

Global mRNA Therapeutics Contract Development & Manufacturing Organization Market Size study, by Application, Indication, End-use, and Regional Forecasts 2022-2032

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Abstracts

The Global mRNA Therapeutics Contract Development & Manufacturing Organization (CDMO) Market is valued approximately at USD 4.14 billion in 2023 and is expected to expand with a compelling CAGR of 11.28% over the forecast period 2024–2032. As the race toward personalized, gene-based medicine intensifies, mRNA technology has surfaced as a transformative pillar in modern drug development—particularly in response to infectious diseases, cancer immunotherapy, and rare genetic disorders. At the heart of this scientific revolution lies the growing reliance on CDMOs, which offer end-to-end manufacturing, analytical, and regulatory support, accelerating the transition from discovery to commercial-scale production. This structural shift enables biotech innovators and pharmaceutical giants to de-risk development and focus resources on strategic innovation while leveraging CDMOs for operational excellence.

The mRNA therapeutics CDMO landscape is evolving rapidly as companies pivot toward building flexible, high-throughput, GMP-compliant facilities to accommodate increasing demands. Fueled by the success of COVID-19 mRNA vaccines, demand for scalable and modular platforms capable of producing lipid nanoparticles (LNPs), plasmid DNA, and encapsulated mRNA formulations has skyrocketed. Simultaneously, CDMOs are investing heavily in integrated service offerings—from vector design and cell banking to fill-finish solutions—to appeal to small and mid-sized biotechs seeking turnkey development paths. The market is also benefitting from regulatory tailwinds, with health authorities fast-tracking approvals for mRNA-based platforms due to their precision, speed, and adaptability in therapeutic design.

Despite robust momentum, the market faces several bottlenecks, most notably in the form of raw material shortages, high initial infrastructure investment, and limited expertise in complex lipid delivery systems. Furthermore, IP licensing restrictions and competition over proprietary manufacturing technologies pose risks to new entrants. However, these hurdles are simultaneously opening windows of opportunity for companies to differentiate through innovation in formulation, automated process design, and decentralized manufacturing models. Strategic collaborations and long-term capacity reservation agreements between CDMOs and biopharma companies are also driving financial stability and operational scalability across the sector.

From a segmentation perspective, oncology continues to lead the mRNA therapeutics space, accounting for a significant share of outsourced development due to the platform's ability to customize antigen targets rapidly. Infectious diseases remain a high-volume domain, especially for pandemic preparedness and seasonal vaccine pipelines. Among applications, personalized cancer vaccines and rare disease therapeutics are creating strong niche demand for CDMO partners who can handle small-batch, high-potency formulations under accelerated timelines. End-users such as pharmaceutical companies are increasingly co-investing with CDMOs to build bespoke production capabilities, while academic institutions and smaller biotechs are emerging as major contributors to early-phase outsourcing.

Geographically, North America held the largest market share in 2023, underpinned by robust R&D infrastructure, government funding, and the presence of established CDMO players specializing in biologics and nucleic acid manufacturing. Europe closely followed, driven by increased public-private consortia aimed at developing mRNA-based therapies beyond COVID-19. Meanwhile, Asia Pacific is expected to emerge as the fastest-growing region through 2032, with countries like China, India, and South Korea ramping up investments in biomanufacturing capabilities, regulatory harmonization, and academic-industry partnerships. This global proliferation of CDMO capacity is expected to drive a new era of decentralized, agile, and collaborative drug development.

Major market player included in this report are:

Catalent Inc.

Thermo Fisher Scientific Inc.

Samsung Biologics

Wuxi AppTec

Lonza Group AG

Eurofins Scientific

Rentschler Biopharma SE

AGC Biologics

Syngene International

BioNTech SE

Boehringer Ingelheim BioXcellence™

Aldevron LLC

Exelead Biopharma

Precision NanoSystems Inc.

Polymun Scientific Immunbiologische Forschung GmbH

The detailed segments and sub-segment of the market are explained below:

By Application

Infectious Diseases

Oncology

Rare Genetic Disorders

Others

By Indication

COVID-19

Cancer

Cytomegalovirus (CMV)

Others

By End-use

Pharmaceutical & Biotechnology Companies

Academic & Research Institutions

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

RoMEA

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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