

Recombinant Proteins Market Assessment, By Product [Cytokines and Growth Factors, Antibodies, Immune Checkpoint Proteins, Virus Antigens, Enzymes, Recombinant Regulatory Protein, Hormones, Others], By Host Cell [Mammalian Systems, Insect Cells, Yeast and Fungi, Bacterial Cells, Others], By Application [Academic Research Studies, Biopharmaceutical Production, Biotechnology Research, Diagnostics, Other Applications], By End-user [Pharmaceutical and Biotechnology Companies, Academics and Research Institutions, Clinical Research Organization, Diagnostic Laboratories, Others], By Region, Opportunities and Forecast, 2017-2031F

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Abstracts

Global Recombinant Proteins market size was valued at USD 2.51 billion in 2023, and is expected to reach USD 6.47 billion in 2031, with a CAGR of 12.57% for the forecast period between 2024 and 2031F. The recombinant protein market has registered significant growth in the field of diagnostic and exploratory research. The increase in the number of biologics patents expiring recently is driving demand for the recombinant protein market. About 31 biologics will lose exclusivity between 2022 and 2027 which is expected to create huge demand in the market.

Increasing expenditure on research and development in the field of biotechnology is promoting significant growth in the global recombinant proteins market. Due to the expansion of applications of recombinant proteins in the domain of medicine, research, and biotechnology, the demand for recombinant protein products is expected to increase during the forecast period. Additionally, the growing prevalence of chronic diseases like cancer, auto-immune diseases, and diabetes require biologics for treatment and contribute to about 60% of the biologics market, which is expected to draw more business in the recombinant proteins market. However, specific requirements of recombinant protein production and high cost of products are some of the factors restraining recombinant proteins market.

For instance, in June 2022, Navigo Proteins GmbH, a leading provider of affinity ligands for customized chromatography solutions and protein engineering, developed an affinity resin to capture the glycoprotein gp64, an unwanted contaminant from the baculovirus insect cell production system. By effectively utilizing precision capturing technology, Navigo was able to create a Precision X ligand that binds to the gp64 contaminant.

Increase in Number of Biologics Patent Expiration

The increasing number of biologics patent expiry is driving the growth of the recombinant proteins market. Biologics are complex molecules produced from living cells and are used to treat various diseases such as cancer, autoimmune diseases, and chronic kidney disease. Patents for several blockbuster biologics have expired or are set to expire, leading to the development of biosimilars and follow-on biologics. The expiration of these patents has created opportunities for the development of biosimilars and follow-on biologics, which are driving the growth of the recombinant proteins market.

According to The Center for Biosimilar, by 2023, patents on nearly 20 oncology biologics will expire. The highest-earning drug, Humira is losing exclusivity in the year 2023, opening a huge opportunity for the biosimilar market. Johnson & Johnson's Stelara is going off-patent in the second half of 2023 which is a promising candidate for the biosimilar market.

Increasing Investment in Research and Development

The increasing expenditure on research and development is significantly impacting the recombinant proteins market. The heightened investment is driving the development of innovative proteomic and genomic techniques, thereby fostering the production of

recombinant proteins. The growing R&D initiatives are particularly notable in Asia-Pacific, which is expected to offer potential growth opportunities for market players. The surge in research and development spending is a key driver propelling the expansion of the recombinant proteins market. In February 2023, in a seed extension round, Canadian startup Future Fields secured USD 11.2 million to expand the use of fruit flies as high-value recombinant protein production machines. The firm aims to produce recombinant proteins at a large scale in 10,000 square feet of manufacturing space.

Cytokines and Growth Factors are Expected to Dominate During Forecast Period

The cytokines and growth factors segment is expected to dominate due to its vast role in research in cancer, COVID-19, cell culture, infectious diseases, and wound healing. The increasing prevalence of chronic diseases and their growing treatment requirements has led to an increase in demand for recombinant protein products. Research and development around these factors are propelling the dominance of cytokines and growth factors segment. In September 2023, Sino Biological, Inc. launched several products for biological research including four high-quality recombinant cytokines and GMP grade cytokines.

North America is Expected to be Lead the Recombinant Proteins Market

North America dominates the global recombinant proteins market. In 2022, North America accounted for a significant portion of the revenue share, and it is expected to maintain its position in the coming years. The region's dominance can be attributed to the availability of funding government initiatives for R&D in the pharmaceutical industry, more R&D programs, and a favorable funding from the government. The United States accounted for the largest share in the North America recombinant proteins market. The growth in competition among players and diverse applications by end-users has contributed to the expansion of product pipelines, the development of new technologies, and the advancement of bioprocessing tools.

Future Market Scenario

The outlook for the global recombinant proteins market appears to be promising, with significant growth expected in the coming years. The market is driven by factors such as the rising prevalence of chronic diseases, the growing adoption of life science techniques in research and academia, and the huge presence of major pharmaceutical and biotechnology companies. Asia-Pacific is projected to witness significant growth due to increasing research activities, new product development, and expanding

applications by end-users. The market for recombinant proteins is expected to be dominated by products such as cytokines, growth factors, antibodies, and immune checkpoint proteins. Key players in the recombinant proteins market include Thermo Fisher Scientific, Inc. (US), R&D Systems (US), Abcam plc (UK), Merck KGaA (Germany), and others. Apart from healthcare, recombinant proteins are used in agriculture, food production, and bioengineering, which is further expected to increase demand in the near future.

Key Players Landscape and Outlook

Market players are expanding their product offerings and giving their customers access to a wide range of cutting-edge and novel products using a variety of strategies. To gain market share, companies are expanding the range of products they offer. Industry participants use a variety of growth methods, including collaborations, mergers and acquisitions, product launches, and the development of new goods, to bolster their position in the market.

In January 2022, Thermo Fisher Scientific Inc. completed the acquisition of PeproTech, Inc. for a total cash purchase price of approximately USD 1.85 billion. PeproTech was a leading manufacturer of recombinant proteins in the United States. The acquisition strengthened the recombinant portfolio of Thermo Fisher Scientific.

Contents

1. RESEARCH METHODOLOGY

2. PROJECT SCOPE & DEFINITIONS

3. EXECUTIVE SUMMARY

4. GLOBAL RECOMBINANT PROTEINS MARKET OUTLOOK, 2017-2031F

4.1. Market Size & Forecast

4.1.1. By Value

4.1.2. By Volume

4.2. By Product

4.2.1. Cytokines and Growth Factors

4.2.1.1. Interferons (IFNs)

4.2.1.2. Interleukins (ILs)

4.2.1.3. Others

4.2.2. Antibodies

4.2.3. Immune Checkpoint Proteins

4.2.4. Virus Antigens

4.2.5. Enzymes

4.2.5.1. Kinases

4.2.5.2. Metabolic enzymes

4.2.5.3. Others

4.2.6. Recombinant Regulatory Protein

4.2.7. Hormones

4.2.8. Others

4.3. By Host Cell

4.3.1. Mammalian Systems

4.3.2. Insect Cells

4.3.3. Yeast and Fungi

4.3.4. Bacterial Cells

4.3.5. Others

4.4. By Application

4.4.1. Drug Discovery and Development

4.4.1.1. Biologics

4.4.1.2. Vaccines

4.4.1.3. Cell and Gene Therapy

- 4.4.2. Academic Research Studies
- 4.4.3. Biopharmaceutical Production
- 4.4.4. Biotechnology Research
- 4.4.5. Diagnostics
- 4.4.6. Other Applications
- 4.5. By End-user
 - 4.5.1. Pharmaceutical and Biotechnology Companies
 - 4.5.2. Academics and Research Institutions
 - 4.5.3. Clinical Research Organization
 - 4.5.4. Diagnostic Laboratories
 - 4.5.5. Others
- 4.6. By Region
 - 4.6.1. North America
 - 4.6.2. Europe
 - 4.6.3. Asia Pacific
 - 4.6.4. South America
 - 4.6.5. Middle East & Africa
- 4.7. By Company Market Share (%), 2023

5. GLOBAL RECOMBINANT PROTEINS MARKET OUTLOOK, BY REGION, 2017-2031F

- 5.1. North America*
 - 5.1.1. Market Size & Forecast
 - 5.1.1.1. By Value
 - 5.1.1.2. By Volume
 - 5.1.2. By Product
 - 5.1.2.1. Cytokines and Growth Factors
 - 5.1.2.1.1. Interferons (IFNs)
 - 5.1.2.1.2. Interleukins (ILs)
 - 5.1.2.1.3. Others
 - 5.1.2.2. Antibodies
 - 5.1.2.3. Immune Checkpoint Proteins
 - 5.1.2.4. Virus Antigens
 - 5.1.2.5. Enzymes
 - 5.1.2.5.1. Kinases
 - 5.1.2.5.2. Metabolic enzymes
 - 5.1.2.5.3. Others
 - 5.1.2.6. Recombinant Regulatory Protein

- 5.1.2.7. Hormones
- 5.1.2.8. Others
- 5.1.3. By Host Cell
 - 5.1.3.1. Mammalian Systems
 - 5.1.3.2. Insect Cells
 - 5.1.3.3. Yeast and Fungi
 - 5.1.3.4. Bacterial Cells
 - 5.1.3.5. Others
- 5.1.4. By Application
 - 5.1.4.1. Drug Discovery and Development
 - 5.1.4.1.1. Biologics
 - 5.1.4.1.2. Vaccines
 - 5.1.4.1.3. Cell and Gene Therapy
 - 5.1.4.2. Academic Research Studies
 - 5.1.4.3. Biopharmaceutical Production
 - 5.1.4.4. Biotechnology Research
 - 5.1.4.5. Diagnostics
 - 5.1.4.6. Other Applications
- 5.1.5. By End-user
 - 5.1.5.1. Pharmaceutical and Biotechnology Companies
 - 5.1.5.2. Academics and Research Institutions
 - 5.1.5.3. Clinical Research Organization
 - 5.1.5.4. Diagnostic Laboratories
 - 5.1.5.5. Others
- 5.1.6. United States*
 - 5.1.6.1. Market Size & Forecast
 - 5.1.6.1.1. By Value
 - 5.1.6.1.2. By Volume
 - 5.1.6.2. By Product
 - 5.1.6.2.1. Cytokines and Growth Factors
 - 5.1.6.2.1.1. Interferons (IFNs)
 - 5.1.6.2.1.2. Interleukins (ILs)
 - 5.1.6.2.1.3. Others
 - 5.1.6.2.2. Antibodies
 - 5.1.6.2.3. Immune Checkpoint Proteins
 - 5.1.6.2.4. Virus Antigens
 - 5.1.6.2.5. Enzymes
 - 5.1.6.2.5.1. Kinases
 - 5.1.6.2.5.2. Metabolic enzymes

- 5.1.6.2.5.3. Others
 - 5.1.6.2.6. Recombinant Regulatory Protein
 - 5.1.6.2.7. Hormones
 - 5.1.6.2.8. Others
 - 5.1.6.3. By Application
 - 5.1.6.3.1. Drug Discovery and Development
 - 5.1.6.3.1.1. Biologics
 - 5.1.6.3.1.2. Vaccines
 - 5.1.6.3.1.3. Cell and Gene Therapy
 - 5.1.6.3.2. Academic Research Studies
 - 5.1.6.3.3. Biopharmaceutical Production
 - 5.1.6.3.4. Biotechnology Research
 - 5.1.6.3.5. Diagnostics
 - 5.1.6.3.6. Other Applications
 - 5.1.6.4. By End-user
 - 5.1.6.4.1. Pharmaceutical and Biotechnology Companies
 - 5.1.6.4.2. Academics and Research Institutions
 - 5.1.6.4.3. Clinical Research Organization
 - 5.1.6.4.4. Diagnostic Laboratories
 - 5.1.6.4.5. Others
 - 5.1.7. Canada
 - 5.1.8. Mexico
- *All segments will be provided for all regions and countries covered
- 5.2. Europe
 - 5.2.1. Germany
 - 5.2.2. France
 - 5.2.3. Italy
 - 5.2.4. United Kingdom
 - 5.2.5. Russia
 - 5.2.6. Netherlands
 - 5.2.7. Spain
 - 5.2.8. Turkey
 - 5.2.9. Poland
 - 5.3. South America
 - 5.3.1. Brazil
 - 5.3.2. Argentina
 - 5.4. Asia-Pacific
 - 5.4.1. India
 - 5.4.2. China

- 5.4.3. Japan
- 5.4.4. Australia
- 5.4.5. Vietnam
- 5.4.6. South Korea
- 5.4.7. Indonesia
- 5.4.8. Philippines
- 5.5. Middle East & Africa
 - 5.5.1. Saudi Arabia
 - 5.5.2. UAE
 - 5.5.3. South Africa

6. MARKET MAPPING, 2023

- 6.1. By Product
- 6.2. By Host Cell
- 6.3. By Application
- 6.4. By End-user
- 6.5. By Region

7. MACRO ENVIRONMENT AND INDUSTRY STRUCTURE

- 7.1. Supply Demand Analysis
- 7.2. Import Export Analysis – Volume and Value
- 7.3. Supply/Value Chain Analysis
- 7.4. PESTEL Analysis
 - 7.4.1. Political Factors
 - 7.4.2. Economic System
 - 7.4.3. Social Implications
 - 7.4.4. Technological Advancements
 - 7.4.5. Environmental Impacts
 - 7.4.6. Legal Compliances and Regulatory Policies (Statutory Bodies Included)
- 7.5. Porter's Five Forces Analysis
 - 7.5.1. Supplier Power
 - 7.5.2. Buyer Power
 - 7.5.3. Substitution Threat
 - 7.5.4. Threat from New Entrant
 - 7.5.5. Competitive Rivalry

8. MARKET DYNAMICS

8.1. Growth Drivers

8.2. Growth Inhibitors (Challenges, Restraints)

9. REGULATORY FRAMEWORK AND INNOVATION

9.1. Clinical Trials

9.2. Patent Landscape

9.3. Regulatory Approvals

9.4. Innovations/Emerging Technologies

10. KEY PLAYERS LANDSCAPE

10.1. Competition Matrix of Top Five Market Leaders

10.2. Market Revenue Analysis of Top Five Market Leaders (in %, 2023)

10.3. Mergers and Acquisitions/Joint Ventures (If Applicable)

10.4. SWOT Analysis (For Five Market Players)

10.5. Patent Analysis (If Applicable)

11. PRICING ANALYSIS

12. CASE STUDIES

13. KEY PLAYERS OUTLOOK

13.1. Abbvie Inc.

13.1.1. Company Details

13.1.2. Key Management Personnel

13.1.3. Products & Services

13.1.4. Financials (As reported)

13.1.5. Key Market Focus & Geographical Presence

13.1.6. Recent Developments

13.2. Amgen Inc.

13.3. Bio-Rad Laboratories Inc.

13.4. Eli Lilly and Company

13.5. Merck KGaA

13.6. Novo Nordisk AS

13.7. Sanofi SA

13.8. Thermo Fisher Scientific Inc.

13.9. Novartis AG

13.10. GlaxoSmithKline PLC

13.11. Novavax Inc.

13.12. Pfizer Inc.

*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

14. STRATEGIC RECOMMENDATIONS

15. ABOUT US & DISCLAIMER

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