Membrane Chromatography - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 112 pages | Mordor Intelligence

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Report description:

The Membrane Chromatography Market size is estimated at USD 315.61 million in 2024, and is expected to reach USD 662.89 million by 2029, growing at a CAGR of 16% during the forecast period (2024-2029).

The COVID-19 pandemic affected the market. Due to lockdowns and supply chain issues related to the chromatographs, the market was adversely affected during the initial phase. However, initiatives by key market players are expected to increase market growth. For instance, in December 2022, Shimadzu entered into a collaboration with the University Medical Center Gottingen, Germany. The collaboration will focus on the development of new clinical laboratory methods using liquid chromatography-mass spectrometry for therapeutic drug monitoring (TDM) analysis. Thus, such collaborations are expected to increase market growth.

Membrane chromatography is a well-established technology in bioprocessing that is routinely used in the capture of large particles such as viruses and viral vectors and in polishing steps for the removal of DNA, host cell protein impurities (HCP), and viruses. The increasing demand for biopharmaceuticals and increasing regulatory scrutiny on the cleaning validation of downstream purification processes are the major factors for the growth of this market. There has been an increase in the acceptance of biopharmaceuticals in recent times. Several key market players have been obtaining approvals from regulatory organizations for biopharmaceutical manufacturing and supply for various disease treatments. For instance, in October 2022, 3P Biopharmaceuticals received approval from the United States Food and Drug Administration (USFDA) that the 3P facilities were acceptable for the manufacture of the target molecule and appropriate for commercialization in the United States once the product is authorized by USFDA. Moreover, the increase in R&D spending in the biopharmaceutical sector aided in the growth of the market. For example, according to 'The Pharmaceutical Industry and Global Health Facts and Figures 2021' published by the International Federation of Pharmaceutical Manufacturers & Associations, the annual research and development spending of the

biopharmaceutical industry has been 7.3 times greater than that of the aerospace and defense, industries, 6.5 times more than that the chemicals industry, and 1.5 times more than that of the software and computer services industry. As per the report, in 2022, over 202 billion was estimated to be spent around the world in biopharmaceutical research and development. The large investments in the market are considered a result of the rising acceptance of biopharmaceuticals over the years.

However, the limited use of membrane chromatography in large-scale manufacturing is expected to restrain the growth of this market during the forecast period.

Membrane Chromatography Market Trends

Ion Exchange Membrane Chromatography is Expected to Cover a Large Share of the Market

Ion-exchange chromatography (IC) is a chromatography process that separates ions and polar molecules based on their affinity to the ion exchanger. It works on almost any kind of charged molecule, including large proteins, small nucleotides, and amino acids.

Moreover, as per the Korean Ministry of Food and Drug Safety's 2021 drug approval report, over 15 new biologics were approved for disease treatments. For instance, 'Shingrix powder and suspension for injection [Herpes zoster vaccine (recombinant, adjuvanted)] [recombinant protein]' manufactured by GSK was approved for the treatment of immunosuppression or immunodepression from herpes zoster disease or treatment. Since ion exchange chromatography is used for the purification of drugs, the increasing drug approvals are expected to increase market growth over the forecast period.

The large share of this segment has been attributed to its wide applications in antibody polishing and virus purification due to the advantages associated with ion exchange membrane chromatography, such as scalability, robustness, disposable nature, high throughput, rapid processing, reduced buffer consumption, and a validation-free environment. Product launches to provide support for such applications are another factor in market growth. For instance, in December 2022, CD Bioparticles launched a range of ion exchange chromatography resins with enhanced loading capacity, ultra-high resolution, and strong mechanical strengths, suitable for the purification of small molecular weight molecules, covering small proteins, polypeptides, nucleic acids, and antibiotics.

Thus, with an increasing number of drug approvals and product launches, the segment is expected to grow over the forecast period.

North America is Expected to Dominate the Membrane Chromatography Market

North America includes the United States, Canada, and Mexico. The US and Canada have well-structured and developed healthcare systems. These countries also promote pharmaceutical research and development and hence have very high expenditures on healthcare. As a result of these policies, many companies globally are encouraged to operate in this region.

Many of the global pharmaceutical players have their headquarters and research labs in the US. As pharmaceutical research requires membrane chromatography, the demand for these technologies and processes is high in North America. This large share can be attributed to the increasing demand for biopharmaceuticals and rising R&D expenditure by biopharmaceutical companies in North America. As per clinicaltrials.gov, around 15,316 clinical trials were registered in the United States involving biopharmaceuticals in 2022. Moreover, the incidence of diseases such as cancer, cardiovascular diseases (CVDs), and diabetes creates demand for new biopharmaceuticals in the country. For instance, as per the Canadian Cancer Statistics 2021 released in November 2021, an estimated 229,200 Canadians were diagnosed with cancer in 2021. The data provided by Health Canada in November 2021 reported that biological medicines approved in Canada make up a large share of pharmaceutical sales in international markets.

Product launches are another factor in market growth. For instance, in January 2021, Cytiva further advanced fiber chromatography technology with the next release of Fibro technology. Fibro technology enables rapid cycling chromatography to accelerate research and process development, as well as increases productivity in large-scale manufacturing. This creates substantial cost savings and helps bring therapies to market faster.

Membrane Chromatography Industry Overview

The majority of the membrane chromatography techniques and process instruments are being manufactured by the global key players. Market leaders with more funds for research and better distribution systems have established their position in the market. Moreover, Asia-Pacific is witnessing the emergence of some small players due to the rise of awareness. This has also helped the market grow. Some of the key market players in the studied market are 3M, Thermo Fisher Scientific, Merck KGaA, Danaher Corporation, and Sartorius AG, among others.

Additional Benefits:

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

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