

Protein Sequencing Market Forecast 2034: Technological Breakthroughs Fuel Industry Growth

Protein Sequencing Market grow from USD 2.29 billion in 2025 to USD 3.45 billion by 2034, driven by proteomics, biotherapeutics and research funding growth.

PUNE, MAHARASHTRA, INDIA, February 11, 2026 /EINPresswire.com/ -- The global [Protein Sequencing Market Size](#) is poised for steady expansion through the next decade, driven by increasing investments in biotherapeutics

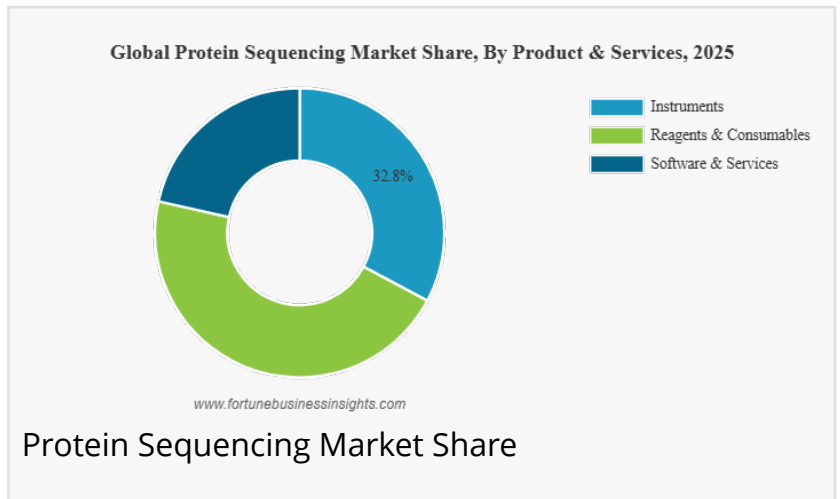
research, proteomics discovery, and advanced analytical technologies. According to a recent report by Fortune Business Insights, the market size was valued at USD 2.29 billion in 2025 and is expected to grow to USD 3.45 billion by 2034, registering a compound annual growth rate (CAGR) of 4.72% during the forecast period.

Protein sequencing involves the analysis of amino acid sequences in proteins — a critical function in biomedical research, drug discovery, biomarker identification, and therapeutic development. As demand for detailed protein characterization intensifies across pharmaceutical and biotechnology sectors, the adoption of cutting-edge protein sequencing technologies is accelerating rapidly.

Top Companies in Market

Key industry players shaping the global protein sequencing market include:

- Thermo Fisher Scientific Inc.
- Merck KGaA
- Agilent Technologies
- Shimadzu Corporation
- Bruker Corporation
- Waters Corporation
- Bio-Rad Laboratories, Inc.
- SCIEX



- Quantum-Si Inc.
- Illumina, Inc.

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Protein Sequencing Market Overview

The Protein Sequencing Market is experiencing expansion as industry stakeholders increasingly rely on protein structure and function insights to develop novel therapies and diagnostics. Key end users include pharmaceutical and biotechnology companies, contract research organizations (CROs), academic institutions, and research laboratories. Advanced technologies such as mass spectrometry, next-generation sequencing (NGS), and Edman degradation are essential for high-throughput and accurate protein analysis.

Growth in market revenues is attributed to the rising prevalence of chronic diseases and the burgeoning need for personalized medicine solutions. Protein sequencing enables the identification of disease biomarkers and therapeutic targets, deepening scientific understanding and shaping precision health strategies worldwide.

Protein Sequencing Market Trends

Several notable market trends are shaping the protein sequencing landscape:

- **Technology Integration:** Mass spectrometry continues to dominate due to its high sensitivity, throughput, and ability to sequence complex protein mixtures. It accounted for a majority share in 2025 as advanced MS instruments gain broader adoption.
- **Rise of Next-Generation Sequencing (NGS):** Emerging NGS-based approaches are expected to grow at a substantial rate during the forecast period, delivering improved throughput and sequencing depth — particularly valuable in proteomics and biomarker discovery.
- **Automation & AI:** Automation and integration of artificial intelligence (AI) into sequencing workflows are increasing efficiency, reducing manual interventions, and minimizing errors, enabling faster and more reliable protein analysis.

As research demands evolve, these trends will continue to influence technology development and competitive strategies within the market.

Protein Sequencing Market Segmentation Analysis

According to the report, the protein sequencing market is segmented across multiple parameters reflecting technology, product and services, application, and end users:

- **By Product & Services:** The market includes instruments, reagents & consumables, and software & services. Reagents and consumables held a dominant share in 2025 due to their continuous use in proteomics studies and drug development workflows.
- **By Technology:** Key segmentations include mass spectrometry, Edman degradation, next-generation sequencing, and others with mass spectrometry leading due to its extensive sensitivity and throughput capabilities.
- **By Application:** Applications cover biotherapeutics & biologics characterization, proteomics &

biomarker discovery, drug discovery & target validation, genetic engineering & synthetic biology, and others. Biotherapeutics & biologics characterization accounted for a significant share in 2025 as pharmaceutical adoption surged.

- By End User: The market is divided into pharmaceutical & biotechnology companies, CROs & CDMOs, academic & research institutes, and others — with pharmaceutical and biotech companies capturing nearly half of the market share due to their extensive research infrastructure.

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REGIONAL INSIGHTS

The North America region led the protein sequencing market in 2025, holding the largest share due to robust research infrastructure, advanced synthetic biology capabilities, and the presence of key market players. The U.S. market alone accounted for approximately USD 0.88 billion in 2025, underlining substantial investment in proteomics research and biologics development. Europe and Asia Pacific are projected to witness notable growth in the coming years. Europe's market benefits from well-established research institutions and increasing proteomics initiatives, while Asia Pacific sees expansion backed by rising R&D activities and investment in biotechnology sectors.

Latin America and the Middle East & Africa are expected to experience moderate growth as key players expand their presence and technology access improves across these regions.

KEY INDUSTRY DEVELOPMENTS

- April 2025: DKSH Business Unit Technology partnered with Quantum-Si to introduce next-generation protein sequencing solutions in Taiwan.
- November 2024: Quantum-Si Incorporated entered a distribution agreement with Avantor to expand NGPS product availability across the U.S. and Canada.

The Protein Sequencing Market is set to sustain its growth trajectory through 2034, powered by expanding research in biotherapeutics, proteomics, and next-generation sequencing technologies. As funding, automation, and global collaborations continue to rise, advanced protein sequencing will play a central role in accelerating scientific discovery and therapeutic innovation.

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