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# Biologics Drug Discovery Market - A Global and Regional Analysis: Focus on Method, Manufacturing Type, Type, and Region - Analysis and Forecast, 2025-2035

https://marketpublishers.com/r/BCAEDB2BDC3FEN.html
Date: November 2025
Pages: 189
Price: US$ 4,900.00 (Single User License)
ID: BCAEDB2BDC3FEN

## Abstracts

The global biologics drug discovery market, initially valued at $21.34 billion in 2024, is projected to witness substantial growth, surging to $63.07 billion by 2035, marking a remarkable compound annual growth rate (CAGR) of 10.38% over the period from 2025 to 2035.

The biologics drug discovery market has been witnessing steady growth, driven by the rising prevalence of chronic and rare diseases, increasing demand for precision-targeted therapies, and the shift toward more effective mechanism-based treatments. Biologics such as monoclonal antibodies, recombinant proteins, and next-generation therapies are gaining traction due to their ability to deliver higher selectivity and therapeutic efficacy compared to traditional small molecules. Supportive initiatives, including government-backed R&D funding, public–private collaborations, and favorable regulatory frameworks, are further accelerating innovation and expanding adoption across therapeutic areas such as oncology, immunology, and neurology.

Rapid technological advances are also reshaping the biologics drug discovery landscape, with AI-driven target identification, high-throughput screening, single-cell analysis, and antibody engineering enhancing efficiency and success rates in early-stage development. Despite these tailwinds, challenges such as high development costs, complex manufacturing processes, and regional disparities in research infrastructure and talent remain significant barriers to scale. Nevertheless, continued global investment, expanding outsourcing models, and growing demand for personalized medicine are expected to establish biologics drug discovery as a

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cornerstone of next-generation therapeutic innovation over the coming decade.

**Market Introduction**

The biologics drug discovery market has been undergoing a significant transformation, driven by continuous innovation in discovery platforms and strategic partnerships. Companies are increasingly adopting cutting-edge technologies such as high-throughput screening, AI-driven discovery platforms, and advanced antibody libraries to enhance the speed and precision of therapeutic development. Notable product launches, including Alloy Therapeutics, Inc.'s mAbForge high-throughput screening service, Biocytogen Pharmaceuticals (Beijing) Co., Ltd.'s RenBiologics antibody platform, and Evotec SE's J.CHO High Expression System for continuous antibody manufacturing, reflect the industry's focus on improving efficiency and scalability in biologics development. As biologics continue to gain prominence in addressing unmet clinical needs in oncology, immunology, and rare diseases, these innovations are poised to redefine the landscape of drug discovery, positioning biologics as a cornerstone of next-generation therapeutic development.

**Industrial Impact**

The global biologics drug discovery market has been experiencing a significant shift, driven by the increasing demand for precision-targeted therapies and the growing focus on personalized medicine. Key players such as Alloy Therapeutics, Inc., Charles River Laboratories International, Inc., Regeneron Pharmaceuticals, Inc., and WuXi Biologics (Cayman) Inc. have been playing a central role in advancing biologics discovery technologies, supporting the development of novel therapies beyond traditional approaches. These innovations are crucial in areas such as oncology, immunology, and rare diseases, enabling more efficient and targeted drug development with improved therapeutic outcomes. By enhancing the speed and precision of candidate identification, reducing development costs, and facilitating global partnerships, biologics drug discovery is contributing to a more effective and streamlined therapeutic development process. The market's impact is further amplified by its alignment with the global shift toward precision medicine, positioning biologics as a cornerstone of next-generation therapeutic advancements.

**Market Segmentation:**

Segmentation 1: By Method

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Target Identification/Validation

Hit Generation/Validation

Lead Identification

Lead Optimization

Hit Generation/Validation to Dominate the Biologics Drug Discovery Market (by Method)

Based on the method, the global biologics drug discovery market was led by hit generation/validation, which held a 28.8% share in 2024. This segment is essential in the early stages of biologics development, where identifying potential drug candidates, such as antibody therapeutics, is critical for the success of therapeutic programs. Among the most widely adopted methods in hit generation/validation are phage display screening and hybridoma screening, both of which are pivotal in generating and validating high-affinity antibodies. Phage display allows for the rapid screening of large antibody libraries to identify specific candidates, while hybridoma screening continues to be a cornerstone for monoclonal antibody production. As the demand for precision medicine grows, these methods are crucial in discovering new biologics, particularly for complex diseases such as cancer and autoimmune disorders. The growing adoption of advanced technologies reflects their vital role in accelerating the biologics drug discovery process and positioning the market for sustained growth.

Segmentation 2: By Manufacturing Type

In-House Manufacturing

Outsourced Manufacturing

In-house Manufacturing to Dominate the Biologics Drug Discovery Market (by Manufacturing Type)

Based on manufacturing type, the biologics drug discovery market was led by the in-house manufacturing segment, which held a 65.3% share in 2024. In-house production remains the preferred approach due to its control over quality, intellectual property, and cost management. However, the outsourced manufacturing segment is growing at a

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higher annualized growth rate (CAGR) of 11.2% from 2025 to 2035, as more companies seek to reduce operational costs, increase scalability, and access specialized expertise. Outsourcing enables companies to leverage contract manufacturing organizations (CMOs) for advanced technologies, such as high-throughput screening and large-scale biologics production, without the need for heavy capital investment. This shift is particularly evident as smaller biotech firms and pharmaceutical companies increasingly rely on external partners for the discovery, development, and manufacturing of biologics, including monoclonal antibodies, recombinant proteins, and cell and gene therapies. The rising demand for biologics, coupled with the increased need for flexibility and efficiency in the manufacturing process, is expected to drive continued growth in the outsourcing sector, making it an essential component of the biologics drug discovery market's expansion.

Segmentation 3: By Type

Monoclonal Antibodies

Recombinant Proteins

Other Biologics

Other Biologics to Dominate the Biologics Drug Discovery Market (by Type)

Based on type, the global biologics drug discovery market was led by the other biologics segment, which held a 43.8% share in 2024. This segment's dominance can be attributed to the growing emphasis on innovative treatments and therapeutic strategies, such as personalized medicine, immunotherapies, and advanced vaccine development. The surge in demand for vaccines, particularly in the wake of global health crises, has accelerated the focus on vaccine production and research. Similarly, the rapid advancement of cell and gene therapies, which aim to address previously untreatable genetic disorders, has garnered substantial attention from both public and private sectors. Furthermore, the increased investment in the research and development of cell-based therapies, including stem cells and gene-editing technologies, is expected to drive the continued growth of this segment. The diversity of treatment approaches within this category, coupled with the rising prevalence of chronic diseases and genetic disorders, positions the other biologics segment as a key driver in the overall biologics market.

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Segmentation 4: By Region

- North America
  - U.S.
  - Canada
- Europe
  - Germany
  - U.K.
  - France
  - Italy
  - Spain
  - Rest-of-Europe
- Asia-Pacific
  - China
  - Japan
  - India
  - South Korea
  - Australia
  - Rest-of-Asia-Pacific
- Rest-of-the-World

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## Asia-Pacific to Witness the Highest Growth in the Biologics Drug Discovery Market (by Region)

The biologics drug discovery market in the Asia-Pacific region is expected to witness a significant growth rate of 11.9% during the forecast period 2025-2035. This rapid expansion is driven by several key factors, including the increasing investment in biotechnology research, enhanced healthcare infrastructure, and a growing emphasis on personalized medicine. Asia-Pacific, with its diverse and rapidly evolving healthcare landscape, is witnessing significant advancements in biologics, particularly in countries including China, Japan, India, and South Korea, where governments and private organizations are heavily investing in biopharmaceutical research and development. The region's large and aging population, coupled with a rising burden of chronic diseases such as cancer, diabetes, and autoimmune disorders, has created a pressing need for innovative biologic therapies. Furthermore, the increasing adoption of cutting-edge technologies such as CRISPR and gene editing, alongside advancements in cell and gene therapies, is expected to fuel the region’s dominance in biologics drug discovery. The Asia-Pacific market is also benefiting from the growing focus on biosimilars, which offer a cost-effective alternative to expensive biologic therapies, making them increasingly accessible to a wider patient base across the region.

## Recent Developments in the Biologics Drug Discovery Market

In June 2025, AbbVie Inc. acquired Capstan Therapeutics, Inc. to advance in vivo CAR-T therapies for autoimmune diseases using Capstan's targeted lipid nanoparticle (tLNP) platform.

In January 2025, Evotec SE, in collaboration with Yonsei University and the Korean biotech company Zymedi, received a $4.5 million grant from the Korea Institute of Advanced Technology (KIAT) to develop first-in-class biologic therapies for lung diseases, specifically asthma and idiopathic pulmonary fibrosis (IPF).

In January 2024, Biocytogen Pharmaceuticals (Beijing) Co., Ltd. launched RenBiologics, a sub-brand dedicated to out-licensing its fully human antibody library and RenMice discovery platforms, enabling global partnerships and co-development for antibody-based therapeutics.

## Demand – Drivers, Challenges, and Opportunities

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## Market Drivers

Rising Prevalence of Chronic and Rare Diseases Driving Biologics Demand: The growing need for innovative treatments in chronic and rare diseases is fueling the demand for innovative biologics and their discovery. Chronic conditions such as cancer, autoimmune disorders, and cardiovascular diseases continue to challenge healthcare systems worldwide. Biologics, with their ability to target specific molecular pathways, offer effective solutions for these complex diseases. Additionally, the increasing prevalence of rare diseases, which often lack viable treatments, further emphasizes the importance of biologics in addressing unmet medical needs. Therapies such as monoclonal antibodies, recombinant proteins, gene therapies, and enzyme replacement therapies are leading the way in treating these conditions. As the global healthcare landscape evolves and the need for advanced, targeted therapies rises, novel biologics drug discovery is anticipated to play a prominent role in shaping the future of medicine.

## Market Challenges

High Development and Manufacturing Costs: The high costs associated with the drug discovery, development, and manufacturing of biologics present a significant challenge to market growth. Biologics, particularly those in the R&D phase or advanced stages of development, require substantial investment in research, production, and quality control. These processes are complex and resource-intensive, often involving cutting-edge technologies, specialized facilities, and stringent regulatory requirements. As a result, biologics tend to be more expensive than traditional small-molecule drugs, limiting their accessibility, particularly in resource-constrained or cost-sensitive healthcare environments. Additionally, the high price of biologic therapies, coupled with the need for ongoing research and development, places a strain on healthcare systems and patient affordability. These financial barriers limit access to biologics in underserved regions and among economically disadvantaged populations. Overcoming these challenges will be essential for advancing biologics drug discovery, expanding the reach of biologic treatments, and ensuring their broader adoption across diverse healthcare settings.

## Market Opportunities

AI Integration in Biologics Drug Discovery: The integration of artificial intelligence (AI) into biologics drug discovery presents a significant growth opportunity, driven by the potential for faster, more efficient, and cost-effective development of biologic therapies.

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AI technologies, including machine learning and deep learning, are enabling more accurate prediction of molecular interactions, optimizing drug design, and streamlining the discovery of novel biologic candidates. As AI continues to evolve, its ability to analyze vast datasets, such as genetic information, clinical trial data, and protein structures, has the potential to accelerate the identification of high-potential drug targets and improve the precision of biologics development. In regions including North America and Europe, where there is a strong focus on innovation and advanced healthcare technologies, AI integration in biologics drug discovery is gaining traction. Additionally, collaborations between biopharma companies and AI technology providers are increasing, further enhancing the capabilities of biologics drug discovery platforms.

How can this report add value to an organization?

Product/Innovation Strategy: The global biologics drug discovery market has been extensively segmented based on various categories, such as method, manufacturing type, type, and region. This can help readers get a clear overview of which segments account for the largest share and which ones are well-positioned to grow in the coming years.

Growth/Marketing Strategy: Partnerships, alliances, and business expansions have accounted for the majority of key developments, comprising nearly 74% of the total developments in the global biologics drug discovery market between January 2022 and September 2025.

Competitive Strategy: The global biologics drug discovery market has numerous established players with product portfolios. Key players in the global biologics drug discovery market, analyzed and profiled in the study, include established players offering platforms, products, and services for biologics drug discovery.

**Methodology**

Key Considerations and Assumptions in Market Engineering and Validation

Years from 2023 to 2035 have been considered for the global market size estimation, 2024 has been considered as the base year, and 2025 to 2035 as the forecast period.

The scope of this report has been carefully developed based on insights from experts across various companies worldwide. It presents a comprehensive

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market study of the platforms, products, and services within the biologics drug discovery market.

The market contribution of biologics drug discovery is anticipated to grow substantially in the future, with projections based on historical analysis of available solutions.

Revenues from companies have been sourced from their annual reports for FY2023 and FY2024. For private companies, revenue estimates are derived from primary research inputs, funding history, market collaborations, and operational performance.

The market has been mapped based on the existing biologics drug discovery platforms, products, and services. Key companies with significant offerings in this field have been identified and profiled in this report.

Primary Research

The primary sources involve industry experts in biologics drug discovery, including the market players offering products and services. Resources such as CEOs, vice presidents, marketing directors, and technology and innovation directors have been interviewed to obtain and verify both qualitative and quantitative aspects of this research study.

The key data points taken from the primary sources include:

validation and triangulation of all the numbers and graphs

validation of report segmentations and key qualitative findings

understanding the competitive landscape and business model

current and proposed production values of a product by market players

validation of the numbers of different segments of the market in focus

percentage split of individual markets for regional analysis

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Secondary Research

Open Sources

Certified publications, articles from recognized authors, white papers, directories, and major databases, among others

Annual reports, SEC filings, and investors' presentations of the leading market players

Company websites and a detailed study of their product portfolio

Gold standard magazines, journals, white papers, press releases, and news articles

Paid databases

The key data points taken from the secondary sources include:

segmentations and percentage shares

data for market value

key industry trends of the top players in the market

qualitative insights into various aspects of the market, key trends, and emerging areas of innovation

quantitative data for mathematical and statistical calculations

**Key Market Players and Competition Synopsis**

The companies profiled have been selected based on inputs gathered from an analysis of company coverage, product portfolio, and market penetration.

Some prominent names established in this market are:

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Alloy Therapeutics, Inc.

Charles River Laboratories International, Inc.

Regeneron Pharmaceuticals, Inc.

WuXi Biologics (Cayman) Inc.

AbbVie Inc.

Amgen, Inc.

Astellas Pharma Inc.

AstraZeneca Plc

Bristol-Myers Squibb

Novo Nordisk A/S

Novartis AG

Evotec SE

Eli Lilly and Company

GenScript Biotech Corporation

Gilead Sciences, Inc.

Merck KGaA

Johnson & Johnson

Pfizer, Inc.

F. Hoffmann-La Roche AG

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# Contents

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## 2 GLOBAL BIOLOGICS DRUG DISCOVERY MARKET (BY METHOD), ($BILLION), 2023-2035

2.1 Target Identification/Validation
  2.1.1 Functional Genomics/Proteomics
  2.1.2 Cell-Based Assay
  2.1.3 CRISPR/Knockout Studies/Cas9
  2.1.4 Animal/Disease-Based Models
  2.1.5 Computational/In-Silico/Bioinformatics
2.2 Hit Generation/Validation
  2.2.1 mAb Sequencing
  2.2.2 Hybridoma Screening
  2.2.3 Customized Synthetic Library Screening
  2.2.4 Phage Display Screening
  2.2.5 High-Throughput Screening
  2.2.6 Others
2.3 Lead Identification
  2.3.1 Phage Display
  2.3.2 ELISA/ADCC and CDC Assay
  2.3.3 Array-Based Screening
  2.3.4 Hybridoma Screening and Humanization
  2.3.5 Bioanalytical Analysis
  2.3.6 Other Assays
2.4 Lead Optimization
  2.4.1 Humanization
  2.4.2 Affinity Analysis
  2.4.3 Protein Engineering
  2.4.4 In-Vitro/In-Vivo Efficacy Assays
  2.4.5 Others

## 3 GLOBAL BIOLOGICS DRUG DISCOVERY MARKET (BY MANUFACTURING TYPE), ($BILLION), 2023-2035

3.1 In-House Manufacturing
3.2 Outsourced Manufacturing

## 4 GLOBAL BIOLOGICS DRUG DISCOVERY MARKET (BY TYPE), ($BILLION), 2023-2035

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## 7 RESEARCH METHODOLOGY

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# List Of Figures

## LIST OF FIGURES

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# List Of Tables

## LIST OF TABLES

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