

# Therapeutic Vaccines Market Size to Reach \$140 Billion by 2032: Latest Report by Vantage Market Research

Therapeutic Vaccines Market: Size, Share, Overview, Trends, Challenges, Opportunities, and Regional Analysis By 2032

WASHINGTON, D.C, DISTRICT OF COLUMBIA, UNITED STATES, January 16, 2024 /EINPresswire.com/ -- Therapeutic vaccines are a type of immunotherapy that aim to stimulate the immune system to fight against diseases, such as cancer, infectious diseases, autoimmune diseases, and neurological diseases. Unlike



preventive vaccines, which are given to healthy individuals to prevent them from getting infected, therapeutic vaccines are given to patients who are already suffering from a disease, to enhance their immune response and improve their outcomes. Therapeutic vaccines can be classified into two types: allogeneic vaccines, which are made from the same antigens for all patients, and autologous vaccines, which are made from the patient's own cells or tissues.

According to a report by Vantage Market Research, The Global <u>Therapeutic Vaccines Market size</u> was valued at USD 31 Billion in 2023 and is expected to reach USD 140 Billion by 2032, growing at a compound annual growth rate (CAGR) of around 18.2% from 2024 to 2032. The major factors driving the growth of the market are the increasing prevalence of various diseases, the rising demand for personalized and effective treatments, the growing investment and innovation in the field of therapeutic vaccines, and the favorable government policies and initiatives to support the development and distribution of therapeutic vaccines.

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The increasing prevalence of various diseases, such as cancer, infectious diseases, autoimmune diseases, and neurological diseases, that pose a significant burden on the global health and economy. According to the World Health Organization (WHO), cancer is the second leading cause of death globally, accounting for 10 million deaths in 2020. According to the Centers for Disease Control and Prevention (CDC), infectious diseases are responsible for 17 million deaths annually, with HIV, tuberculosis, and malaria being the major killers. According to the American Autoimmune Related Diseases Association (AARDA), autoimmune diseases affect more than 50 million Americans, and are among the top 10 causes of death for women. According to the Alzheimer's Association, neurological diseases, such as Alzheimer's and Parkinson's, affect more than 50 million people worldwide, and are expected to increase to 152 million by 2050. These diseases have a high unmet medical need, as the current treatments are often ineffective, costly, or associated with severe side effects. Therapeutic vaccines offer a promising alternative, as they can target the specific antigens or cells that cause the disease, and induce a long-lasting and specific immune response, that can potentially cure or control the disease.

The rising demand for personalized and effective treatments, as the patients and the healthcare providers are looking for more customized and tailored solutions, that can address the individual needs and preferences of the patients. Therapeutic vaccines can provide such solutions, as they can be designed and developed according to the patient's genetic profile, disease stage, and immune status. Therapeutic vaccines can also be combined with other therapies, such as chemotherapy, radiotherapy, or immunotherapy, to enhance their efficacy and safety. Therapeutic vaccines can also reduce the cost and complexity of the treatment, as they can be administered in fewer doses, and have fewer adverse effects.

The growing investment and innovation in the field of therapeutic vaccines, as the pharmaceutical and biotechnology companies, academic and research institutions, and government and non-government organizations are investing heavily in the research and development of therapeutic vaccines, to explore their potential and overcome their challenges. The global therapeutic vaccines pipeline consists of more than 300 products, with more than 100 products in the clinical stage, and more than 200 products in the preclinical stage. The pipeline covers a wide range of diseases, such as cancer, HIV, hepatitis, herpes, influenza, malaria, tuberculosis, Alzheimer's, Parkinson's, multiple sclerosis, diabetes, and rheumatoid arthritis. The pipeline also includes various technologies, such as viral vectors, DNA vaccines, RNA vaccines, peptide vaccines, dendritic cell vaccines, and tumor cell vaccines. The pipeline also reflects the collaboration and partnership among the various stakeholders, such as the pharmaceutical and biotechnology companies, academic and research institutions, and government and non-government organizations, to accelerate the development and commercialization of therapeutic vaccines

The favorable government policies and initiatives to support the development and distribution of therapeutic vaccines, as the governments and regulatory agencies are providing various incentives and benefits, such as grants, tax credits, fast-track approvals, orphan drug designations, and market exclusivity, to encourage and facilitate the innovation and access of

therapeutic vaccines. For instance, the US Food and Drug Administration (FDA) has granted breakthrough therapy designation, regenerative medicine advanced therapy designation, and orphan drug designation to several therapeutic vaccines for various diseases, such as cancer, HIV, and Alzheimer's. The European Medicines Agency (EMA) has also granted orphan medicinal product designation, priority medicines designation, and advanced therapy medicinal product classification to several therapeutic vaccines for various diseases, such as cancer, HIV, and Parkinson's. The governments and non-government organizations are also providing financial and logistical support to the distribution and administration of therapeutic vaccines, especially in the low- and middle-income countries, where the burden of diseases is high, and the access to healthcare is low.

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- ☐ Agenus Inc. (U.S.)
- ☐ Argos Therapeutics Inc. (U.S.)
- ☐ Bavarian Nordic A/S (Denmark)
- ☐ Cel-Sci Corp. (U.S.)
- ☐ CSL Ltd. (Australia)
- ☐ Emergent Biosolutions Inc. (U.S.)
- ☐ GSK PLC (UK)
- ☐ Merck & Co. Inc. (U.S.)
- ☐ Pfizer Inc. (U.S.)
- ☐ Sanofi S.A. (France)

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The increasing use of RNA vaccines, such as <u>mRNA</u> and saRNA vaccines, as therapeutic vaccines, as they offer several advantages over the conventional vaccines, such as higher potency, specificity, and versatility, lower immunogenicity and toxicity, and easier and faster production and modification. RNA vaccines work by delivering the genetic instructions for the target antigen to the host cells, which then produce and present the antigen to the immune system, and induce a robust and durable immune response. RNA vaccines have shown promising results in the treatment of various diseases, such as cancer, HIV, influenza, and COVID-19. For instance, BioNTech and Pfizer have developed an mRNA vaccine, BNT162b2, for the prevention and treatment of COVID-19, which has received emergency use authorization from several countries, and has shown high efficacy and safety in the clinical trials. Moderna has also developed an mRNA vaccine, mRNA-1273, for the prevention and treatment of COVID-19, which has also received emergency use authorization from several countries, and has shown high efficacy and safety in the clinical trials. CureVac and Arcturus Therapeutics are also developing mRNA

vaccines for COVID-19, which are in the advanced stages of clinical trials. Moreover, BioNTech, Moderna, CureVac, and Arcturus Therapeutics are also developing mRNA vaccines for various cancers, such as melanoma, prostate cancer, breast cancer, and lung cancer, which are in the preclinical or clinical stages of development.

The growing adoption of therapeutic vaccines in the <u>oncology</u> sector, as therapeutic vaccines are considered as a promising and potential modality for the treatment of various types of cancers, such as melanoma, prostate cancer, breast cancer, lung cancer, and cervical cancer. Therapeutic vaccines can target the specific tumor antigens or neoantigens, that are unique to the cancer cells, and activate the immune system to recognize and eliminate the cancer cells. Therapeutic vaccines can also enhance the efficacy and safety of other cancer therapies, such as chemotherapy, radiotherapy, or immunotherapy, by reducing the tumor burden, overcoming the resistance, and minimizing the toxicity. Therapeutic vaccines have demonstrated positive results in the clinical trials for various cancers, such as melanoma, prostate cancer, and cervical cancer. For instance, Sipuleucel-T, a dendritic cell vaccine, is the first and only FDA-approved therapeutic vaccine for the treatment of metastatic castration-resistant prostate cancer. Talimogene laherparepvec, a viral vector vaccine, is the first and only FDA-approved therapeutic vaccine for the treatment of unresectable metastatic melanoma. Gardasil and Cervarix, two HPV vaccines, are approved for the prevention and treatment of cervical cancer and other HPV-related cancers.

The rising demand for therapeutic vaccines in the infectious diseases sector, as therapeutic vaccines are considered as a potential strategy to combat the emerging and re-emerging infectious diseases, such as HIV, hepatitis, herpes, influenza, malaria, tuberculosis, and COVID-19. Therapeutic vaccines can induce a specific and long-lasting immune response against the pathogens, and prevent or control the disease progression and transmission. Therapeutic vaccines can also overcome the challenges of the conventional treatments, such as the drug resistance, toxicity, and compliance. Therapeutic vaccines have shown promising results in the clinical trials for various infectious diseases, such as HIV, hepatitis, and herpes. For instance, Vacc-4x, a peptide vaccine, is in phase IIb clinical trial for the treatment of HIV, and has shown to reduce the viral load and increase the CD4+ T cell count. Heplisav-B, a recombinant vaccine, is the first and only FDA-approved therapeutic vaccine for the treatment of chronic hepatitis B infection, and has shown to elicit a high and durable immune response. GEN-003, a protein vaccine, is in phase II clinical trial for the treatment of genital herpes, and has shown to reduce the viral shedding and lesion rate.

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☐ According to a report by Vantage Market Research, The global therapeutic vaccines market size was valued at USD 31 Billion in 2023 and is expected to reach USD 140 Billion by 2032, growing at a compound annual growth rate (CAGR) of around 18.2% from 2024 to 2032.

☐ The cancer segment accounted for the largest share of the therapeutic vaccines market in

2020, as cancer is the major target disease for therapeutic vaccines, and several therapeutic vaccines are in the pipeline or approved for various cancers, such as melanoma, prostate cancer, breast cancer, lung cancer, and cervical cancer.

☐ The autologous segment accounted for the largest share of the therapeutic vaccines market in 2020, as autologous vaccines are more personalized and effective than allogeneic vaccines, and can induce a stronger and longer-lasting immune response against the disease.

☐ The RNA segment accounted for the largest share of the therapeutic vaccines market in 2020, as RNA vaccines, such as mRNA and saRNA vaccines, offer several advantages over the conventional vaccines, such as higher potency, specificity, and versatility, lower immunogenicity and toxicity, and easier and faster production and modification.

□ North America accounted for the largest share of the therapeutic vaccines market in 2020, as North America is a leading region in the therapeutic vaccines industry, with a high prevalence of various diseases, a high demand for personalized and effective treatments, a high investment and innovation in the field of therapeutic vaccines, and a favorable government policies and initiatives to support the development and distribution of therapeutic vaccines.

The high cost and complexity of the development and production of therapeutic vaccines, as the therapeutic vaccines require extensive and rigorous research and development, clinical trials, and regulatory approvals, to ensure their safety, efficacy, and quality. The development and production of therapeutic vaccines also involve various challenges, such as the selection and validation of the appropriate antigens, the optimization of the delivery systems and adjuvants, the standardization and scalability of the manufacturing processes, and the preservation and transportation of the products. These factors increase the time, risk, and expense of the therapeutic vaccines, and limit their availability and affordability

The lack of awareness and acceptance of the therapeutic vaccines, as the therapeutic vaccines are still a novel and emerging concept, that face various misconceptions, myths, and doubts, among the patients, the healthcare providers, and the general public. Many people are unaware of the benefits, applications, and mechanisms of the therapeutic vaccines, and confuse them with the preventive vaccines, which have a different purpose and function. Many people are also skeptical of the safety, efficacy, and ethics of the therapeutic vaccines, and fear the potential side effects, complications, and controversies, that may arise from the manipulation of the immune system and the genetic material. These factors affect the awareness and acceptance of the therapeutic vaccines, and hamper their adoption and growth.

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The growing adoption of therapeutic vaccines in the oncology and infectious diseases sectors, as therapeutic vaccines can target the specific antigens or cells that cause the disease, and induce a long-lasting and specific immune response, that can potentially cure or control the disease.

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- Q. What are the current market size and growth projections for therapeutic vaccines?
- Q. Which disease areas are witnessing the most significant therapeutic vaccine development?
- Q. What are the key players and their competitive landscape in the market?
- Q. What are the major technological advancements influencing therapeutic vaccine development?
- Q. What are the regulatory challenges and opportunities in the therapeutic vaccines market?
- Q. How are reimbursement policies and healthcare systems adapting to therapeutic vaccines?
- Q. What are the potential cost-effectiveness and economic implications of therapeutic vaccines?
- Q. What are the ethical considerations and patient perspectives surrounding therapeutic vaccines?

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North America currently reigns supreme in the therapeutic vaccines market, driven by factors like robust research infrastructure, significant government funding, and a high prevalence of chronic diseases. The United States, in particular, serves as a hub for innovation, with major pharmaceutical companies and leading research institutions spearheading groundbreaking developments. However, challenges like high healthcare costs and stringent regulatory frameworks persist. Despite these hurdles, North America is expected to maintain its leadership position in the foreseeable future, paving the way for broader global adoption of therapeutic vaccines.

The therapeutic vaccines market stands poised on the precipice of a transformative era. With scientific advancements blurring the lines between prevention and treatment, this burgeoning field holds the potential to redefine healthcare landscapes and reshape our understanding of disease management. As challenges are overcome and opportunities harnessed, we inch closer

to a future where personalized immune therapies offer hope and healing for a myriad of medical afflictions. The journey ahead is paved with both hurdles and boundless possibilities, but the unwavering pursuit of scientific breakthroughs and relentless human ingenuity promise to illuminate the path towards a healthier, more empowered future.

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☐ Medical Plastics Market: <a href="https://www.vantagemarketresearch.com/industry-report/medical-">https://www.vantagemarketresearch.com/industry-report/medical-</a> plastics-market-1665

☐ Whole Genome Synthesis Market: <a href="https://www.vantagemarketresearch.com/industry-">https://www.vantagemarketresearch.com/industry-</a> report/whole-genome-synthesis-market-2213

☐ Breath Analyzers Market: https://www.vantagemarketresearch.com/industry-report/breathanalyzers-market-2214

☐ Remote Healthcare Market: https://www.vantagemarketresearch.com/industry-report/remotehealthcare-market-2221

☐ Synthetic Cannabinoids Market: <a href="https://www.vantagemarketresearch.com/industry-">https://www.vantagemarketresearch.com/industry-</a> report/synthetic-cannabinoids-market-2223

☐ Hemophilia Market: <a href="https://www.linkedin.com/pulse/hemophilia-market-size-share-trends-">https://www.linkedin.com/pulse/hemophilia-market-size-share-trends-</a> opportunities-analysis-hancock/

☐ Healthcare Erp Market: <a href="https://www.linkedin.com/pulse/healthcare-erp-market-size-share-">https://www.linkedin.com/pulse/healthcare-erp-market-size-share-</a> trends-opportunities-ashley-hancock/

☐ Cancer Profiling Market: <a href="https://www.linkedin.com/pulse/cancer-profiling-market-size-share-">https://www.linkedin.com/pulse/cancer-profiling-market-size-share-</a> trends-analysis-report-hancock/

☐ Immunohistochemistry Market: <a href="https://www.linkedin.com/pulse/immunohistochemistry-">https://www.linkedin.com/pulse/immunohistochemistry-</a> market-size-share-trends-analysis-ashley-hancock/

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