

Oncolytic Viruses Market Growth to Surge with Advanced Treatments by 2034 | DelveInsight

The oncolytic virus therapy landscape is poised for significant growth over the next decade, offering substantial potential for the pharmaceutical industry.

LAS VEGAS, NV, UNITED STATES, December 26, 2024 /EINPresswire.com/ -- The Oncolytic Viruses market is projected to experience rapid growth due to the expansion of indications for already approved therapies, increased R&D activities. Additionally, the competitive landscape is relatively sparse and the regulatory pathway for approval will likely involve extensive clinical trials to demonstrate safety and efficacy.

DelveInsight's Oncolytic Viruses Market Insights report includes a comprehensive understanding of current treatment practices, emerging Oncolytic Viruses, market share of individual therapies, and current and forecasted Oncolytic Viruses market size from 2020 to 2034, segmented into 7MM [the United States, the EU4 (Germany, France, Italy, and Spain), the United Kingdom, and Japan].

Key Takeaways from the Oncolytic Viruses Market Report:

As per DelveInsight's analysis, the Oncolytic Viruses market is anticipated to grow at a significant CAGR by 2034.

In November 2024, Antibiotic-mediated selection of randomly mutagenized and cytokine-expressing oncolytic viruses.

The United States holds the largest share of the Oncolytic Virus market, accounting for over 70% of the total market, far surpassing regions such as the EU4 (Germany, Spain, Italy, France), the United Kingdom, and Japan.

Compared to other tumor immunotherapies, oncolytic viruses offer several advantages, including high killing efficiency, precise targeting, and fewer side effects or drug resistance. These benefits make them a promising therapeutic option in the fight against cancer.

Currently, only two oncolytic virus therapies have received approval: IMLYGIC (Talimogene laherparepvec/T-VEC) from Amgen, which was approved in the US, Europe, and Japan in 2015, and DELYTACT (teserpaturev/G47Δ) from Daiichi Sankyo, which was approved in Japan in 2021.

The pipeline for oncolytic virus therapies remains robust, with major pharmaceutical companies like Replimune, Genelux, Imugene, EpicentRx, and others actively advancing research to improve cancer treatment options.

Among the emerging therapies, RP1 stands out as the most promising, projected to capture

approximately 40% of the market in the next decade due to its high efficacy.

In November 2023, Genelux announced that the US FDA granted Fast Track Designation (FTD) for Olvi-Vec (olvimulogene nanivacirepvec), a potential treatment for platinum-resistant/refractory ovarian cancer.

Discover which therapies are expected to grab the Oncolytic Viruses market share @ Oncolytic Viruses Market Report

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Oncolytic Viruses Market Dynamics

As cancer remains a leading cause of death globally, the need for innovative therapies to effectively target and eliminate cancer cells has never been greater. Oncolytic viruses, with their unique ability to selectively infect and replicate within tumor cells, have emerged as a promising frontier in cancer treatment. Key factors driving the growth of this market include increased research and development efforts, rising investments from pharmaceutical companies, and an expanding pipeline of clinical trials.

With continuous advancements and strategic collaborations, oncolytic viruses are poised to play a crucial role in the future of oncology, offering new hope to patients and paving the way for more effective and personalized cancer therapies.

In 2015, IMLYGIC (talimogene laherparepvec/T-VEC) from Amgen became the first oncolytic virus approved by the US FDA, followed by approval from the European Commission for the treatment of unresectable melanoma lesions. The therapy utilizes a genetically modified Herpes Simplex Virus Type 1 (HSV-1) to replicate specifically within tumors, thereby stimulating an immune response against the cancer.

In 2021, DELYTACT (teserpaturev/G47Δ) from Daiichi Sankyo received conditional approval in Japan as the first oncolytic virus for the treatment of malignant glioma. This virus features a triple mutation in its genome, enhancing its ability to replicate in tumor cells and stimulate a robust immune response.

Despite these significant achievements, development efforts in oncolytic virus therapy continue to advance, with ongoing clinical trials being conducted by key players such as Replimune, DNATRIX, Sillajen, and others. These efforts point to a promising future for oncolytic virotherapy in the treatment of various cancers worldwide.

Learn more about the FDA-approved Oncolytic Viruses @ [Oncolytic Viruses Drugs](#)

Oncolytic Virus Marketed Drugs

IMLYGIC (T-VEC): Amgen

IMLYGIC (T-VEC), developed by Amgen, became the first FDA-approved oncolytic virus therapy in 2015. It is indicated for the local treatment of unresectable cutaneous, subcutaneous, and nodal melanoma lesions in patients with recurrent melanoma after initial surgery. Shortly after its US approval, the European Commission (EC) granted approval for its use in adults with unresectable melanoma that is regionally or distantly metastatic (Stage IIIB, IIIC, and IVM1a), excluding cases with bone, brain, lung, or other visceral diseases. IMLYGIC is a genetically modified herpes simplex virus type 1 (HSV-1) designed to replicate selectively within tumor cells, producing granulocyte-macrophage colony-stimulating factor (GM-CSF), a protein that stimulates the immune system to target and destroy cancer cells.

DELYTACT (G47Δ): Daiichi Sankyo

DELYTACT (G47Δ) is an engineered herpes simplex virus type 1 (HSV-1) modified with three mutations to ensure replication only in cancer cells. In 2021, it received conditional and time-limited approval from the Japan Ministry of Health, Labour and Welfare (MHLW) for the treatment of malignant glioma, specifically for patients with residual or recurrent glioblastoma after radiotherapy and chemotherapy with temozolomide. Approval was based on positive results from a Phase II trial, which demonstrated that DELYTACT improved one-year survival rates in these patients. It became the first oncolytic virus therapy approved globally for brain cancer and the third such therapy to be approved worldwide.

Emerging Drugs in the Oncolytic Viruses Inhibitors Market

Olvi-Vec: Genelux

Olvi-Vec is a proprietary oncolytic vaccinia virus modified to enhance its safety, tumor selectivity, and therapeutic potential. Derived from a non-human pathogen used in smallpox vaccination, this virus triggers oncolysis, resulting in immunogenic cell death. This process activates the immune system, fostering long-term immune memory that can provide sustained defense against cancer.

In September 2022, Genelux initiated the OnPrime trial, a Phase III registration study evaluating Olvi-Vec in patients with platinum-resistant/refractory ovarian cancer.

Building on the promising results from previous Phase I trials, which assessed the intravenous administration of Olvi-Vec in patients with solid tumors, the company is also planning to launch a

Phase II clinical trial to evaluate the drug in patients with recurrent non-small cell lung cancer (NSCLC).

RP1: Replimune

RP1 is Replimune's lead oncolytic virus candidate, engineered from a proprietary strain of Herpes Simplex Virus (HSV). It is genetically modified to include a fusogenic protein (GALV-GP R-) and GM-CSF, which work together to enhance the virus's tumor-killing potency, promote the immunogenicity of tumor cell death, and stimulate a systemic antitumor immune response.

In April 2024, Replimune announced the presentation of interim results from the ARTACUS Phase I/II clinical trial. This study is evaluating RP1 as a monotherapy for skin cancers in patients who have previously undergone solid organ or hematopoietic cell transplants.

To know more about [Oncolytic Viruses clinical trials](#), visit @ [Oncolytic Viruses Treatment Drugs](#)

Oncolytic Viruses Overview

Oncolytic viruses are a class of anti-cancer agents that drive tumor regression by selectively replicating within tumor cells, inducing immunogenic cell death, and stimulating the host's antitumor immune response. These viruses—whether naturally occurring or genetically modified—are designed to target and destroy cancer cells.

While the precise mechanisms of action are not yet fully understood, oncolytic viruses primarily exert their therapeutic effects through two key processes: direct lysis (oncolysis) of infected tumor cells and the indirect enhancement of the body's immune system to recognize and attack cancer cells.

Oncolytic viruses can be classified into two main types based on their genetic material: RNA viruses and DNA viruses. RNA viruses, such as reoviruses, paramyxoviruses, and picornaviruses, tend to replicate rapidly in tumors and cause quick lysis of tumor cells due to their simpler genome. In contrast, DNA viruses, including herpesviruses, adenoviruses, and poxviruses, can accommodate the insertion of multiple foreign genes, though their replication and amplification in tumor cells generally occur at a slower pace.

Oncolytic Viruses Inhibitors Market Outlook

The oncolytic virus therapy landscape is poised for significant growth over the next decade, offering substantial potential for the pharmaceutical industry. Recent advancements in oncolytic

virotherapy have already led to therapeutic milestones, particularly in the treatment of brain cancer, skin cancer, prostate cancer, and other malignancies.

Oncolytic viruses represent a promising frontier in cancer treatment, harnessing the natural ability of viruses to target and destroy malignant cells. These viruses preferentially infect, replicate within, and ultimately kill cancer cells while minimizing damage to surrounding healthy tissue. Whether naturally occurring or genetically engineered for enhanced efficacy, oncolytic viruses demonstrate exceptional tumor selectivity, exploiting the unique vulnerabilities of cancer cells to induce their destruction.

The therapeutic mechanism of oncolytic virus therapy is twofold: first, the virus selectively infects tumor cells; second, it triggers a potent antitumor immune response. Upon infection, the virus replicates within the cancer cells, causing their lysis and releasing tumor antigens. This not only amplifies the destruction of cancer cells but also stimulates the host's immune system to recognize and attack the cancer more effectively. The released viral progeny can further spread the infection to nearby cancer cells, perpetuating the cycle of tumor destruction.

Ultimately, oncolytic virus therapies offer a powerful and multifaceted approach to cancer treatment, combining direct tumor targeting with immune system activation, and positioning these therapies as a formidable tool in the ongoing fight against cancer.

Scope of the Oncolytic Viruses Market Report

Study Period: 2020–2034

Oncolytic Viruses Report Coverage: 7MM [The United States, EU5 (Germany, France, Italy, Spain, and the United Kingdom), and Japan]

Oncolytic Viruses Therapeutic Assessment: Oncolytic Viruses current marketed and emerging therapies

Oncolytic Viruses Market Dynamics: Conjoint Analysis of Emerging Oncolytic Viruses Drugs

Competitive Intelligence Analysis: SWOT analysis and Market entry strategies

Oncolytic Viruses Unmet Needs, KOL's views, Analyst's views, Oncolytic Viruses Market Access and Reimbursement

Discover more about Oncolytic Viruses drugs in development @ [Oncolytic Viruses Clinical Trials](#)

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Kritika Rehani

DelveInsight Business Research LLP

+1 469-945-7679

[email us here](#)

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