

Cell Therapy Manufacturing Market - Global Industry Size, Share, Trends, Competition, Opportunity, and Forecast, Segmented By Therapy (T-Cell Therapies, Dendritic Cell Therapies, Tumor Cell Therapies, Stem Cell Therapies), By Source of Cell (Autologous v/s Allogenic), By Scale of Operation (Preclinical, Clinical, Commercial), By Source (In-House v/s Contract Manufacturing), By Application (Oncology, Cardiovascular Diseases, Orthopedic Diseases, Others), By End User (Pharmaceutical & Biotechnology Companies, Academic & Research Institutes, Others), By Region & Competition, 2021-2031F

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Abstracts

The Global Cell Therapy Manufacturing Market is projected to expand from USD 5.71 Billion in 2025 to USD 11.42 Billion by 2031, reflecting a compound annual growth rate of 12.25%. This sector comprises specialized bioprocessing activities essential for isolating, genetically modifying, expanding, and cryopreserving viable cells used in autologous or allogeneic therapies. Market growth is primarily propelled by the increasing global prevalence of oncological and rare genetic disorders, creating an urgent need for curative interventions, while maturing regulatory environments encourage expedited approvals and investment in dedicated production infrastructure.

Data from the American Society of Gene & Cell Therapy and Citeline indicates that the

global pipeline remained strong in 2025, with over 3,200 active trials. While this high volume of clinical candidates drives the need for extensive manufacturing capacity, the industry faces substantial hurdles related to cost-efficiency. Specifically, the complexity involved in preserving supply chain integrity from patient to patient, combined with the difficulties of scaling production, creates a significant barrier to lowering the high cost of goods sold for these advanced medical treatments.

Market Driver

Supportive regulatory environments and accelerated approval pathways are fundamentally transforming the manufacturing sector by speeding up the commercial launch of complex therapies. As health authorities optimize review procedures, the industry is rapidly moving from clinical-scale operations to high-volume commercial production, a shift underscored by a growing number of market participants. According to the Alliance for Regenerative Medicine, the sector achieved nine new product approvals in 2024 as of January 2025; this surge in authorizations demands resilient supply chains and scalable infrastructure capable of meeting strict quality standards under expedited timelines.

Consequently, there is an increasing dependence on Contract Development and Manufacturing Organizations as developers aim to avoid the heavy capital costs and technical burdens of building internal facilities. CDMOs are aggressively expanding to meet this outsourcing demand, as seen in Samsung Biologics' December 2025 announcement of a \$4.8 billion investment for a new bio-campus featuring next-generation cell and gene therapy capabilities. This trend is further evidenced by Oxford Biomedica, which reported signing \$149 million in new client orders during the first half of the year in September 2025, underscoring the critical role of specialized partners.

Market Challenge

The primary obstacles restricting the Global Cell Therapy Manufacturing Market's growth are the significant lack of cost-efficiency and the difficulties associated with maintaining supply chain integrity. High costs of goods sold, resulting from labor-intensive and unscalable workflows, inflate therapy prices to levels that challenge healthcare reimbursement systems. This economic pressure restricts the accessible patient demographic and deters the commercialization of treatments for broader conditions, effectively confining the market to niche indications where high costs are absorbed by payers.

According to the Alliance for Regenerative Medicine, 75% of the sector's global revenue in 2025 came from fewer than ten commercial products. This intense revenue concentration reveals a disconnect between a strong clinical pipeline and actual commercial viability, indicating a major bottleneck in converting clinical successes into profitable, scalable manufacturing operations. As a result, market expansion is hindered by the inability to support a diverse array of therapies, as the financial risks involved in scaling production remain prohibitively high for many developers.

Market Trends

The implementation of automated and closed-system processing platforms is becoming a vital solution to the industry's labor-intensive bottlenecks and consistency issues. Manufacturers are increasingly utilizing integrated smart factory modules that substitute manual handling with robotic precision, ensuring batch uniformity and reducing contamination risks. This technological evolution enables massive throughput scaling without requiring proportional increases in facility size or staff, as demonstrated by Cellares in September 2024, when it commissioned a New Jersey facility capable of producing up to 40,000 standard CAR-T cell therapy doses annually.

Simultaneously, the rise of decentralized and point-of-care production models is disrupting traditional centralized supply chains by placing manufacturing capabilities within or near clinical environments. This strategy drastically cuts vein-to-vein timelines and logistical hurdles by processing patient material on-site, effectively turning hospitals into biomanufacturing centers. Major academic and clinical institutions are funding this shift, as illustrated by The University of Texas MD Anderson Cancer Center's November 2024 launch of a new institute, backed by over \$80 million, to accelerate the internal discovery and manufacturing of cell therapies.

Key Market Players

Lonza

Thermo Fisher

Catalent

WuXi AppTec

Novartis

Gilead

Bristol Myers Squibb

Merck KGaA

Cytiva

Charles River

Report Scope

In this report, the Global Cell Therapy Manufacturing Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Cell Therapy Manufacturing Market, By Therapy

T-Cell Therapies

Dendritic Cell Therapies

Tumor Cell Therapies

Stem Cell Therapies

Cell Therapy Manufacturing Market, By Source of Cell

Autologous v/s Allogenic

Cell Therapy Manufacturing Market, By Scale of Operation

Preclinical

Clinical

Commercial

Cell Therapy Manufacturing Market, By Source

In-House v/s Contract Manufacturing

Cell Therapy Manufacturing Market, By Application

Oncology

Cardiovascular Diseases

Orthopedic Diseases

Others

Cell Therapy Manufacturing Market, By End User

Pharmaceutical & Biotechnology Companies

Academic & Research Institutes

Others

Cell Therapy Manufacturing Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Cell Therapy Manufacturing Market.

Available Customizations:

Global Cell Therapy Manufacturing Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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