

# Protein Engineering Market by Technology (Rational Design, Irrational Design), Product & Service (Instrument, Consumables), Protein Type (Monoclonal Antibodies, Insulin), End User (Academics Institutes, Biopharmaceuticals, CROs) - Global Forecast to 2024

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# **Abstracts**

"The increasing focus on protein-based drug development by pharmaceutical and biotechnology firms is expected to drive the overall growth of the protein engineering market"

The global protein engineering market is estimated to grow from USD 2.2 billion in 2019 to USD 3.9 billion by 2024, at a CAGR of 12.4% during the forecast period. The major factors driving the growth of this market include the increasing investments in synthetic biology and the growing focus on protein-based drug development by pharmaceutical and biotechnology companies.

"Instruments segment to account for the largest share of the protein engineering market, by product & service, in 2019"

Based on product & service, the protein engineering market is segmented into instruments, consumables, and software & services. Instruments formed the largest product segment in this market in 2019 due to technological advancements in mass spectrometry and X-ray crystallography systems and their ability to integrate with other technologies.

"Monoclonal antibodies segment to grow at the highest CAGR in the protein engineering market, by protein type, in 2019"



Based on protein type, the protein engineering market is segmented into monoclonal antibodies, insulin, erythropoietin, interferons, vaccines, colony-stimulating factors, growth hormones, coagulation factors, and other proteins. The monoclonal antibodies segment is estimated to grow at the highest CAGR in this market owing to the increasing demand for monoclonal antibodies for the treatment of cancer, neurological diseases, and infectious diseases.

"Rational protein design segment to grow at the highest CAGR in the protein engineering market, by technology, in 2019"

Based on technology, the protein engineering market is segmented into rational and irrational protein design. The rational protein design segment is estimated to grow at the highest CAGR in this market during the forecast period majorly due to the growing use and continuous upgrades of bioinformatics platforms and software for protein analysis.

"North America is estimated to be the largest regional market for protein engineering products and services during the forecast period"

In 2019, North America accounted for the largest share of the global protein engineering market, majorly due to the presence of well-established CROs, rising R&D expenditure, and the availability of the latest techniques and instruments for drug discovery research in the region. Also, the increased adoption of biologic drugs such as monoclonal antibodies, erythropoietin, and interferons for the treatment of chronic diseases is the major factor driving the growth of the North American market.

In-depth interviews were conducted with CEOs, marketing directors, other innovation and technology directors, and executives from various key organizations operating in the protein engineering market. Mentioned below is the breakdown of the interviews:

By Respondent Type: Supply Side: 80%, Demand Side: 20%

By Designation: C-level Executives: 25%, Directors: 18%, Others: 57%

By Region: North America: 50%, Europe: 20%, APAC: 20%, RoW: 10%

The major players operating in the global protein engineering market include Thermo Fisher Scientific (US), Bio-Rad Laboratories (US), Agilent Technologies (US), Waters Corporation (US), and Danaher Corporation (US).



## Research Coverage:

The study covers the protein engineering market across various segments. It aims at estimating the market size and the growth potential of this market across different product & service, protein type, technology, end user, and regional segments. The study also includes an in-depth competitive analysis of the key players operating in the market, along with their company profiles, key observations related to their product and business offerings, recent developments, and key market strategies.

# Key Benefits of Buying the Report:

This report will help market leaders as well as new entrants in the market by providing information on the closest approximations of the revenue numbers for the overall protein engineering market and its subsegments. It will also help stakeholders to understand the competitive landscape, gain more insights to better position their businesses, and plan suitable go-to-market strategies.



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#### **MARKET**

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# **About**

The report provides a detailed overview of major drivers, restraints, challenges, opportunities, current market trends and strategies impacting the global market along with estimates and forecast of revenue.

The global protein engineering market is poised to reach \$1,463.0 million by 2020 from \$610.3 million in 2014, at a CAGR of 15.7% from 2015 to 2020.

Key players operating in the Protein Engineering Market are Agilent Technologies (U.S.), AB-Sciex (U.S.), Bio-Rad Laboratories, Inc. (U.S.), Bruker Corp. (U.S.), GE Healthcare (U.K.), Perkin Elmer (U.S.), Sigma-Aldrich Corp. (U.S.), Thermo Fisher Scientific (U.S.), and Waters Corp. (U.S).

## Factor for Protein Engineering Market Growth:

Factors such as increase in adoption of protein drugs over non-protein drugs, high prevalence rate of lifestyle diseases, growth in funding for protein engineering, and reduction in overall timeline and cost for drug discovery are the major drivers of the protein engineering market. However, expensive and high maintenance tools and instruments used in protein engineering and dearth of trained personnel are hindering the market.

The protein engineering market is segmented on the basis of product, technology, protein type, end user, and region.

By product, the protein engineering market is categorized into instruments, reagents, and services and software. The instruments segment accounted for the largest share 41.4% of the global protein engineering market in 2014.

Based on protein type, the market is categorized into monoclonal antibodies, insulin, erythropoietin, interferon, colony stimulating factor, growth hormones, coagulation factor, vaccines and others (interleukins, follicle stimulating hormones, enzyme replacement). Monoclonal antibodies is the largest as well as fastest growing segment of the protein engineering protein type market. This growth is attributed to the increase in adoption of them for various therapies such as cancer and autoimmune diseases.

On the basis of geography, the protein engineering market is segmented into North America, Europe, Asia, and Rest of the World (RoW). North America is further segmented into U.S. and Canada. Asia is further segmented into China, Japan, India and Rest of Asia. In 2014, North America accounted for the largest share of the protein engineering market, followed by Europe. Both markets are estimated to register double-digit growth rates over the next five years.



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