

Global DNA Cancer Vaccine Clinical Trials, Development Technology Platforms & Market Opportunity Outlook 2026

<https://marketpublishers.com/r/G415BD6B9AE7EN.html>

Date: October 2025

Pages: 130

Price: US\$ 3,300.00 (Single User License)

ID: G415BD6B9AE7EN

Abstracts

Findings & Highlights:

First DNA Cancer Vaccine commercial Approval Expected By 2030

DNA Cancer Vaccines In Clinical Trials: > 20 Vaccines

Global DNA Cancer Vaccines Clinical Trial Insight By Company, Indication & Phase

Insight On DNA Cancer Vaccine Development Technology Platforms: >10 Platforms

Comparison With Other Cancer Immunotherapies

DNA Cancer Vaccines Recent Innovations

Competitive Landscape

Need For Cancer DNA Vaccines and Why This Report

The global impact of cancer remains profound, with millions of new cases and high mortality, particularly in advanced and hard to treat cancers. Although immunotherapies such as checkpoint inhibitors have transformed the cancer therapeutic landscape, they are not effective across the board. DNA vaccines present a new era of cancer therapy

by providing tumor specific antigens encoded in plasmid DNA that activate the body's immune response to detect and target cancer cells. They are attractive due to their safety, stability, fast production, and the ability to be tailored or personalized.

This report is timely and much needed, providing stakeholders, ranging from researchers to investors, clear insight into the current state of cancer DNA vaccine development. It summarizes the existing clinical activity, nascent technologies, key companies, and strategic partnerships. As the field rapidly advances, the report delivers a well-curated, recent snapshot of where innovation is headed, why it is important, and how it might transform the future of cancer care.

Cancer DNA Vaccines Clinical Trials Insight Covered In Report

DNA vaccines are currently in clinical development, many of them moving into mid to late stage testing. One of the most advanced, Inovio Pharmaceuticals' HPV-associated cervical cancer candidate based on plasmid DNA administered using electroporation, shows how DNA vaccines can be used against virus-driven cancers. IMUNON's IMNN-001, being tested for ovarian cancer, combines DNA with IL-12 immunostimulation and chemotherapy and is reporting promising survival trends in Phase II.

This overview calls attention to the scale of global clinical trials, such as melanoma, lung, and prostate cancer, and offers insights into trial phases, delivery strategies, combination regimens, and immunological endpoints. Data provided serves to place into context which strategies are most proximal to clinical translation and how future efforts will look like.

Technology Platforms, Partnerships & Agreements

Platform and delivery advancements are the cornerstone of DNA vaccine technology. Electroporation is still a dominant way to deliver improved uptake, but other systems are picking up steam. NEC Bio Therapeutics, for example, is testing an oral, bacteria-delivery based DNA vaccine that uses machine learning to identify patient-specific tumor mutations for targeting. IMUNON's PlaCCine? platform, initially designed for infectious disease, is being repurposed for oncology because it has the ability to deliver multiple antigens with improved stability.

The report outlines major collaborations, including Immuno Cure and PharmaJet's partnership, which employs a needle-free intradermal injection system to enhance

patient compliance and immune response. These collaborations are part of a larger trend of merging proprietary DNA constructs with third-party delivery systems for faster development and scale-up.

Leading Companies Active In RandD On Cancer DNA Vaccines

A number of companies are at the forefront in this field. Inovio, Scancell, IMUNON, and NEC Bio are all committing significant resources to R&D and clinical trials. Scancell's intradermally delivered iSCIB1+ melanoma vaccine, administered in combination with checkpoint inhibitors, is recruiting patients on the UK's NHS Cancer Vaccine Launch Pad. The report outlines these companies and others, providing an overview of their pipelines, therapeutic areas of interest, delivery mechanisms, and strategic partnerships.

Report Indicating Future Development Of Cancer DNA Vaccines

Looking ahead, the report points out significant opportunities fueling the next generation of innovation. These are the application of minicircle DNA (mcDNA) for cleaner, more efficient gene expression, the development of DNA origami-based platforms such as DoriVac for targeted immune stimulation, and gene editing tools including CRISPR to optimize vaccine constructs. Furthermore, preventive approaches such as LungVax, a DNA vaccine in development in the UK for patients at high risk of lung cancer, point to an even wider use of DNA vaccines beyond therapy.

As more clinical evidence mounts, improved delivery devices, and compatibility with current therapies, DNA cancer vaccines will be a central column of oncology treatment in the years to come.

Please note: extra shipping charges are applied when purchasing Hard Copy License depending on the location.

Contents

1. OVERVIEW OF DNA CANCER VACCINES

- 1.1 What Are DNA Cancer Vaccines?
- 1.2 History & Development Timeline
- 1.3 Comparison With Other Cancer Immunotherapies
- 1.4 Advantages & Limitations

2. DNA CANCER VACCINES - MECHANISM OF ACTION

- 2.1 How DNA Vaccines Work
- 2.2 Antigen Selection & Delivery
- 2.3 Role Of Vectors & Adjuvants
- 2.4 Immune Activation Pathways

3. GLOBAL DNA CANCER VACCINES - RECENT INNOVATIONS

4. GLOBAL DNA CANCER VACCINES MARKET OVERVIEW

- 4.1 Current Market Scenario
- 4.2 Future Opportunity Outlook

5. DNA CANCER VACCINE DEVELOPMENT TRENDS BY INDICATION

- 5.1 Prostate Cancer
- 5.2 Cervical Cancer
- 5.3 Lung Cancer
- 5.4 Melanoma
- 5.5 Breast Cancer

6. DNA CANCER VACCINE DEVELOPMENT TECHNOLOGY PLATFORMS

7. GLOBAL DNA CANCER VACCINES CLINICAL TRIALS OVERVIEW

- 7.1 By Company
- 7.2 By Indication
- 7.3 By Phase

8. GLOBAL DNA CANCER VACCINES CLINICAL TRIAL INSIGHT BY COMPANY, INDICATION & PHASE

- 8.1 Preclinical
- 8.2 Phase I
- 8.3 Phase I/II
- 8.4 Phase II
- 8.5 Phase III

9. GLOBAL DNA CANCER VACCINES MARKET DYNAMICS

- 9.1 Growth Drivers & Opportunities
- 9.2 Market Restraints & Solutions

10. COMPETITIVE LANDSCAPE

- 10.1 4basebio
- 10.2 Aston Sci
- 10.3 Genexine
- 10.4 Evaxion
- 10.5 Immunomic Therapeutics
- 10.6 INOVIO
- 10.7 Madison Vaccines
- 10.8 Nykode Therapeutics
- 10.9 PapiVax Biotech
- 10.10 Takis

List Of Tables

LIST OF TABLES

Table 1-1: DNA Cancer Vaccines - Delivery Methods

Table 1-2: DNA Vaccine Platforms - Comparison

Table 1-3: DNA Cancer Vaccines - Comparison With Other Immunotherapies

Table 1-4: DNA Cancer Vaccines vs. mRNA Vaccines

Table 1-5: DNA Cancer Vaccines ? Scalability & Manufacturing

Table 1-6: DNA Cancer Vaccines - Advantages

Table 6-1: LineaDNA ? At A Glance

List Of Figures

LIST OF FIGURES

Figure 1-1: DNA Cancer Vaccines - Mechanism

Figure 1-2: DNA Cancer Vaccine - Milestones

Figure 1-3: DNA Cancer Vaccines ? Safety Profile

Figure 1-4: DNA Vaccines vs. Other Immunotherapies - Durability Of Response

Figure 1-5: DNA Vaccine Delivery Methods

Figure 1-6: DNA Vaccine Immunogenicity - Challenges

Figure 2-1: DNA Vaccine Immune Response

Figure 2-2: DNA Vaccine - Antigen Presentation To Immune System

Figure 2-3: DNA Cancer Vaccine - Final Immune Response

Figure 2-4: Types Of Tumor Antigens

Figure 2-5: Challenges with Antigen Selection

Figure 2-6: Plasmid Vectors

Figure 2-7: Bacterial Vectors

Figure 2-8: Viral Vectors

Figure 2-9: Adjuvants In DNA Cancer Vaccines

Figure 2-10: New Developments In Adjuvants

Figure 2-11: DNA Sensors & Their Roles in Immune Activation

Figure 3-1: DoriVac DNA Vaccine Mechanism

Figure 3-2: ?EPO System - Key Features & Breakthroughs

Figure 3-3: Neomatrix Biotech: Revolutionizing Personalized Cancer Immunotherapy

Figure 4-1: Global DNA Cancer Vaccines Market - Future Opportunities

Figure 5-1: UW18037 Phase 2 (NCT04090528) Study - Initiation & Completion Year

Figure 5-2: UW25025 Phase 1 (NCT07090148) Study - Initiation & Completion Year

Figure 5-3: UW18008 Phase 2 (NCT03600350) Study - Initiation & Completion Year

Figure 5-4: J23105sIRB Phase 1 (NCT06315257) Study - Initiation & Completion Year

Figure 5-5: J1955 Phase 2 (NCT04131413) Study - Initiation & Completion Year

Figure 5-6: BB IND 18340 Phase 1 (NCT03913117) Study - Initiation & Completion Year

Figure 5-7: NEWISH-HPV-101 Phase 1 (NCT06276101) Study - Initiation & Completion Year

Figure 5-8: 202104143 Phase 2 (NCT04397003) Study - Initiation & Completion Year

Figure 5-9: NCI-2021-14159 Phase 2 (NCT05242965) Study - Initiation & Completion Year

Figure 5-10: SCOPE Phase 2 (NCT04079166) Study - Initiation & Completion Year

Figure 5-11: SCOPE Phase 2 (NCT04079166) Study - Initiation & Completion Year

Figure 5-12: SCOPE Phase 2 (NCT04079166) Study - Initiation & Completion Year

Figure 5-13: W81XWH-15-1-0101 Phase 1 (NCT02204098) Study - Initiation & Completion Year

Figure 5-14: NCI-2014-01070 Phase 1 (NCT02157051) Study - Initiation & Completion Year

Figure 5-15: NCI-2025-04692 Phase 2 (NCT07112053) Study - Initiation & Completion Year

Figure 5-16: NCI-2020-01662 Phase 2 (NCT04329065) Study - Initiation & Completion Year

Figure 5-17: NECVAX-NEO1-05-DE Phase 1/2 (NCT06631092) Study - Initiation & Completion Year

Figure 6-1: Enzymatic manufacturing process

Figure 6-2: Genexine - DNA Vaccine Platform

Figure 6-3: MVI Technology - DNA Plasmid Mechanism Of Action

Figure 6-4: Nykode - Protein Format

Figure 6-5: Nykode Therapeutics ? DNA Vaccine Mechanism Of Action

Figure 6-6: DNA Medicines Technology - INOVIO

Figure 6-7: UNITE - Mode Of Action

Figure 6-8: GT-EPIC Platform - Process

Figure 6-9: LineaDNA ? Production Process

Figure 6-10: GeneOne DNA Plasmid Technology - Principle

Figure 6-11: Fusogenix - FAST Protein Structure

Figure 6-12: PLV Technology

Figure 6-13: PLV Technology - Delivery Mechanism

Figure 7-1: Global ? Number Of DNA Cancer Vaccines Clinical Pipeline by Company , 2025 -2026

Figure 7-2: Global ? Number Of DNA Cancer Vaccines Clinical Pipeline by Indication (Numbers), 2025 -2026

Figure 7-3: Global ? Number Of DNA Cancer Vaccines Clinical Pipeline by Phase (Numbers), 2025 - 2026

Figure 9-1: Global DNA Cancer Vaccines Market - Drivers & Opportunities

Figure 9-2: Global DNA Cancer Vaccines Market - Restraints & Solutions

I would like to order

Product name: Global DNA Cancer Vaccine Clinical Trials, Development Technology Platforms & Market Opportunity Outlook 2026

Product link: <https://marketpublishers.com/r/G415BD6B9AE7EN.html>

Price: US\$ 3,300.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/G415BD6B9AE7EN.html>