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Antibody Discovery Market - A Global and Regional Analysis: Focus on Offering, Technology, Antibody Type, Therapeutics, Nature, End User, and Country - Analysis and Forecast, 2025-2035

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Abstracts

The global antibody discovery market was valued at approximately $11.15 billion in 2025 and is projected to grow $35.35 billion by 2035, at a CAGR of around 12.23%. The global antibody discovery market is rapidly evolving, driven by advancements in engineering technologies, automation, and artificial intelligence. A major trend shaping this growth is the shift toward fully human and humanized antibodies, which improve therapeutic safety, specificity, and efficacy while reducing immunogenicity. Supported by technologies such as phage display, transgenic animal models, and glycoengineering, these formats are transforming treatments for cancer, autoimmune, and infectious diseases. Additionally, the integration of high-throughput screening, next-generation sequencing, and automation has streamlined antibody identification and optimization, significantly shortening development timelines and improving cost efficiency. The increasing reliance on contract research organizations further enhances scalability and accelerates innovation by providing specialized infrastructure and expertise in antibody screening and engineering.

Additionally, artificial intelligence and machine learning are reshaping the discovery process by enabling predictive modeling, affinity optimization, and rapid sequence design. These tools enhance precision and reduce development costs, supporting the growing demand for precision therapies. Innovations such as bispecific antibodies, antibody-drug conjugates, and single-domain antibodies are broadening therapeutic potential across oncology, immunology, and rare diseases. Despite challenges such as high production costs and competition from alternative modalities such as gene and cell therapies, continued progress in automation, bioinformatics, and process scalability

positions the global antibody discovery market for sustained growth and technological maturity in the coming decade.

Global Antibody Discovery Market Lifecycle Stage

The global antibody discovery market is positioned in the growth stage of its lifecycle, characterized by accelerating innovation, expanding adoption across therapeutic areas, and intensifying competition among established companies and emerging players. The market has evolved beyond early-stage scientific exploration into a mature, technology-driven ecosystem where efficiency, automation, and precision increasingly define competitive advantage. This phase is marked by the rapid integration of artificial intelligence and machine learning-enabled discovery platforms, high-throughput screening, and multi-omics integration, which are significantly reducing development timelines and enhancing candidate success rates.

As the market continues to mature, focus is shifting from innovation-driven discovery toward process optimization, clinical validation, and cost efficiency. Competitive dynamics are expected to intensify as new entrants leverage computational biology and synthetic biology approaches to challenge traditional discovery models. Over the next decade, the global antibody discovery market is anticipated to progress toward the early maturity phase, characterized by broader clinical adoption, standardized workflows, and increasing regulatory clarity.

Market Segmentation:

Segmentation 1: By Offering

- Product
    - Antibody Discovery Platforms & Systems
    - Kits & Reagents
    - Antibody Libraries
    - Others
- Services

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Antigen Designing & Preparation

Hit Generation & Screening

Lead Selection & Optimization

Antibody Engineering & Characterization

Other Services

Products account for the larger share of the antibody discovery market as they include antibody discovery platforms and systems, kits, reagents, and antibody libraries, among others that are essential, high-value, and recurrently consumed across discovery workflows. While services generate significant revenue, product sales are often bundled into multiple projects, creating a broader revenue base.

Segmentation 2: By Technology

Phage Display Technology

Hybridoma Technology

Single B-Cell Technologies

Transgenic Animal-based Methods

Other Technologies

Phage display technology accounts for the largest share in the antibody discovery market as it allows the screening of very large antibody libraries in vitro, making it highly efficient for isolating binders against diverse and difficult targets. Its ability to generate fully human antibodies without the need for immunization has made it the most widely used technology by pharmaceutical and biotechnology companies and other end users.

Segmentation 3: By Antibody Type

Monoclonal Antibodies

Polyclonal Antibodies

Next-Generation Antibodies

Bispecific Antibodies

Antibody-Drug Conjugates

Nanobodies

Other Engineered Antibodies

Monoclonal antibodies account for the largest share of the global antibody discovery market as they are well-established, widely approved, and form the backbone of therapeutic pipelines across multiple disease areas. However, next-generation antibodies are expected to be the fastest growing segment, driven by the rapid development and clinical success of bispecifics, ADCs, and other engineered formats that offer improved efficacy and novel mechanisms of action.

Segmentation 4: By Nature

Human Antibodies

Humanized Antibodies

Chimeric Antibodies

Murine Antibodies

Human antibodies hold the largest share in the antibody discovery market as they offer the highest compatibility and lowest risk of immunogenicity in patients. Advances in transgenic animal models, phage display, and single B-cell technologies have enabled efficient generation of fully human antibodies, making them the preferred choice as a safe and long-lasting therapeutics.

Segmentation 5: By Therapeutic Area

Oncological Disorders

Immunological Disorders

Infectious Diseases

Cardiovascular Disorders

Neurological Disorders

Other Therapeutic Areas

Oncology disorders account for the largest share of the antibody discovery market because antibodies have become a cornerstone of cancer therapy, with numerous monoclonal antibodies, bispecifics, and ADCs approved and in late-stage pipelines. The high unmet need, significant R&D investment, and rapid adoption of next-generation antibody formats in immuno-oncology drive sustained dominance of this therapeutic area.

Segmentation 6: By End User

Pharmaceutical and Biotechnology Companies

Contract Research Organizations

Academic and Research Institutes

Others

Based on end-user segmentation, pharmaceutical and biotechnology companies are expected to account for the largest share of the global antibody discovery market in 2024 as they conduct extensive in-house R&D and maintain proprietary discovery platforms to build differentiated pipelines. These companies also actively collaborate with others to accelerate antibody discovery, while leveraging licensing agreements and acquisitions to expand their therapeutic portfolios. Their strong financial capacity and emphasis on advancing next-generation antibody modalities further reinforce their leading role in this market.

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Segmentation 7: By Region

North America

Europe

Asia-Pacific

Rest-of-the-World

North America is expected to hold the largest share of the global antibody discovery market, driven by the strong presence of major biopharmaceutical companies, advanced research infrastructure, and high R&D investments. The region benefits from early adoption of AI-driven discovery platforms, extensive clinical trial activity, and supportive regulatory frameworks that accelerate biologics development and commercialization.

Demand – Drivers and Limitations

Demand Drivers for the Global Antibody Discovery Market:

Advancements in Antibody Engineering for Therapeutic Applications

Increasing Prevalence of Chronic Diseases

Limitations for the Global Antibody Discovery Market:

Rising Shift toward Alternative Antibody-Based Treatment Modalities

High Costs Restrict Widespread Adoption of Antibody Therapies

How can this report add value to an organization?

Product/Innovation: This report enables organizations to identify high-value opportunities in the global antibody discovery market, focusing on innovation-driven growth across discovery platforms, engineering technologies, and therapeutic applications. It guides R&D investment strategies, technology adoption, and pipeline optimization, allowing companies to prioritize initiatives that accelerate lead identification, candidate validation, and antibody optimization.

Growth/Marketing: The report delivers in-depth insights into regional adoption trends, emerging markets, and partnership opportunities, supporting strategic market entry and commercialization planning. It enables companies to identify growth potential across offering, technology, application, and end-user segments. By understanding regional R&D investments, regulatory frameworks, and technology adoption rates, organizations can refine marketing, licensing, and collaboration strategies, maximize visibility, and increase return on investment in a competitive global landscape.

Competitive: This report provides comprehensive company profiling, competitive benchmarking, highlighting strategic collaborations, funding activities, mergers, acquisitions, and technology adoption trends. Stakeholders gain a clear understanding of competitor focus areas, R&D priorities, and market positioning. This intelligence allows organizations to identify gaps, anticipate market shifts, and formulate strategies to differentiate themselves, optimize market entry, and maintain leadership in the antibody discovery ecosystem.

Key Market Players and Competitive Landscape

The global antibody discovery market is characterized by a rapidly evolving and competitive landscape, driven by technological innovation, strategic partnerships, and the growing demand for next-generation therapeutics. The market comprises a mix of well-established biopharmaceutical companies and emerging biotechnology firms specializing in advanced discovery platforms, contract research services, and integrated biologics development as well as contract research organizations. Key players include:

OmniAb Inc.

Twist Bioscience Corporation

Biocytogen Pharmaceuticals (Beijing) Co., Ltd.

WuXi Biologics Inc.

Charles River Laboratories International, Inc.

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Regeneron Pharmaceuticals, Inc.

FairJourney Biologics S.A.

Samsung Biologics

Genmab A/S

Alloy Therapeutics, Inc.

Competitive benchmarking highlights mergers and acquisitions, funding activities, licensing deals, and collaborations with pharmaceutical organizations, reflecting the growing emphasis on innovation and speed-to-market. Companies are evaluated based on market presence, technological capabilities, strategic initiatives, and product portfolios. Detailed company profiles cover target end users, technological focus areas, and expert analyst perspectives, providing stakeholders with actionable insights into investment opportunities, market positioning, and strategic growth pathways. This intelligence enables organizations to effectively align their R&D and commercialization strategies with emerging market dynamics of the global antibody discovery market.

This report can be delivered within 1 working day.

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Table 64: Pipeline Analysis

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