

Global Protein Assays - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Global Protein Assays Market size is estimated at USD 2.27 billion in 2025, and is expected to reach USD 3.95 billion by 2030, at a CAGR of 11.73% during the forecast period (2025-2030).

The emergence of the COVID-19 pandemic in 2020 had a severe impact on the global healthcare market as the lockdown implemented by the respective governments across the globe to curb the spread of COVID-19 not only affected the daily life of people but also affected the supply chain of pharmaceuticals, medical devices, diagnostic products, and other healthcare products. Further, due to COVID-19, the footfall in hospitals, clinics, and diagnostics centers decreased for diseases other than COVID-19 which had an impact on the protein assays market. However, protein assays played a significant role in understanding the mechanism of the virus, and many research and development activities were conducted and being conducted with the help of protein assays which is anticipated to have a positive impact on the protein assay market. For instance, as per a research study published by Cassandra Guarino et. al., in January 2022, a serological COVID-19 Multiplex Assay was developed and validated using serum samples from convalescent patients and those collected prior to the 2020 pandemic, and as per the study, after initial testing of multiple potential antigens, the SARS-CoV-2 nucleocapsid protein (NP) and receptor-binding domain (RBD) of the spike protein were selected for the human COVID-19 Multiplex Assay and the COVID-19 Multiplex Assay was utilized to identify seroprevalence to SARS-CoV-2 in people living in a low-incidence community in New York, United States. Thus, the protein assay market is expected to regain its full potential over the forecast period of the study owing to ongoing research and development activities in the area coupled with the large-scale vaccination program around the world.

The rapid increase in the prevalence of chronic diseases such as cancer, cardiovascular diseases, diabetes, and others coupled with the technological innovations and advancement in the protein assay technique are expected to be significant growth factors for the protein assay market during the forecast period of the study. For instance, according to a World Health Organization

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(WHO) update from April 2021, noncommunicable diseases (NCDs) are responsible for death of about 41 million people each year, accounting for 71 percent of all deaths worldwide, and more than 15 million people die from an NCD between the ages of 30 and 69, with 85 percent of these "premature" deaths occurring in low- and middle-income countries. Further, according to the 2020 report of the International Agency for Research on Cancer (Globocan 2020), there was about 19.3 million new cancer cases diagnosed globally in 2020 and this number is projected to increase to 28.9 million new cases by 2040. Hence, due to high prevalence of chronic diseases and mortality from it, the demand for protein assays is expected to increase significantly for different applications such as drug discovery and development, disease screening and diagnosis, and others, which will boost growth in the studied market. In addition, the research studies being conducted in the area along with the technological advancements in the protein assay technology are also expected to augment the growth of the protein assay market. For instance, as per a February 2022 published article, 'Opto-Microfluidic Integration of the Bradford Protein Assay in Lithium Niobate Lab-on-a-Chip', A new protocol is proposed to perform the protein quantification based on the high correlation of the light absorbance at 595 nm, as commonly used in the Bradford method, with the one achieved at 633 nm with a cheap commercially available diode laser. This protocol demonstrates the possibility to quantify proteins by using nL volumes, 1000 times less than the standard technique such as paper-analytical devices. Moreover, it shows a limit of quantification of at least 0.12 mg/mL, which is four times lower than the last literature, as well as a better accuracy (98%). The proposed methodology presents the further advantage that the protein solutions and opto-microfluidic platform can be reused for other investigations, and open opportunity of growth for the protein assays market.

Further, the growing burden of chronic diseases around the world is boosting investment in the pharmaceutical and biological research and development activities which is further expected to have a significant impact on the growth of the studied market. For instance, according to a report published by the Pharmaceutical Research and Manufacturers of America (PhRMA) in September 2021, biopharmaceutical companies have invested more than a trillion dollars in research and development in the last decade alone, including a record-breaking year in 2020, when PhRMA member companies alone invested about USD 91 billion in research and development. Further, as per the same source, there were more than 8,000 medicines in development around the world in 2021, with 74 percent of them having the potential to be first-in-class treatments, or completely novel ways to treating a disease. Thus, huge investment in the pharmaceutical and biological research and development activities are further expected to compliment the growth of the protein assay market over the forecast period of the study. However, the high cost of protein assays equipment, along with consumables and reagents required for protein analysis, are expected to restrain the growth of the protein assays market during the forecast period of the study.

Protein Assays Market Trends

Drug Discovery and Development Segment is Expected to Hold a Significant Share in the Protein Assay Market during the Forecast Period of the Study

Proteins are the primary target in any drug discovery and development activity; hence protein analysis is crucial in this process. Target identification and evaluation, identification of efficacy and toxicity biomarkers from readily accessible biological fluids, and investigations into mechanisms of drug action or toxicity are some of the common applications of protein analysis in drug discovery, which is expected to grow significantly due to a large number of ongoing drug discovery and development activities initiated by pharmaceutical companies around the world and boost growth in the drug discovery and development segment of the protein assays market.

Proteomics combines aspects of biology, chemistry, engineering, and information science and applies them to all areas of drug discovery, allowing scientists to screen large numbers of proteins within clinically distinct samples, allowing them to discover disease biomarkers, identify and validate drug targets, design more effective drugs, and assess drug efficacy and patient response in a very short period of time, which not only speeds up the procedure but also saves cost which is why protein assays are used widely in the drug discovery and development process. In addition, product launches and strategic activities by market

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participants, such as new investments, the establishment of new companies, collaborations, and others, are further expected to contribute to the segment's growth. For instance, in December 2021, Canopy Biosciences, a Bruker Company, launched assay kits for ChipCytometry. The Canopy assay kits will be used to quantitatively image dozens of targeted protein biomarkers simultaneously on a single tissue section at a single-cell spatial resolution which will streamline the user experience with ChipCytometry for a shorter pathway to meaningful biological advances. Therefore, due to the above mentioned factors, the drug discover and development segment is expected to hold a significant share in the protein assays market.

North America Region is Expected to Hold a Significant Share in the Protein Assay Market during the Forecast Period of the Study

By geography, the North American region (including the United States, Canada, and Mexico) is expected to hold a significant share in the protein assay market during the forecast period of the study owing to the presence of a large pharmaceutical market and high investment in the drug development and discovery initiative by some of the largest pharmaceutical companies that are located in the region coupled with the high prevalence of chronic diseases and presence of robust healthcare infrastructure in the region. For instance, according to the European Federation of Pharmaceutical Industries and Associations report of 2021, the North American market which includes the United States and Canada held the largest share in the global pharmaceutical market with 49%, ahead of Europe, China, and Japan. Thus, due to the high demand for pharmaceuticals in the region, the investment in drug discovery and development is significantly higher than in the other areas and this is expected to increase the demand for protein assays in the region which will drive growth in the studied market in North America over the forecast period of the study.

For instance, the research and development expenditure of Pfizer, Inc. which is headquartered in the United States, increased from USD 9,393 million in 2020 to USD 13,829 million as per the company's annual report. Similarly, as per the annual report of the Eli Lilly and Company, their research and development expenditure increased to USD 7,025.9 million in 2021 from USD 6,085.7 million in 2020. These given data shows a increasing investment in the drug discovery and development initiatives as these are pharmaceutical companies that are engaged in various drug discovery and development processes and as protein assays are used extensively used in drug discovery and development procedures and thus, the protein assay market is expected to grow significantly in the United States. Further, the product launches, partnerships, and mergers and acquisitions will help the companies in expanding their product offering and footprints, thereby contributing to the lucrative growth of the market in the country. For instance, in March 2022, Sengenics launched an autoantibody profiling service - the 'Pan-Autoimmune Protein Array 1.0' for efficient identification and quantitation of autoantibody disease biomarker signatures. It is a protein microarray-based, multiplexed immunoassay which utilizes Sengenics' KREX protein folding technology and optimized computational analysis. Therefore, due to the aforementioned factors, the United States is expected to hold a significant market share in the protein assay market during the forecast period of the study.

Protein Assays Industry Overview

The Protein Assays Market is fragmented and competitive and consists of several major players. In terms of market share, a few of the major players are currently dominating the market. Some of the companies which are currently dominating the market are Thermo Fisher Scientific, Bio-Rad Laboratories, Inc, Merck KGaA, Cell Signaling Technology, Inc, Danaher, F. Hoffmann-La Roche Ltd, PerkinElmer Inc, Promega Corporation, Abcam Plc, and Qiagen, among others.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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