

Viral Vector Vaccines Market Report and Forecast 2025-2034

Market Report | 2025-07-27 | 350 pages | EMR Inc.

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Report description:

The global viral vector vaccines market size was valued at USD 820.22 Million in 2024, driven by the increasing awareness about gene therapy among government and people across the globe. The market size is anticipated to grow at a CAGR of 19.60% during the forecast period of 2025-2034 to achieve a value of USD 4911.82 Million by 2034.

Viral Vector Vaccines: Introduction

Viral vector vaccines are a type of vaccine that uses a harmless virus to deliver a piece of genetic material from a pathogen (like a virus or bacterium) into the body. This genetic material instructs cells to produce a specific part of the pathogen, usually a harmless piece called an antigen. The immune system recognizes this antigen as foreign and mounts a protective immune response, producing antibodies and memory cells.

Global Viral Vector Vaccines Market Analysis

The increasing use of gene therapy across a wide range of medical conditions, such as infectious diseases, and others including cancer, genetic disorders, and autoimmune conditions, is a major trend influencing the market growth. Viral vectors are employed in gene therapy to deliver functional genes into cells to treat genetic disorders. The genetic material can correct mutations, replace missing proteins, or modulate gene expression.

The increasing number of license approvals is significantly driving the market growth, including the recent license approval made by the FDA. The FDA has accepted Vertex Pharmaceuticals' biologics license application (BLA) for exagamglogene autotemcel (exa-cel) for treating severe sickle cell disease (SCD) and transfusion-dependent β -thalassemia (TDT). The FDA has granted priority review for SCD with a Prescription Drug User Fee Act (PDUFA) target action date of December 8, 2024, and Standard Review for TDT with a PDUFA target action date of March 30, 2024.

Viral vectors are used in gene therapy to deliver functional genes into cells to treat genetic disorders. The genetic material can

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correct mutations, replace missing proteins, or modulate gene expression. Increased awareness of viral vector vaccines, driven by high-profile vaccine campaigns, is positively influencing perspective of people about the utilization and benefits of viral vector vaccines, further boosting the global viral vaccines market growth.

Beacon Therapeutics is a leading ophthalmic gene therapy company launched with USD 120 million in June 2024. The investments were made by Syncona Limited and other investors, acquiring assets from a program entitled AGTC at the University of Oxford. The lead asset obtained by Beacon is AGTC-501, an investigational gene therapy intended to treat X-linked retinitis pigmentosa, which is currently being evaluated in multiple clinical trials.

Global Viral Vector Vaccines Market Segmentations

The EMR's report titled "Viral Vector Vaccines Market Report and Forecast 2025-2034" offers a detailed analysis of the market based on the following segments:

Market Breakup by Type

- Adenovirus
- Retrovirus
- Plasmid DNA
- AAV
- Lentivirus
- Others

Market Breakup by Applications

- Antisense and RNAi
- Gene Therapy
- Cell Therapy
- Vaccinology

Market Breakup by Disease

- Cancer
- Genetic Disorders
- Infectious Diseases
- Others

Market Breakup by End User

- Pharmaceutical
- Biopharmaceutical Companies
- Research Institute

Market Breakup by Region

- North America
- Europe

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- Asia Pacific
- Latin America
- Middle East and Africa

Global Viral Vector Vaccines Market Overview

The rising prevalence of target disease and disorders is continuously driving the market growth. The increasing awareness among people about the importance and application of gene therapy is also driving the market growth. The availability of funding for gene therapy delivery due to the investments by government and key players of the market is also contributing to the viral vector vaccines market growth.

The rising incidence of genetic disorders, cancer, HIV, tuberculosis, cardiovascular diseases, and infectious diseases are driving the market growth. The rising number of clinical trials, increasing investments towards the development of gene therapies, and potential uses for novel drug delivery systems are all collectively driving the market growth. The increasing geriatric population is also a major cause of market growth across the globe. The increasing technological advancements in the production of viral vectors is also an accountable for the global viral vector vaccines market growth. The high operational cost associated with cell and gene therapy manufacturing is expected to restrain the growth of the market.

North America is currently leading the global market due to the presence of highly advanced and equipped research labs to carry research leading to the development of viral vector vaccines. The development of novel medicines is done at a fast pace in the region with the use of viral and non-viral vectors. These vectors can deliver a gene to a specific cell or tissue in vivo. Adeno-associated virus, lentivirus, and retrovirus are examples of viral vectors used in clinical and preclinical trials to evaluate gene and cell therapy products and vaccines.

Viral Vector Vaccines Market: Competitor Landscape

The key features of the market report include patent analysis, grants analysis, clinical trials analysis, funding and investment analysis, partnerships, and collaborations analysis by the leading key players. The major companies in the market are as follows:

- Novasep
- Merck KGaA
- Charles River Laboratories
- uniQure N.V
- Waisman Biomanufacturing
- Creative-Biogene
- Aldevron
- Addgene
- Oxford Biomedical

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Table of Contents:

- 1 Preface
 - 1.1 Objectives of the Study
 - 1.2 Key Assumptions
 - 1.3 Report Coverage - Key Segmentation and Scope
 - 1.4 Research Methodology
- 2 Executive Summary
- 3 Global Viral Vector Vaccines Market Overview
 - 3.1 Global Viral Vector Vaccines Market Historical Value (2018-2024)
 - 3.2 Global Viral Vector Vaccines Market Forecast Value (2025-2034)
- 4 Global Viral Vector Vaccines Market Landscape
 - 4.1 Global Viral Vector Vaccines: Developers Landscape
 - 4.1.1 Analysis by Year of Establishment
 - 4.1.2 Analysis by Company Size
 - 4.1.3 Analysis by Region
 - 4.2 Global Viral Vector Vaccines: Product Landscape
 - 4.2.1 Analysis by Type
 - 4.2.2 Analysis by Disease
 - 4.2.3 Analysis by Applications
- 5 Global Viral Vector Vaccines Market Dynamics
 - 5.1 Market Drivers and Constraints
 - 5.2 SWOT Analysis
 - 5.3 Porter's Five Forces Model
 - 5.4 Key Demand Indicators
 - 5.5 Key Price Indicators
 - 5.6 Industry Events, Initiatives, and Trends
 - 5.7 Value Chain Analysis
- 6 Global Viral Vector Vaccines Market Segmentation
 - 6.1 Global Viral Vector Vaccines Market by Type
 - 6.1.1 Market Overview
 - 6.1.2 Adenovirus
 - 6.1.3 Retrovirus
 - 6.1.4 Plasmid DNA
 - 6.1.5 AAV
 - 6.1.6 Lentivirus
 - 6.1.7 Others
 - 6.2 Global Viral Vector Vaccines Market by Applications
 - 6.2.1 Market Overview
 - 6.2.2 Antisense and RNAi
 - 6.2.3 Gene Therapy
 - 6.2.4 Cell Therapy
 - 6.2.5 Vaccinology
 - 6.3 Global Viral Vector Vaccines Market by Disease

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- 6.3.1 Market Overview
- 6.3.2 Cancer
- 6.3.3 Genetic Disorders
- 6.3.4 Infectious Diseases
- 6.3.5 Others
- 6.4 Global Viral Vector Vaccines Market by End User
 - 6.4.1 Market Overview
 - 6.4.2 Pharmaceutical
 - 6.4.3 Biopharmaceutical Companies
 - 6.4.4 Research Institute
- 6.5 Global Viral Vector Vaccines Market by Region
 - 6.5.1 Market Overview
 - 6.5.2 North America
 - 6.5.3 Europe
 - 6.5.4 Asia Pacific
 - 6.5.5 Latin America
 - 6.5.6 Middle East and Africa
- 7 North America Viral Vector Vaccines Market
 - 7.1 Market Share by Country
 - 7.2 United States of America
 - 7.3 Canada
- 8 Europe Viral Vector Vaccines Market
 - 8.1 Market Share by Country
 - 8.2 United Kingdom
 - 8.3 Germany
 - 8.4 France
 - 8.5 Italy
 - 8.6 Others
- 9 Asia Pacific Viral Vector Vaccines Market
 - 9.1 Market Share by Country
 - 9.2 China
 - 9.3 Japan
 - 9.4 India
 - 9.5 ASEAN
 - 9.6 Australia
 - 9.7 Others
- 10 Latin America Viral Vector Vaccines Market
 - 10.1 Market Share by Country
 - 10.2 Brazil
 - 10.3 Argentina
 - 10.4 Mexico
 - 10.5 Others
- 11 Middle East and Africa Viral Vector Vaccines Market
 - 11.1 Market Share by Country
 - 11.2 Saudi Arabia
 - 11.3 United Arab Emirates
 - 11.4 Nigeria

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- 11.5 South Africa
- 11.6 Others
- 12 Regulatory Framework
 - 12.1 Regulatory Overview
 - 12.1.1 US FDA
 - 12.1.2 EU EMA
 - 12.1.3 INDIA CDSCO
 - 12.1.4 JAPAN PMDA
 - 12.1.5 Others
- 13 Patent Analysis
 - 13.1 Analysis by Type of Patent
 - 13.2 Analysis by Publication year
 - 13.3 Analysis by Issuing Authority
 - 13.4 Analysis by Patent Age
 - 13.5 Analysis by CPC Analysis
 - 13.6 Analysis by Patent Valuation
 - 13.7 Analysis by Key Players
- 14 Grants Analysis
 - 14.1 Analysis by year
 - 14.2 Analysis by Amount Awarded
 - 14.3 Analysis by Issuing Authority
 - 14.4 Analysis by Grant Application
 - 14.5 Analysis by Funding Institute
 - 14.6 Analysis by NIH Departments
 - 14.7 Analysis by Recipient Organization
- 15 Clinical Trials Analysis
 - 15.1 Analysis by Trial Registration Year
 - 15.2 Analysis by Trial Status
 - 15.3 Analysis by Trial Phase
 - 15.4 Analysis by Therapeutic Area
 - 15.5 Analysis by Geography
- 16 Funding and Investment Analysis
 - 16.1 Analysis by Funding Instances
 - 16.2 Analysis by Type of Funding
 - 16.3 Analysis by Funding Amount
 - 16.4 Analysis by Leading Players
 - 16.5 Analysis by Leading Investors
 - 16.6 Analysis by Geography
- 17 Partnership and Collaborations Analysis
 - 17.1 Analysis by Partnership Instances
 - 17.2 Analysis by Type of Partnership
 - 17.3 Analysis by Leading Players
 - 17.4 Analysis by Geography
- 18 Supplier Landscape
 - 18.1 Novasep
 - 18.1.1 Financial Analysis
 - 18.1.2 Product Portfolio

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- 18.1.3 Demographic Reach and Achievements
- 18.1.4 Mergers and Acquisitions
- 18.1.5 Certifications
- 18.2 Merck KGaA
 - 18.2.1 Financial Analysis
 - 18.2.2 Product Portfolio
 - 18.2.3 Demographic Reach and Achievements
 - 18.2.4 Mergers and Acquisitions
 - 18.2.5 Certifications
- 18.3 Charles River Laboratories
 - 18.3.1 Financial Analysis
 - 18.3.2 Product Portfolio
 - 18.3.3 Demographic Reach and Achievements
 - 18.3.4 Mergers and Acquisitions
 - 18.3.5 Certifications
- 18.4 uniQure N.V.
 - 18.4.1 Financial Analysis
 - 18.4.2 Product Portfolio
 - 18.4.3 Demographic Reach and Achievements
 - 18.4.4 Mergers and Acquisitions
 - 18.4.5 Certifications
- 18.5 Waisman Biomanufacturing
 - 18.5.1 Financial Analysis
 - 18.5.2 Product Portfolio
 - 18.5.3 Demographic Reach and Achievements
 - 18.5.4 Mergers and Acquisitions
 - 18.5.5 Certifications
- 18.6 Creative-Biogene
 - 18.6.1 Financial Analysis
 - 18.6.2 Product Portfolio
 - 18.6.3 Demographic Reach and Achievements
 - 18.6.4 Mergers and Acquisitions
 - 18.6.5 Certifications
- 18.7 Aldevron
 - 18.7.1 Financial Analysis
 - 18.7.2 Product Portfolio
 - 18.7.3 Demographic Reach and Achievements
 - 18.7.4 Mergers and Acquisitions
 - 18.7.5 Certifications
- 18.8 Addgene
 - 18.8.1 Financial Analysis
 - 18.8.2 Product Portfolio
 - 18.8.3 Demographic Reach and Achievements
 - 18.8.4 Mergers and Acquisitions
 - 18.8.5 Certifications
- 18.9 Oxford Biomedical
 - 18.9.1 Financial Analysis

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- 18.9.2 Product Portfolio
- 18.9.3 Demographic Reach and Achievements
- 18.9.4 Mergers and Acquisitions
- 18.9.5 Certifications
- 18.10 Thermo Fisher Scientific Inc
- 18.10.1 Financial Analysis
- 18.10.2 Product Portfolio
- 18.10.3 Demographic Reach and Achievements
- 18.10.4 Mergers and Acquisitions
- 18.10.5 Certifications
- 19 Key Opinion Leaders (KOL) Insights (Additional Insight)
- 20 Company Competitiveness Analysis (Additional Insight)
- 20.1 Very Small Companies
- 20.2 Small Companies
- 20.3 Mid-Sized Companies
- 20.4 Large Companies
- 20.5 Very Large Companies
- 21 Payment Methods (Additional Insight)
- 21.1 Government Funded
- 21.2 Private Insurance
- 21.3 Out-of-Pocket

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