Viral Vector Manufacturing - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-08-01 | 148 pages | Mordor Intelligence

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Report description:

Viral Vector Manufacturing Market Analysis

The viral vector manufacturing market size stood at USD 2.95 billion in 2025 and is forecast to reach USD 7.66 billion by 2030, implying a 21.01% CAGR. This trajectory mirrors the transformation of gene therapy from an experimental niche into a regulated treatment class as the tally of FDA-cleared products climbed to 14 in 2024. Breakthrough authorizations such as Casgevy for sickle cell disease and new indications for Elevidys in Duchenne muscular dystrophy validated commercial demand and accelerated funding for production infrastructure. More than USD 8 billion in green- and brown-field projects were announced by major CDMOs during 2024-2025, led by Fujifilm Diosynth and Lonza, yet many suites still run below 50% utilization because they were designed for early-phase work rather than sustained commercial output. Consolidation is intensifying as acquirers chase end-to-end capabilities, advanced analytics and regulatory know-how that shorten time to market.

Global Viral Vector Manufacturing Market Trends and Insights

Growing Gene Therapy Pipeline and Clinical Successes

More than 2,000 gene therapies were under development by 2024, underscoring the breadth of indications progressing toward commercialization. Approval of Kebilidi for aromatic L-amino acid decarboxylase deficiency marked the first therapeutic option for this rare neurologic disorder and established a regulatory precedent for intraparenchymal AAV delivery. The BENEGENE-2 trial reported a 71% fall in bleeding episodes for hemophilia B, confirming durable factor IX expression. Such clinical milestones

strengthen payer confidence and stimulate larger patient cohort studies, which in turn expand batch-volume requirements inside the viral vector manufacturing market. As process know-how improves, average AAV dose costs have dropped into the tens of thousands of dollars, enabling exploration of common diseases without sacrificing economic viability.

Increasing CDMO Outsourcing and Capacity Expansions

CDMOs and hybrid manufacturers are expected to own 54% of global biologics capacity by 2028-up from 43% in 2024-reflecting a decisive move toward asset-light models among therapy developers. Charles River's partnership with the Gates Institute for lentiviral services and Takara Bio's deployment of 5,000 L single-use reactors illustrate the specialized scale sponsors now rent instead of build. UniQure sold its Lexington plant and outsourced Hemgenix manufacturing to Genezen, demonstrating the economic calculus that favors external production for high-complexity vectors. Resilience invested USD 225 million to boost output beyond 200 million units by 2025, showing how fast demand is rising in the viral vector manufacturing market.

High Cost of Goods and Therapy Pricing Concerns

AAV production still spans around three weeks and costs roughly USD 50,000 per construct, with empty capsids inflating volumes and complicating titer calculations. Commercial prices remain high-Casgevy lists at USD 2.2 million and Hemgenix at USD 3.5 million per patient-raising payer concerns about affordability. Ethical debates over equitable access limit market penetration in low-income regions. Platform manufacturing, higher cell densities and in-line analytics are reducing waste, yet major savings will appear only as late-stage portfolios mature and volumes rise inside the viral vector manufacturing market.

Other drivers and restraints analyzed in the detailed report include:

Strong Venture Capital and Government Funding in Cell & Gene Therapies / Emerging AI-Guided Capsid Engineering Strategies / Regulatory Complexity and Batch-Release Delays /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

AAV vectors delivered 72.45% of 2024 revenue as favorable safety, tissue tropism and six FDA-approved therapies anchored demand. The viral vector manufacturing market size for AAV products is expected to increase sharply as hemophilia and muscular dystrophy treatments scale commercial volumes. More than 225 active trials rely on AAV backbones, cementing multiyear capacity needs. CDMOs are commissioning AAV-dedicated suites that leverage suspension bioreactors to lift productivity.

Adenoviral vectors hold the fastest growth outlook at 23.56% CAGR through 2030. Novel serotype engineering mitigates pre-existing immunity, opening repeat-dose vaccine and oncolytic applications. Lentiviral vectors remain essential for autologous CAR-T workflows; improved pH control and competitive inhibition now curb 62.1% functional-particle loss once common in manufacturing. Retroviral and oncolytic platforms serve niche oncology uses, often in combination with checkpoint inhibitors, and benefit from proprietary cell-line partnerships that enhance yield.

Genetic disorders accounted for 48.45% of 2024 revenue among all indications as curative outcomes justified premium pricing structures. Long-term data in hemophilia A, hemophilia B and sickle cell disease incentivized payers to adopt outcome-based payment schemes. The viral vector manufacturing market size for these rare conditions remains sizable due to pent-up demand, newborn screening programs and expanded label use.

Neurological disorders are slated to record a 24.67% CAGR through 2030. Intrathecal and intraparenchymal delivery methods

overcame earlier barriers posed by the blood-brain barrier. Positive safety and efficacy readouts in spinal muscular atrophy and inherited retinal diseases are driving new Parkinson's and ALS candidates. Oncology retains a stable share via CAR-T therapies that depend on lentiviral backbones, while infectious disease projects pivot toward adenoviral vectors during outbreak scenarios.

The Viral Vector Manufacturing Market Report is Segmented by Vector Type (Adeno-Associated Viral (AAV) Vectors, and More), Disease (Cancer, Genetic Disorders, and More), Application (In-Vivo Gene Therapy, and More), Mode of Manufacturing (In-House Manufacturing and CDMOs), Geography (North America, Europe, Asia-Pacific, The Middle East and Africa, and South America). The Market Forecasts are Provided in Terms of Value (USD).

Geography Analysis

North America held 47.34% of 2024 revenue, driven by the FDA's clear regulatory road map and dense biotechnology clusters in Boston, Research Triangle Park and the San Francisco Bay Area. Resilience's USD 225 million capacity build in Ohio and GenScript ProBio's 128,000 ft? New Jersey site underline investor faith in domestic infrastructure. The region also benefits from the deepest labor pool of vector-skilled specialists.

Europe ranked second and received a boost from Germany's EUR 90 million Penzberg center and Novartis' fully robotized USD 43 million facility in Slovenia. Harmonized EMA guidelines streamline filings, although Brexit still imposes dual-site quality reviews for products crossing the Channel. Environmental regulations in the EU encourage single-use systems that lower water usage and carbon footprints, influencing procurement policies across the viral vector manufacturing market.

Asia-Pacific is projected to register a 22.56% CAGR through 2030. China reserved USD 4.17 billion for biomanufacturing lines beginning in 2025, while Japan, India and South Korea upgrade regulatory frameworks to attract multinational trials. WuXi Biologics reported 2024 revenue growth that funds additional vector lines in Wuxi and Suzhou. Large treatment-naive patient pools and competitive operating costs make the region a preferred launchpad for late-phase outsourcing.

List of Companies Covered in this Report:

Lonza Group / Thermo Fisher Scientific / Charles River / FUJIFILM / Catalent / Kaneka / Merck KGaA (MilliporeSigma) / Oxford Biomedica / UniQure / Spark Therapeutics (Roche) / Cytiva / Yposkesi (Servier) / Viralgen Vector Core / Aldevron / Vibalogics / Waisman Biomanufacturing / Novasep / Genezen / bluebird Bio /

Additional Benefits:

The market estimate (ME) sheet in Excel format /
3 months of analyst support /

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