

# **Asia Pacific Nucleic Acid Therapeutics CDMO Market By Product Type (Standard Nucleic Acid, Micro-Scale Nucleic Acid, Large-Scale Nucleic Acid, Custom Nucleic Acid, Modified Nucleic Acid, Primers, Probes, Others), By Technology (Column-Based Method, Microarray-Based Method), By Country, Competition, Forecast and Opportunities, 2018-2028F**

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## **Abstracts**

Asia Pacific Nucleic Acid Therapeutics CDMO Market has valued at USD966.15 million in 2022 and is anticipated to project robust growth in the forecast period with a CAGR of 9.03% through 2028. This surge in the Asia Pacific Nucleic Acid Therapeutics CDMO market is primarily driven by increased research and development activities, including extensive exploration of novel therapeutic approaches, advancements in biotechnology, and strong governmental support and funding. The region has witnessed a remarkable rise in research and development endeavors, particularly in the field of nucleic acid therapeutics, which has garnered significant attention from countries like China, Japan, India, and South Korea. These nations are heavily investing in innovative treatment approaches that target the root cause of diseases at the genetic level, aiming to revolutionize medical practices.

One of the key factors contributing to the market growth is the growing number of clinical trials and the expanding pipeline of nucleic acid therapeutics in the Asia Pacific region. The region has witnessed a surge in the clinical number of clinical trials, highlighting the increasing focus on developing effective therapies. This rise in research activities, coupled with the introduction of cutting-edge therapies, has significantly propelled the market growth in the region.

Technological advancements in biotechnology have played a pivotal role in transforming the field of nucleic acid therapeutics. The emergence of gene editing tools such as CRISPR-Cas9 and next-generation sequencing technologies has revolutionized the way genetic disorders and cancers are treated. These remarkable advancements have enabled precise and controlled manipulation of genetic material, paving the way for breakthrough treatments. Consequently, the Asia Pacific region has experienced a surge in research and development activities, further driving the demand for Contract Development and Manufacturing Organizations (CDMOs).

Despite the promising growth prospects, the Asia Pacific Nucleic Acid Therapeutics CDMO market faces certain challenges. High production costs, complex manufacturing processes, and stringent regulatory environments pose hurdles to the market's expansion. However, these challenges are gradually being addressed through continuous technological advancements and the establishment of more conducive regulatory frameworks, fostering an environment for sustained growth and innovation in the region.

## Key Market Drivers

### Growing Prevalence of Chronic Diseases

The Asia Pacific region is currently facing a significant and escalating burden of chronic diseases, such as cancer, cardiovascular diseases, diabetes, and respiratory conditions. According to the World Health Organization, non-communicable diseases (NCDs) account for a staggering 71% of all deaths globally, with nearly half of these NCD deaths occurring in the Asia Pacific region. This alarming rise in chronic diseases has heightened the demand for advanced therapeutic solutions, thereby propelling the growth of the nucleic acid therapeutics industry.

Nucleic acid therapeutics offer a promising avenue for the treatment of various chronic diseases. These innovative therapies operate at the genetic level, targeting the very root cause of the disease rather than merely alleviating symptoms. This approach holds immense potential for providing curative solutions for numerous conditions, including genetic disorders and cancers, which have traditionally posed significant challenges for conventional therapeutics.

As the demand for these groundbreaking treatments continues to surge, the need for Contract Development and Manufacturing Organizations (CDMOs) specializing in nucleic acid therapeutics becomes increasingly paramount. CDMOs offer a

comprehensive range of services, spanning from initial drug development to large-scale commercial manufacturing, thereby enabling drug companies to expedite the launch of their products and reach patients in a timelier manner.

The rise in chronic diseases has resulted in an exponential increase in the number of nucleic acid-based drugs in the pipeline. Consequently, there is a growing imperative for robust manufacturing capabilities to support the scale-up and commercialization of these transformative therapies. This is precisely where CDMOs play a critical role, providing the necessary expertise and infrastructure to manufacture these highly complex therapies. As a result, the nucleic acid therapeutics CDMO market in the Asia Pacific region is experiencing remarkable growth and expansion.

### Expansion in Biopharmaceutical Industry

Asia Pacific, home to some of the fastest-growing economies in the world, has witnessed a remarkable expansion in its biopharmaceutical industry in recent years. Countries like China, India, South Korea, and Singapore have emerged as global hubs for biopharmaceutical research and development (R&D), attracting significant domestic and international investments.

This expansion in the biopharmaceutical industry can be attributed to a combination of factors. Firstly, there has been a surge in the demand for advanced therapeutics, driven by a growing need for innovative treatment options for various diseases. Additionally, the rising middle class in the region, with increased affordability and access to healthcare, has further fueled the demand for such treatments.

Government initiatives have played a crucial role in fostering the growth of the biopharmaceutical sector in the Asia Pacific region. These initiatives include policies and funding support that encourage biopharmaceutical R&D, promoting collaborations between academia, industry, and research institutes to drive innovation and accelerate the development of novel therapies.

Nucleic acid therapeutics, encompassing DNA and RNA-based therapies, have emerged as frontrunners in the biopharmaceutical revolution. By targeting the genetic basis of diseases, these therapies offer groundbreaking treatment options for a wide range of conditions, including genetic disorders, cancers, and viral infections. The potential of nucleic acid therapeutics has garnered significant interest and investment, leading to a surge in the number of such drugs in the pipeline.

As the interest in nucleic acid therapeutics continues to grow, there is an increasing need for specialized Contract Development and Manufacturing Organizations (CDMOs) that can support their development and manufacturing. These specialized CDMOs offer a range of services such as plasmid DNA production, viral vector manufacturing, and mRNA synthesis, enabling efficient and scalable production of nucleic acid therapeutics.

With the expanding biopharmaceutical industry in the Asia Pacific region, the demand for these specialized CDMO services has witnessed a significant surge. This heightened demand has, in turn, fueled the growth of the nucleic acid therapeutics CDMO market in the region, establishing Asia Pacific as a key player in the global biopharmaceutical landscape.

## Key Market Challenges

### Disruptions in Supply Chain

Supply chain disruptions can have far-reaching consequences for any industry, including the biopharmaceutical sector. These disruptions not only create delays in drug development and manufacturing processes but also impact the timely delivery of life-saving therapies to patients in need. The COVID-19 pandemic has further exacerbated these challenges globally, forcing contract development and manufacturing organizations to navigate complex obstacles.

In the Asia Pacific region, supply chain restructuring continues to pose significant challenges for trade and customs professionals. Even before the pandemic, global trade disputes and geopolitical tensions were already causing disruptions. With the added pressure from COVID-19, these challenges have intensified and have had a profound impact on various sectors, including the nucleic acid therapeutics CDMO market.

Multiple factors contribute to the supply chain disruptions in the Asia Pacific Nucleic Acid Therapeutics CDMO market. These factors include transport and travel restrictions, geopolitical tensions, and shifts in regulatory environments. Moreover, the complex nature of nucleic acid therapeutics, which require specialized materials and strict storage and transport conditions, further adds to the vulnerability of the supply chain, making it crucial to address these challenges effectively.

## Key Market Trends

### Increased Outsourcing of Nucleic Acid Manufacturing

Over the past decade, the biopharmaceutical industry has experienced a significant and noteworthy trend towards outsourcing. This shift has been primarily driven by the ever-increasing complexity of drug development and manufacturing processes, coupled with the pressing need to optimize costs and improve overall efficiency.

In the realm of nucleic acid therapeutics, this trend towards outsourcing becomes even more pronounced. The intricate and intricate nature of nucleic acid manufacturing requires highly specialized skills and dedicated facilities, making it quite challenging for many pharmaceutical companies to carry out in-house production. As a result, these companies are increasingly relying on Contract Development and Manufacturing Organizations (CDMOs) that specialize specifically in the field of nucleic acid therapeutics.

The increased outsourcing of nucleic acid manufacturing processes has consequently fueled the growth and expansion of the nucleic acid therapeutics CDMO market, particularly in the Asia Pacific region. With pharmaceutical companies outsourcing a larger portion of their production tasks, the demand for CDMO services has skyrocketed. This notable trend has led to a surge in investments aimed at expanding CDMO capacities, thereby fostering the growth and development of the CDMO market.

Moreover, the Asia Pacific region, renowned for its cost-competitive environment and highly skilled workforce, is emerging as an increasingly attractive destination for outsourcing nucleic acid therapeutics manufacturing. Countries such as China, India, and South Korea are rapidly evolving into global hubs for nucleic acid therapeutics manufacturing, further propelling the growth and expansion of the CDMO market within this region.

The trend towards increased outsourcing of nucleic acid manufacturing is expected to persist and continue well into the foreseeable future. As more and more nucleic acid-based drugs enter the development pipeline, coupled with the rising demand for these innovative therapies, the need for specialized CDMOs will undoubtedly continue to grow. This trend presents a promising and exciting opportunity for CDMOs operating within the Asia Pacific region to further expand their services and effectively cater to the ever-increasing demand for nucleic acid therapeutics.

## Segmental Insights

## Product Type Insights

Based on the category of product type, the custom nucleic acid segment emerged as the dominant player in the Asia Pacific market for nucleic acid therapeutics CDMO in 2022. One of the primary reasons for the dominance of custom nucleic acids is the growing demand for personalized therapies. In the field of nucleic acid therapeutics, which encompasses innovative treatments such as gene therapy and RNA interference, the potential for highly individualized and targeted treatments is unprecedented. The ability to precisely customize nucleic acids to specifically target and manipulate genetic sequences holds the promise of more effective and tailored therapies, revolutionizing the landscape of medicine.

Recent advancements in biotechnology have further propelled the manufacturing of custom nucleic acids on a large scale. These breakthroughs have not only increased the accuracy and efficiency of custom nucleic acid synthesis but have also rendered them a viable and practical option for drug development and manufacturing. With the ability to provide tailored treatments and the potential to address a wide range of diseases and conditions, custom nucleic acids are poised to play a pivotal role in the future of precision medicine.

### Technology Insights

The column-based method segment is projected to experience rapid growth during the forecast period. The column-based method is widely recognized and valued for its exceptional efficiency and unparalleled reliability in the purification of nucleic acids. By utilizing advanced column chromatography techniques, this method ensures the extraction of high-quality and pure yield of nucleic acids, which holds immense significance in the development and production of nucleic acid therapeutics. Given the stringent quality requirements and regulatory standards in therapeutic manufacturing, it's no surprise that this method remains the preferred choice among researchers and industry professionals alike.

Another noteworthy factor that contributes to the dominant position of the column-based method is its exceptional scalability. This method can effortlessly be scaled up or down, depending on the desired quantity of nucleic acids, making it an incredibly versatile and adaptable choice for both small-scale research projects and large-scale production facilities. This unique scalability not only enhances its practicality but also streamlines the entire purification process, minimizing potential bottlenecks and ensuring a seamless workflow.

Furthermore, one cannot overlook the significant cost-effectiveness of the column-based method, which plays a pivotal role in the realm processing time of time, this method drug development and manufacturing. By eliminating the need for multiple purification steps and reducing the overall processing time, this method not only saves valuable resources but also optimizes operational efficiency. In an industry where financial constraints are a constant consideration, the cost-effectiveness of the column-based method proves to be a substantial advantage, further solidifying its position as the preferred choice for nucleic acid purification.

## Regional Insights

China emerged as the dominant player in the Asia Pacific Nucleic Acid Therapeutics CDMO Market in 2022, holding the largest Market share in terms of value. China's pharmaceutical industry has experienced remarkable growth in recent years, fueled by a combination of factors. The country's concerted efforts to modernize its healthcare system, coupled with favorable government policies and increased research and development investments, have created an environment ripe for the advancement of nucleic acid therapeutics. The development of these cutting-edge treatments holds immense potential for addressing complex diseases and improving patient outcomes.

China's commitment to research and development in the healthcare sector has yielded significant advancements. The country's strategic investments have not only propelled innovation but have also paved the way for the emergence of novel therapies, particularly in the realm of nucleic acid-based treatments. These innovative approaches harness the power of genetic material to target and treat diseases at their core, offering new avenues for precision medicine and personalized healthcare.

## Key Market Players

Asymchem Inc.

BioCina Pty Ltd.

CMIC HOLDINGS Co., Ltd.

Kaneka Corporation

Nippon Shkubai Co., Ltd

Nitto Inc.

ST Pharm Co Ltd

Report Scope:

In this report, the Asia Pacific Nucleic Acid Therapeutics CDMO Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Asia Pacific Nucleic Acid Therapeutics CDMO Market, By Product Type:

Standard Nucleic Acid

Micro-Scale Nucleic Acid

Large-Scale Nucleic Acid

Custom Nucleic Acid

Modified Nucleic Acid

Primers

Probes

Others

Asia Pacific Nucleic Acid Therapeutics CDMO Market, By Technology:

Column-Based Method

Microarray-Based Method

Asia Pacific Nucleic Acid Therapeutics CDMO 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 Nucleic Acid Therapeutics CDMO Market.

**Available Customizations:**

Asia Pacific Nucleic Acid Therapeutics CDMO Market report with the given Market data, Tech Sci 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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