

Asia Pacific Cell and Gene Therapy Biomanufacturing Market By Equipment (Bioreactors/Fermenters, Mixing Systems, Cell Counters, Cell Sorters, Centrifuges, Incubators, Biosafety Cabinets, Freezers, PCR Systems, Transfection Systems, Storage Tanks, Others), By Application (Formulation and Hydration, Cell Culture Processing, Separation and Filtration, Others), By Country, Competition, Forecast and Opportunities, 2018-2028F

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Abstracts

Asia Pacific Cell and Gene Therapy Biomanufacturing Market has valued at USD1.73 billion in 2022 and is anticipated to project robust growth in the forecast period with a CAGR of 12.10% through 2028. Cell and gene therapies (CGTs) are at the forefront of medical science, revolutionizing the treatment landscape for diseases once considered incurable. By modifying the genetic material within a patient's cells, these therapies hold the potential to deliver long-lasting and even curative effects, paving the way for a new era in healthcare.

In the realm of biomanufacturing, automation emerges as a game-changer, augmenting efficiency and minimizing human error. Additionally, artificial intelligence (AI) lends its expertise in areas such as data analysis, predictive modeling, and optimizing manufacturing processes, further enhancing the overall productivity of the industry.

Despite the remarkable progress in this field, several challenges persist. Regulatory hurdles, the high cost of therapies, and the intricacies of manufacturing pose significant obstacles that necessitate careful attention to ensure sustainable market development

and accessibility.

The rapid growth of the APAC Cell and Gene Therapy Biomanufacturing Market is a testament to the region's unwavering commitment to advancing healthcare and its embrace of innovative technologies. With ongoing research and development activities, the APAC region is poised to emerge as a major global player in the dynamic and promising field of cell and gene therapy.

Key Market Drivers

Growing Prevalence of Chronic Diseases

Chronic diseases such as cancer, diabetes, cardiovascular disorders, and neurodegenerative diseases pose a significant health concern in the APAC region. The World Health Organization highlights that non-communicable diseases, predominantly chronic in nature, account for a staggering 80% of all deaths in the Western Pacific region. This alarming trend underscores the pressing need for innovative and effective treatments, thereby propelling the growth of the cell and gene therapy biomanufacturing market.

Cell and gene therapies (CGTs) emerge as a revolutionary approach to address these chronic diseases comprehensively. By precisely modifying a patient's genetic material, CGTs hold the potential to not only manage symptoms but also fundamentally alter disease progression, and in some cases, even effect cures. The transformative promise of CGTs has garnered immense attention and interest within the medical community and beyond.

Biomanufacturing of CGTs is an intricate and multifaceted process that demands substantial investment in research and development, highly specialized equipment, and a skilled workforce. Recognizing the immense potential of cell and gene therapies, the APAC region has demonstrated a steadfast commitment to this burgeoning field. Countries like China and South Korea have made substantial investments in CGT research and biomanufacturing infrastructure, positioning themselves as leaders in this transformative domain.

In conclusion, the escalating prevalence of chronic diseases in the APAC region serves as a significant driver for the growth of the Cell and Gene Therapy Biomanufacturing Market. With the potential to revolutionize treatment paradigms, investment and innovation in this sector are poised to flourish. However, realizing the full potential of the

market necessitates effective resolutions to regulatory, cost, and technical challenges. By addressing these obstacles, the field can unlock new frontiers of healthcare possibilities and improve patient outcomes.

Surge in Technological Advancements

The Asia Pacific (APAC) Cell and Gene Therapy Biomanufacturing Market is experiencing a robust growth trajectory, propelled by a remarkable surge in technological advancements. These cutting-edge technologies are revolutionizing the development and production of cell and gene therapies (CGTs), offering new avenues for the treatment of a wide range of diseases.

One of the significant drivers of this market's expansion is the escalating demand for efficient and scalable cell production. As CGTs become increasingly sophisticated, there is a growing need for innovative methods to produce cells in a more streamlined and scalable manner. Technological innovations, such as advancements in bioreactors, automation, and artificial intelligence (AI), are playing a pivotal role in meeting this demand. These advancements are transforming the biomanufacturing process, making it more efficient, cost-effective, and capable of producing high-quality therapeutic products.

In conclusion, the surge in technological advancements serves as a primary catalyst for the growth of the APAC Cell and Gene Therapy Biomanufacturing Market. As these technologies continue to evolve and mature, they hold immense potential to shape the future of CGT development and production. By unlocking new possibilities and delivering more effective treatments, these advancements promise to significantly improve patient outcomes across a wide spectrum of diseases.

Key Market Challenges

Volatility in Cost of Goods and Pricing Pressures

The Asia Pacific (APAC) Cell and Gene Therapy Biomanufacturing Market has experienced remarkable growth in recent years, propelled by advancements in technology and the rising prevalence of chronic diseases. This flourishing sector, however, is not without its challenges. One of the prominent obstacles is the volatility in the cost of goods and the mounting pressure on pricing.

Cell and gene therapies (CGTs) have opened up new horizons in healthcare, offering

potentially curative treatments for a wide range of diseases. However, the production and delivery of these therapies entail high levels of personalization, which result in significant costs. Moreover, the steep price tags associated with CGTs have faced criticism from payers. The complex biomanufacturing processes, specialized equipment requirements, and the need for highly skilled personnel contribute to the elevated costs. Consequently, market players are under considerable pressure to lower prices, driven by governments and payers.

Additionally, the biotechnology sector's rapid evolution introduces a significant challenge in terms of cost volatility. For instance, the search for cost reductions is intensified due to Big Pharma's limited recent R&D productivity. This unpredictability in production costs and overall financial planning poses a challenge for companies in the APAC cell and gene therapy biomanufacturing market.

As the APAC cell and gene therapy biomanufacturing market continues to evolve, navigating these challenges becomes crucial for sustainable growth and success in this dynamic industry.

Key Market Trends

Expansion of Contract Development and Manufacturing Organizations (CDMOs)

Contract Development and Manufacturing Organizations (CDMOs) have emerged as key players in the biopharmaceutical industry, offering a wide range of services to support the development and production of Cell and Gene Therapies (CGTs). These services encompass crucial aspects such as process development, assay development, and cell therapy manufacturing. By partnering with CDMOs, pharmaceutical companies can tap into their specialized expertise and resources, enabling accelerated development and production of CGTs.

The demand for CDMO services in the CGT sector has witnessed a significant surge in recent years. This upward trend translates into exciting opportunities for CDMO staff, who now have greater prospects for career growth and international advancement. Moreover, the rising demand for CDMOs is not only beneficial for the organizations themselves but also contributes to the overall growth of the APAC Cell and Gene Therapy Biomanufacturing Market.

Interestingly, the product segment of the market is anticipated to be dominated by consumables, with Contract Manufacturing Organizations (CMOs) expected to play a

significant role. This highlights the pivotal position of CDMOs in the biomanufacturing ecosystem, as they facilitate the production of essential consumables and provide critical manufacturing support.

However, it is crucial to acknowledge that the expansion of CDMOs also brings along certain challenges. Regulatory compliance remains a top priority, requiring CDMOs to adhere to stringent guidelines to ensure the safety and efficacy of CGTs. Additionally, managing complex supply chains and keeping pace with rapid technological advancements pose ongoing challenges that need to be addressed effectively.

Segmental Insights

Equipment Insights

Based on the category of equipment, the bioreactors/fermenters segment emerged as the dominant player in the Asia Pacific market for cell and gene therapy biomanufacturing in 2022. Bioreactors and fermenters play a crucial role in the manufacturing of cell and gene therapies (CGTs), offering controlled environments that facilitate the cultivation of cells or microorganisms used in the production of these advanced therapies. By providing the necessary conditions for optimal growth and development, bioreactors and fermenters contribute to faster process development, higher yields and quality, and ultimately, reduced production costs. This enables researchers and manufacturers to meet the increasing demand for CGTs while ensuring consistent and efficient production.

Application Insights

The formulation and hydration segment is projected to experience rapid growth during the forecast period. Formulation, in the context of cell and gene therapies (CGTs), is a meticulous process that involves combining various components to create a final product suitable for patient administration. This intricate process ensures the stability and efficacy of the therapeutic product.

CGTs are highly complex and sensitive, requiring specialized formulation strategies to maintain their viability and functionality. For instance, the formulation must shield the therapeutic product from degradation during storage and transportation, guaranteeing its stability until it reaches the patient. This aspect becomes particularly crucial in the APAC region, where diverse geographical and climatic conditions can potentially impact the stability of CGTs.

Moreover, hydration plays a pivotal role in the biomanufacturing of CGTs. It contributes to several stages of the production process, most notably in cell culture, where it fosters optimal conditions for cell growth and proliferation.

Additionally, hydration holds significance in the formulation process itself. For example, lyophilized (freeze-dried) products necessitate rehydration before administration. This rehydration process demands careful control to preserve the stability and efficacy of the final product. By ensuring proper hydration, the formulation process maximizes the therapeutic potential of CGTs, offering enhanced patient outcomes.

Regional Insights

China emerged as the dominant player in the Asia Pacific Cell and Gene Therapy Biomanufacturing Market in 2022, holding the largest market share in terms of value. China has emerged as a key player in the field of biotechnology, making substantial investments in areas such as gene and cellular therapy. With a strategic focus on 'innovation mercantilism,' China adopts policies and regulations to foster domestic innovation and reduce reliance on foreign technologies. This approach has yielded remarkable progress in various subfields of health biotechnology, notably in the realms of therapeutic antibodies and gene research.

In China, the biotechnology sector is predominantly driven by biologics, encompassing cell and gene therapies. Recognizing the immense potential of these therapies, the government has been actively funding the development of novel cell lines and facilitating collaborations among biotech companies. Such initiatives have created a highly conducive environment for the rapid growth of the cell and gene therapy biomanufacturing market, positioning China as a frontrunner in this domain.

Key Market Players

Becton, Dickinson and Company

Bio-Rad Laboratories, Inc.

Bio-Techne Corporation

Danaher Corporation

Endress+Hauser Group Services AG (Analytik Jena GmbH)

General Electric Company

Getinge AB

Infors AG

Lonza Group Ltd

Merck KGaA

Report Scope:

In this report, the Asia Pacific Cell and Gene Therapy Biomanufacturing Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Asia Pacific Cell and Gene Therapy Biomanufacturing Market, By Equipment:

Bioreactors/Fermenters

Mixing Systems

Cell Counters

Cell Sorters

Centrifuges

Incubators

Biosafety Cabinets

Freezers

PCR Systems

Transfection Systems

Storage Tanks

Others

Asia Pacific Cell and Gene Therapy Biomanufacturing Market, By Application:

Formulation and Hydration

Cell Culture Processing

Separation and Filtration

Others

Asia Pacific Cell and Gene Therapy Biomanufacturing Market, By Country:

China

Japan

South Korea

Australia

India

Rest of Asia-Pacific

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Asia Pacific Cell and Gene Therapy Biomanufacturing Market.

Available Customizations:

Asia Pacific Cell and Gene Therapy Biomanufacturing Market report with the given Market data, Tech Sci Research offers customizations according to a company's

Asia Pacific Cell and Gene Therapy Biomanufacturing Market By Equipment (Bioreactors/Fermenters, Mixing System...

specific needs. The following customization options are available for the report:

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

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