

Microbial Fermentation CMO Market across Type of Biologic, Type of Microbial Expression System Used, Scale of Operation, End User and Key Geographical Regions: Industry Trends and Global Forecasts, 2020-2030

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Abstracts

The microbial fermentation CMO market is expected to reach USD 4 billion in 2020 and anticipated to grow at a CAGR of 9% during the forecast period 2020-2030.

Traditional methods of microbial cell cultures have historically been the primary means for producing a diverse range of biologics, including peptide therapeutics, low molecular weight proteins like insulin, and cytokines. Roughly 60% of therapeutic recombinant proteins have been estimated to be made using microbial expression systems, particularly *Escherichia coli*. Presently, over 70 biologics approved by global regulatory authorities are manufactured through microbial fermentation. The rise of innovative biologics, such as antibody fragments and plasmid DNA used in cell and gene therapies as well as DNA vaccines, has led to a notable increase in demand for microbial-based production systems. Additionally, advancements in manufacturing technologies have reignited interest among drug developers in using microbial platforms to create complex biologics. Given the complexity of biologics development and production, drug developers are inclined to outsource segments of their microbial manufacturing operations to Contract Manufacturing Organizations (CMOs) that specialize in microbial fermentation. Since 2017, there has been a marked increase in outsourcing activities related to microbial fermentation. The market for microbial fermentation CMOs currently includes small, mid-sized, and large entities, offering comprehensive solutions ranging from early-stage process development to clinical and commercial-scale manufacturing, alongside regulatory compliance. Despite the established nature of this domain, more than 25 new contract microbial fermentation companies have emerged in the past

decade.

To remain competitive, CMOs and Contract Development and Manufacturing Organizations (CDMOs) have actively pursued the acquisition of cutting-edge fermentation technologies and invested in expanding their capacity to meet the rising demand for innovative biologics. Furthermore, the COVID-19 pandemic is expected to offer significant business opportunities for microbial fermentation CMOs as innovator companies seek support in manufacturing potential vaccines and other therapeutic approaches. Projections for the long-term foresee substantial market growth in the microbial fermentation CMO sector during the forecast period.

Report Coverage

The report extensively investigates the microbial fermentation Contract Manufacturing Organization (CMO) market, focusing on various parameters including the type of biologic, microbial expression systems utilized, operational scale, end-user segmentation, and key geographical regions.

It conducts an in-depth analysis of factors such as market drivers, restraints, opportunities, and challenges influencing the growth trajectory. Additionally, it evaluates both the potential advantages and obstacles faced by stakeholders, offering insights into the competitive landscape for leading market players.

Revenue forecasts for market segments across five major regions are provided, enabling a comprehensive understanding of market dynamics and regional variances.

A comprehensive review is undertaken to explore the current landscape of microbial fermentation companies offering contract manufacturing services for biologics through microbial expression systems. This entails crucial details such as establishment year, company size, headquarters location, production facility details including numbers and locations, operational scale across preclinical, clinical, and commercial stages, types of biologics manufactured, microbial expression systems employed, fermenter types utilized, offered manufacturing services, and regulatory accreditations.

Company competitiveness is analyzed regionally, taking into account establishment years, service portfolios, biologic types, expression systems, and strategic partnerships. Emphasis is placed on identifying leading players based

on their experience and expertise.

An examination of partnerships in microbial contract biomanufacturing since 2016 is conducted, focusing on partnership models, scale, biologic types, therapeutic areas, key market participants, and geographical reach. Furthermore, mergers and acquisitions between 2016-2020 are outlined, considering the number of acquisitions and geographic distribution.

Expansion initiatives undertaken between 2016-2020 are evaluated, considering the nature of expansion, scale, biologics involved, and locations. Additionally, the report explores microbial manufacturing initiatives by prominent pharmaceutical players, detailing the number, year, and types of initiatives.

A proprietary 2x2 representation method is utilized to assess existing competition and growth opportunities within emerging and established market segments. Profiles of key players in North America, Europe, and Asia Pacific encompass their service portfolios, capabilities, facilities, recent developments, and future prospects.

Industry trends, drivers, challenges, and SWOT analysis are discussed comprehensively, elucidating their impact on microbial fermentation CMO market dynamics using a Harvey ball analysis.

A case study is included for comparative analysis between large molecule and small molecule drug characteristics, outlining their respective manufacturing processes. Additionally, the report explores the implications of the COVID-19 outbreak on microbial contract biomanufacturing, detailing CMOs' initiatives to mitigate associated challenges.

Key Market Companies

AGC Biologics

Aldevron

BioVectra

Ology Bioservices

Eurogentec

Northway Biotechpharma

Porton Biopharma

EirGenix

Etinpro

Stelis Biopharma

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