biology products. The region's push to localize reagent manufacturing and establish advanced research hubs is expected to further solidify its position in the global landscape.

Major market players included in this report are:

Thermo Fisher Scientific Inc.

Merck KGaA

New England Biolabs, Inc.

Agilent Technologies, Inc.

Promega Corporation

Illumina, Inc.

Bio-Rad Laboratories, Inc.

QIAGEN N.V.

Roche Diagnostics

Takara Bio Inc.

Enzo Biochem Inc.

Jena Bioscience GmbH

LGC Biosearch Technologies

PerkinElmer Inc.

Epicentre Technologies Corporation

Global Molecular Biology Enzymes & Kits & Reagents Market Report Scope:

Historical Data – 2023, 2024

Base Year for Estimation – 2024

Forecast period - 2025-2035

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define market sizes of different segments & countries in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within the countries

involved in the study. The report also provides detailed information about crucial aspects, such as driving factors and challenges, which will define the future growth of the market. Additionally, it incorporates potential opportunities in micro-markets for stakeholders to invest, along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segments of the market are explained below:

By Product:

Kits

Reagents

Enzyme

By Application:

PCR

Sequencing

Epigenetic

Synthetic Biology

By End user:

Research Institutes

Pharma & Biotech Company

Hospitals

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

UAE

Saudi Arabia

South Africa

Rest of Middle East & Africa

Key Takeaways:

Market Estimates & Forecast for 10 years from 2025 to 2035.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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