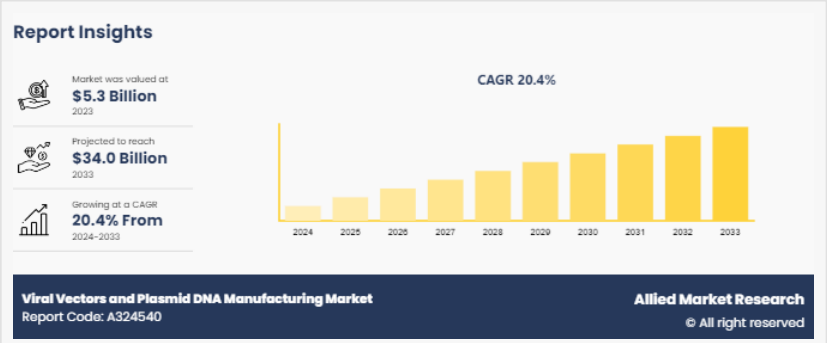
Viral Vectors and Plasmid DNA Manufacturing Market to Reach $34.0 Billion, Globally, by 2033 at 20.4% CAGR



Viral Vectors And Plasmid DNA Manufacturing Market 2033

PORTLAND, IN, UNITED STATES, December 11, 2024 / EINPresswire.com/ -- Allied Market Research published a report, titled, "Viral Vectors and Plasmid DNA Manufacturing Market by Vector Type (Adenovirus, Retrovirus and Adeno-Associated Virus (AAV), Lentivirus, Plasmids, and Others), Workflow (Upstream Manufacturing and Downstream Manufacturing), Application (Antisense & RNAi Therapy, Antisense & RNAi Therapy, Cell Therapy, Vaccinology and Research Applications), and End User (Pharmaceutical & Biopharmaceutical Companies and Research Institutes): Global Opportunity Analysis and Industry Forecast, 2024-2033". According to the report, the viral vectors and plasmid DNA manufacturing market was valued at $5.3 billion in 2023, and is estimated to reach $34.0 billion by 2033, growing at a CAGR of 20.4% from 2024 to 2033.

Prime Determinants of Growth

Major factors driving the growth of the viral vectors and plasmid DNA market are increasing prevalence of chronic diseases, such as cancer, and neurological disorders, technological advancement in in gene and cell therapy research, funding from both governmental and private sectors for biopharmaceutical research. Viral vectors and plasmid DNA are crucial components in gene therapy and vaccine development, offering promising treatments for these chronic diseases. Gene therapy, which utilizes these vectors for delivering genetic material into cells, is particularly effective in targeting diseases at their molecular roots. This approach has shown substantial potential in treating conditions like hemophilia, muscular dystrophy, and various forms of cancer. In addition, technological advancements have enhanced the precision, efficiency, and safety of gene editing and therapeutic delivery mechanisms, fostering greater adoption in clinical and research settings. Innovations such as CRISPR-Cas9, TALENs, and advanced viral vector engineering have revolutionized the development of targeted gene therapies, allowing for precise modifications at the genetic level. This has opened new avenues

for treating previously intractable genetic disorders, cancers, and chronic diseases. Furthermore, improvements in manufacturing technologies have increased the scalability and purity of viral vectors and plasmid DNA, reduced production costs and facilitating more widespread use. Enhanced delivery methods, such as lipid nanoparticles and adeno-associated viruses (AAVs), have also improved the stability and efficiency of gene transfer, enhancing therapeutic outcomes. Thus, technological advancement is expected to drive the growth of the market.

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Segment Highlights

The adeno-associated virus (AAV) segment dominated market share in 2023

By vector type, adeno-associated virus (AAV) segment dominated the market share in 2023. This is attributed to high adoption of the adeno-associated virus (AAV) in gene therapy applications because of their safety profile, as they are non-pathogenic and elicit minimal immune response, making them suitable for repeated administrations. Additionally, AAVs have a broad host range and can transduce both dividing and non-dividing cells, which enhances their versatility in treating a wide array of genetic disorders. The ability of adeno-associated virus to provide long-term gene expression in the future contributes to its adoption.

Downstream processing segment dominated the market share in 2023

By workflow, downstream processing segment dominated the market share in 2023. This is attributed to the fact that downstream processing plays a critical role in the purification and isolation of viral vectors and plasmid DNA from the complex biological mixtures produced during upstream bioprocessing. This step ensures that the final product meets stringent purity and quality standards required for clinical applications, thereby enhancing its efficacy and safety profile.

Vaccinology segment dominated the market share in 2023

By application, vaccinology segment dominated the market share in 2023. This is attributed to the fact that vaccines represent one of the most effective and widespread public health interventions globally, addressing a broad spectrum of infectious diseases and, increasingly, chronic conditions. Viral vectors and plasmid DNA technologies offer sophisticated platforms for vaccine development, enabling the delivery of genetic material to cells to induce an immune response.

Research institutes segment dominated market share in 2023

By end user, the research institutes segment dominated the market share in 2023. This is

attributed to the fact that research institutes often have access to substantial funding from governments, private foundations, and collaborations with pharmaceutical companies. This financial backing allows them to invest in cutting-edge research and development initiatives, including the exploration of novel viral vectors and plasmid DNA constructs for therapeutic applications. Such financial resources enable them to procure high-quality vectors and plasmids from market vendors, thereby contributing significantly to market growth.

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Regional Outlook

North America held a dominant position in the market in 2023, which is attributed to robust pharmaceutical and biotechnology industry with advanced research infrastructure and substantial investment in biopharmaceutical research and development and rise in prevalence of chronic diseases. Moreover, favorable regulatory frameworks and a supportive environment for clinical trials further contribute to market growth. However, the Asia-Pacific region is expected to register the highest CAGR during the forecast period. This is attributed to the fact that Asia-Pacific countries such as China and India are increasingly becoming pivotal players in the global biopharmaceutical industry, supported by rising investments in healthcare infrastructure, expanding R&D capabilities, and growing government initiatives to promote biotechnology innovation. Countries such as China, Japan, South Korea, and India have witnessed significant advancements in biotech research and development, fostering a conducive environment for the adoption of viral vectors and plasmid DNA technologies.

Key Players:

Merck KGaA

FUJIFILM Diosynth Biotechnologies

Thermo Fisher Scientific

Cobra Biologics

Catalent Inc.

Wuxi Biologics

TakarBio Inc.

Waisman Biomanufacturing

Genezen laboratories

Batavia Biosciences

The report provides a detailed analysis of these key players in the global Viral vectors and plasmid DNA Market. These players have adopted different strategies such as business expansion, acquisition, product launch and collaboration to increase their market share and maintain dominant shares in different regions. The report is valuable in highlighting business performance, operating segments, product portfolio, and strategic moves of market players to highlight the competitive scenario.

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Recent Development

In October 2023, AGC Biologics announced that they will be expanding their pDNA manufacturing facility in Germany. This is expected to help the company to reduce the time required for manufacturing.

In February 2023, BioNTech SE announced that they have completed the setup of first plasmid DNA manufacturing plant of theirs in Germany. This has enabled the company to manufacture pDNA independently for clinical and commercial applications.

In April 2022, FUJIFILM Holdings Corporation acquired a cell therapy manufacturing unit from Atara Biotherapeutics, Inc. The company is expected to help the manufacturing of Atara's commercial-and clinical stage allogeneic cell therapies at the unit as part of the manufacturing and services agreement

In July 2022, Charles River Laboratories announced the launch of the Plasmid DNA Centre of Excellence in the UK. The expansion comes after Charles River acquired Cognate BioServices and Cobra Biologics, two innovative contract development and production companies for plasmid DNA, viral vectors, and cell therapy (CDMOs)

In January 2022, WuXi Biologics entered a long-term collaboration with Shanghai BravoBio Co., Ltd to accelerate the development of innovative vaccines, to address the growing challenge of infectious diseases

About Allied Market Research:

Allied Market Research (AMR) is a full-service market research and business-consulting wing of Allied Analytics LLP based in Wilmington, Delaware. Allied Market Research provides global enterprises as well as medium and small businesses with unmatched quality of "Market

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