Viral Vector CDMO Comparison: AAV Capacity & Lead Times

Published August 6, 2026 40 min read

Viral Vector CDMO Comparison: AAV Capacity & Lead Times

Executive Summary

The viral vector contract development and manufacturing organization (CDMO) market has consolidated sharply while capacity has simultaneously outrun clinical-trial demand, leaving sponsors of adeno-associated virus (AAV) and lentiviral gene therapy programs with more manufacturing options on paper but fewer financially stable, track-record-proven partners in practice. Estimates of the market's size vary by a factor of ten depending on scope: Mordor Intelligence pegs the narrowly defined viral vector CDMO market at $1.02 billion in 2025, growing to $2.44 billion by 2030 (Source: mordorintelligence.com, while Precedence Research's broader cell and gene therapy CDMO category reaches $8.07 billion in 2025 en route to $74.03 billion by 2034 (Source: precedenceresearch.com). This report compares the manufacturing capacity, bioreactor scale, regulatory track record, and publicly disclosed timing information of the CDMOs sponsors most frequently shortlist for AAV and lentiviral programs. It does not provide current, provider-specific manufacturing-slot availability, so the numbers below should be read as a due-diligence starting point, not a substitute for a technology-fit assessment.

Among the larger providers profiled, **Catalent** (acquired by Novo Holdings for $16.5 billion enterprise value in December 2024) reports 16 CGMP viral vector suites across more than 500,000 square feet at its Harmans, Maryland campus and eight regulatory approvals across four commercial gene therapy products (Source: catalent.com) (Source: novoholdings.dk). **Thermo Fisher Scientific**'s Patheon viral vector network has produced 375-plus AAV batches including 65-plus at commercial or process-performance-qualification scale (Source: patheon.com). **Lonza**'s Houston, Texas site, the world's largest dedicated cell and gene therapy manufacturing facility when it opened in 2018, can support more than 200 clinical and commercial viral vector batches annually once fully expanded (Source: fiercepharma.com) (Source: lonza.com). Below that tier, specialist AAV CDMOs including **Forge Biologics** (now part of Ajinomoto Bio-Pharma Services after a $545 million acquisition), **Andelyn Biosciences**, and **SK pharmteco**'s Yposkesi unit in France compete primarily on flexibility, speed, and dedicated AAV platform technology rather than raw scale.

The industry's defining tension as of August 2026 is oversupply, not shortage. A 2024 analysis found that growth in cell and gene therapy manufacturing capacity outpaced growth in active clinical trials by more than two to one between 2019 and 2024 (Source: cellandgene.com), and the number of GMP viral vector manufacturers worldwide grew from roughly 30 at the end of 2018 to more than 60 by 2022 (Source: bioprocessintl.com). That overbuild is now correcting through consolidation: National Resilience closed six of its ten manufacturing sites in mid-2025 (Source: fiercepharma.com), WuXi AppTec sold its US and UK Advanced Therapies unit to Altaris LLC amid US restrictions on Chinese biomanufacturers (Source: reuters.com), and trade press describes the sector shifting from "a handful" of CDMO players to "hundreds" in five to six years before the current shakeout (Source: bioprocessintl.com).

Selection criteria matter as much as raw capacity. Sponsor surveys rank reliable on-time delivery (34%), regulatory track record (31%), and available capacity (30%) as the top attributes driving CDMO choice, and the average time from first contact to a signed Master Service Agreement runs about eight months (Source: isrreports.com). No CDMO is universally "best," a finding this report treats as a conclusion rather than a hedge: fit depends on platform (HEK293 transient transfection versus Sf9/baculovirus), target scale, regulatory geography, and financial durability, a point echoed by advisory work such as that of IntuitionLabs, a life-sciences and AI consultancy that helps pharmaceutical organizations build data-driven vendor and technology assessments (Source: intuitionlabs.ai).

Introduction and Background

Viral vectors, principally AAV and lentivirus, are the delivery vehicles behind the gene therapy field's biggest commercial and clinical bets, and manufacturing them at GMP (Good Manufacturing Practice) grade and commercial scale remains one of the industry's hardest operational problems. Because few biopharma sponsors, especially venture-backed clinical-stage developers, can justify building their own viral vector plants, most programs depend on a CDMO: a contract development and manufacturing organization that provides process development, GMP production, and regulatory support for a fee. As of August 2026, the US Food and Drug Administration's (FDA) Center for Biologics Evaluation and Research lists 50 distinct licensed cellular and gene therapy products on its official approved-products page (Source: fda.gov, while the European Medicines Agency's Committee for Advanced Therapies (CAT) reports 31 advanced therapy medicinal products (ATMPs) authorized in the European Union as of its March 2026 quarterly update, out of 50 marketing authorization applications submitted since 2009 (Source: ema.europa.eu).

This report compares the CDMOs most commonly shortlisted for AAV and lentiviral vector manufacturing on four axes: physical capacity (site square footage and bioreactor scale up to and including 2,000-liter single-use systems, regulatory track record (approvals supported, inspection history), commercial stability (recent M&A, layoffs, or facility closures), and reported lead times. It draws on official CDMO capability pages, FDA and EMA regulatory documents, SEC and investor-relations filings, named market-research reports, and peer-reviewed literature, and it flags explicitly where sources disagree, which happens often in a market where "viral vector CDMO," "cell and gene therapy CDMO," and "cell and gene therapy manufacturing" are used inconsistently to describe overlapping but distinct addressable markets.

The competitive landscape splits roughly into three tiers. The first tier consists of large, multi-modality CDMOs whose viral vector businesses were built substantially through acquisition: **Catalent**, **Thermo Fisher Scientific** (via its Patheon and Brammer Bio businesses), **Lonza**, and **Charles River Laboratories** (via its Cognate BioServices and Vigene Biosciences deals). A second tier includes large single-use-focused or geographically diversified players such as **FUJIFILM Diosynth Biotechnologies** and **WuXi Advanced Therapies**, the latter recently divested from its Chinese parent amid geopolitical pressure. A third tier of AAV-focused specialists, including **Forge Biologics**, **Andelyn Biosciences**, **SK pharmteco**'s Yposkesi unit, **Oxford Biomedica** (OXB), and plasmid-DNA specialist **Aldevron**, competes on speed, dedicated platform technology, and willingness to take on smaller or earlier-stage programs that larger CDMOs may deprioritize.

Choosing among them is a strategic decision with consequences that can play out over years: Novartis's AveXis unit self-reported manufacturing data manipulation in its Zolgensma approval package in 2019 (Source: fda.gov), BioMarin's Roctavian took nearly three years longer than planned to reach approval after a 2020 Complete Response Letter demanded additional durability data (Source: biomarin.com, and Sarepta's Elevidys was hit with an FDA clinical hold and a Boxed Warning in 2025 after patient deaths tied to the therapy's

underlying biology rather than manufacturing quality (Source: fda.gov). This report's data section and case studies examine what these episodes reveal about manufacturing partner selection, and its concluding sections translate the comparison into practical selection guidance, an area where advisory firms such as IntuitionLabs, a life-sciences and AI consultancy, increasingly support pharmaceutical and biotech clients navigating vendor and technology decisions with structured, data-driven assessments (Source: intuitionlabs.ai).

Catalent: Scale and Regulatory Track Record After the Novo Holdings Acquisition

Catalent reports 16 CGMP viral vector suites at its Harmans (BWI), Maryland gene therapy campus and eight regulatory approvals across four commercial gene therapy products. Its campus, built substantially on the 2019 acquisition of Paragon Bioservices, is the anchor of the scale described in the Executive Summary above. The company describes itself as the first CDMO to achieve regulatory approval for an AAV gene therapy product and cites **eight approvals** from the FDA, EMA, Brazil's ANVISA, and Japan's PMDA across four commercial gene therapy products (Source: catalent.com).

Capabilities

Catalent's upstream AAV process spans transient mammalian production in HEK293 cells and baculovirus-expression-vector-system (BEVS) production in Sf9 insect cells, scaling from 50 liters to **2,000 liters** (Source: catalent.com). In October 2021, Catalent announced a **$230 million expansion** adding three commercial-scale viral vector suites at Harmans (Source: catalent.com), building on a 2020 investment that together brought total campus investment to $360 million.

Adoption

Catalent's most consequential recent commercial relationship is with **Sarepta Therapeutics**: the two companies signed a commercial supply agreement in January 2023 naming Catalent as Sarepta's primary commercial manufacturing partner for delandistrogene moxeparvovec (Elevidys), its Duchenne muscular dystrophy gene therapy (Source: catalent.com). FDA's approved Elevidys biologics license application specifies drug substance manufacture at Harmans and drug product manufacture at Catalent's Baltimore, Maryland site (Source: bioprocessintl.com). Catalent itself changed hands in a major transaction: **Novo Holdings** completed its acquisition of Catalent on December 18, 2024 in an all-cash deal valued at approximately **$16.5 billion** on an enterprise-value basis, simultaneously selling three fill-finish sites (Anagni, Italy; Bloomington, Indiana; Brussels, Belgium) to Novo Nordisk (Source: novoholdings.dk).

Strengths and Limitations

Catalent's disclosed strengths include scale, eight regulatory approvals across four commercial gene therapy products, and demonstrated ability to bring a program from process development through commercial launch on one site. Its principal limitation is quality-system consistency at scale: Fierce Pharma reported in December 2025 that FDA inspectors flagged Catalent's Baltimore, Maryland gene therapy site, which manufactures Elevidys, for operators failing to sanitize gloves with sufficient frequency and for building deficiencies including areas described as "not maintained in a good state of repair" (Source: fiercepharma.com). Sponsors evaluating Catalent should also weigh integration risk following the Novo Holdings acquisition, since ownership transitions of this scale historically create at least short-term uncertainty about site-level investment priorities.

Thermo Fisher Scientific (Patheon Viral Vector Services): The Full-Network Generalist

Thermo Fisher Scientific, operating its viral vector business under the Patheon brand, built its gene therapy manufacturing footprint primarily through the 2019 acquisition of **Brammer Bio** (Source: prnewswire.com) and has since expanded through a series of site openings.

Capabilities

Thermo Fisher's network states **1,100-plus viral vector lots manufactured** across its history, three commercially approved products, and 28 viral vector drug substance suites plus 4 drug product suites (Source: patheon.com). Its AAV-specific track record includes **375-plus total batches**, of which 225-plus were clinical batches and 65-plus were commercial or process-performance-qualification batches (Source: patheon.com). The Plainville, Massachusetts site spans 290,000 square feet with 11 drug substance suites, supports suspension processes up to 2,000-liter stirred-tank bioreactors, and is expandable to 400,000 square feet (Source: patheon.com). A November 2025 industry listing describes Thermo Fisher's total viral vector CDMO network as containing more than 400,000 square feet of manufacturing space with more than 40 suites and room to expand further (Source: cphi-online.com).

Adoption

Thermo Fisher opened a **$90 million, 50,000-square-foot** viral vector CDMO site in Lexington, Massachusetts in December 2019, adding more than 200 jobs shortly after the Brammer Bio acquisition closed (Source: prnewswire.com. It followed that in August 2022 with a new **300,000-square-foot** viral vector manufacturing facility in Plainville, Massachusetts, adding approximately 300 jobs (Source: businesswire.com). An industry analysis names Thermo Fisher's Patheon business alongside Catalent, GenScript, Lonza, and Resilience as one of five manufacturers that together accounted for about a third of all global viral vector production potential in early 2024 (Source: bioprocessintl.com).

Strengths and Limitations

Thermo Fisher's advantage is network breadth: its parent's balance sheet, distribution reach, and analytical-services businesses give sponsors a single-vendor path from plasmid to fill-finish. Its limitation, visible across the industry in 2024 and 2025, is that broad life-sciences conglomerates have faced pressure to right-size cell and gene therapy (CGT) capacity as demand growth slowed; a BioProcess Insider interview attributes part of the 2024 to 2025 industry restructuring, including Thermo Fisher downsizing CGT services alongside

Evotec and Rentschler Biopharma exiting parts of the space, to the broader capacity oversupply described earlier in this report (Source: bioprocessintl.com). Sponsors should confirm current viral-vector-specific investment priorities directly, since public disclosures of dollar figures for 2023 to 2026 capacity work are sparser than for the 2019 to 2022 buildout period.

Lonza: Houston-Anchored Capacity and Multi-Modality Reach

Lonza's cell and gene therapy business centers on its Houston, Texas campus, which the company describes as its US center of excellence for viral vector, cell therapy, and gene therapy process development.

Capabilities

The 300,000-square-foot Houston site was, at its April 2018 opening, billed as **"the largest dedicated cell-and-gene-therapy manufacturing facility in the world"** (Source: fiercepharma.com). It received FDA approval for commercial gene therapy production in 2021 (Source: lonza.com), and Lonza states that, fully expanded, the footprint can support **more than 200 clinical and commercial viral vector cGMP batches annually** across adenoviral, AAV, and lentiviral vector types (Source: lonza.com). In October 2022, Lonza announced it would almost double its Cell and Gene Therapy Development laboratory space at Houston, adding an extra 15,000 square feet (Source: lonza.com). Texas state building-permit filings show continued facility investment into 2026 to 2027, including a roughly $2.84 million GMP autoclave project that began in January 2025 and a roughly $1.89 million viral vector filler-replacement project registered in November 2025 for work running from January 2026 to May 2027 (Source: tdlr.texas.gov).

Adoption

Lonza's Houston site is the commercial manufacturing home for gene therapies developed by **bluebird bio**. In October 2022, Lonza announced that ZYNTEGLO and SKYSONA, both bluebird bio gene therapies, had received FDA approval, bringing the number of commercial cell and gene therapy products supported at Houston to three (Source: lonza.com. Lonza also manufactures Bristol Myers Squibb's cell therapy programs at Houston, though not every product there uses a viral vector process.

Strengths and Limitations

Lonza's strength is its combination of scale and a genuinely diversified vector and modality portfolio at a single US campus with a proven FDA commercial-approval history. Its limitation is a documented instance of quality friction under regulatory scrutiny: Fierce Pharma reported that an FDA inspection of Lonza's Houston facility, which manufactures Bristol Myers Squibb's liso-cel (Breyanzi), produced a four-observation Form 483 citing inadequate storage differentiation and insufficient prevention of microbial contamination, contributing to a delay past Bristol Myers' targeted 2020 approval date (Source: fiercepharma.com). That episode, which predates the 2021 gene therapy approval milestone described above, illustrates a pattern seen across nearly every CDMO in this report: even large, well-capitalized providers accumulate inspection findings, and sponsors should request a facility's current inspection history rather than relying on brand reputation alone.

Charles River Laboratories: Consolidation Through Acquisition

Charles River Laboratories entered viral vector and cell and gene therapy manufacturing almost entirely through acquisition, most significantly its 2021 purchases of Cognate BioServices and Vigene Biosciences.

Capabilities

Charles River agreed to acquire **Cognate BioServices** for approximately **$875 million in cash** in February 2021, forming the core of what became its cell and gene therapy CDMO platform (Source: ir.criver.com). It completed the acquisition of **Vigene Biosciences** in June 2021 for $292.5 million in cash plus up to $57.5 million in contingent payments (Source: ir.criver.com). The former Vigene site in Rockville, Maryland now operates as a dedicated viral vector CDMO facility with more than 50,000 square feet and eight production suites, including four dedicated GMP viral vector suites (Source: criver.com). Charles River states it has supported the development of **20 FDA-approved cell and gene therapies** and conducted more than 1,000 related studies in the past year across its broader CDMO business (Source: criver.com). In May 2024, the company launched Modular and Fast Track viral vector technology-transfer frameworks, promising process transfer to its Maryland-based viral vector Center of Excellence in **as little as nine months** (Source: ir.criver.com, one of the few publicly quantified lead-time commitments among the CDMOs surveyed for this report.

Adoption

Charles River's cell therapy manufacturing site in Memphis, Tennessee, though focused primarily on modified cell therapies rather than viral vector drug substance, illustrates the company's broader manufacturing scale: the site comprises 16 aseptic manufacturing suites in its Riverside building and nine additional suites in its Bluff City building (Source: cirm.ca.gov), capacity Charles River positions as complementary to the dedicated Rockville viral vector suites described above.

Strengths and Limitations

Charles River's advantage is speed and a "one-stop" positioning that bundles preclinical safety testing, a long-standing core business, with GMP manufacturing. Its limitation is a track record of scaling back ambitious capital plans: a Memphis-area development originally planned under a 2020 incentive package calling for a $212.9 million investment and 561 jobs was formally amended in August 2025 down to a $70 million investment and 25 new jobs (Source: commercialappeal.com), a scale-back roughly consistent with the industry-wide capacity retrenchment discussed later in this report's Data Analysis section.

FUJIFILM Diosynth Biotechnologies and WuXi Advanced Therapies

FUJIFILM Diosynth Biotechnologies: Single-Use Scale in Texas

FUJIFILM Diosynth Biotechnologies operates what it describes as **"the largest Single-Use Biomanufacturing Campus in North America,"** located in College Station, Texas (Source: fujifilmbiotechnologies.fujifilm.com). FUJIFILM invested approximately **$300 million** to build a new cGMP production building there, adding about 138,000 square feet and growing the campus to 300,000 square feet, with multiple 500-liter and 2,000-liter single-use bioreactors, as part of an $850 million global capital package targeted to be operational by 2024 (Source: fujifilmbiotechnologies.fujifilm.com). Its viral and gene therapy platform spans AAV, adenovirus, lentivirus, herpes simplex virus (HSV), and retrovirus for gene therapies, plus AAV, adenovirus, and HSV oncolytic virus programs (Source: fujifilmbiotechnologies.fujifilm.com, and the company states it has completed **more than 50 viral vector and recombinant vaccine programs** to date (Source: fujifilmbiotechnologies.fujifilm.com). A separate 90,000-square-foot Thousand Oaks, California facility produces clinical and commercial cell therapies rather than viral vector drug substance (Source: fujifilmbiotechnologies.fujifilm.com), a distinction sponsors should note when evaluating FUJIFILM's viral-vector-specific footprint versus its broader cell and gene therapy business. FUJIFILM's strength is bioreactor scale and single-use manufacturing depth; its limitation for AAV-focused sponsors specifically is that much of its historical volume and named case history skews toward vaccine and broader viral vector work rather than AAV alone.

WuXi Advanced Therapies: Capacity, Divestiture, and Geopolitics

WuXi Advanced Therapies (formerly branded WuXi ATU) built one of the industry's larger installed footprints before a 2024 corporate restructuring reshaped its ownership. The company launched a fully integrated AAV vector suspension platform in January 2020 scalable up to **1,000 liters** (Source: prnewswire.com), and its viral vector platforms include TESSA technology for AAV manufacturing and XLenti for lentiviral manufacturing (Source: prnewswire.com). In October 2021, WuXi ATU opened its fourth global manufacturing site, in Lin-gang, Shanghai, containing more than 200 independent suites and six complete production lines for viral vectors and cell therapies (Source: prnewswire.com). Its Philadelphia, Pennsylvania campus is described as spanning more than 400,000 square feet, covering discovery through commercial manufacturing (Source: drugdiscoveryonline.com), and in February 2024 the FDA approved that site to perform analytical testing and manufacturing for Iovance's AMTAGVI (lifileucel), making WuXi's Philadelphia facility the first third-party CTDMO (cell therapy development and manufacturing organization) approved to support commercial manufacturing of an individualized T-cell therapy for a solid tumor (Source: wuxiapptec.com). On December 24, 2024, however, WuXi AppTec signed a definitive agreement to sell the US and UK operations of WuXi Advanced Therapies to healthcare investment firm Altaris LLC, expected to close in the first half of 2025 (Source: wuxiapptec.com. Reuters reported the divestiture occurred amid intensifying US restrictions and political scrutiny of Chinese biotech suppliers (Source: reuters.com), a geopolitical overhang sponsors evaluating the divested entity's US operations should factor into long-term partnership risk regardless of the underlying technical capability, which by facility metrics ranks among the largest in this comparison.

Specialist and Mid-Size AAV CDMOs

A tier of smaller, AAV-focused CDMOs competes less on raw square footage than on dedicated platform technology, willingness to serve earlier-stage or smaller programs, and speed.

Forge Biologics, based in Columbus and Grove City, Ohio, operates "The Hearth," a **200,000-plus-square-foot** cGMP facility with 20 cGMP suites and bioreactors ranging from 50 liters to **5,000 liters**, the largest single-batch scale disclosed by any CDMO in this report (Source: forgebiologics.com). Ajinomoto Co. acquired Forge in a deal announced at $620 million and completed at a final value of **$545 million** (JPY 78.2 billion) on December 21, 2023 (Source: ajinomoto.com, and Forge now operates as a member of Ajinomoto Bio-Pharma Services. In October 2024, Forge launched its FUEL manufacturing platform, claiming a **2 to 6 times** productivity increase over industry-standard processes, built around a proprietary 8.9-kilobase adenovirus helper plasmid (Source: forgebiologics.com). Forge states more than 60 developers have used it as their AAV CDMO (Source: forgebiologics.com), and it signed named manufacturing partnerships through 2025 and 2026 with Avista Therapeutics, Fractyl Health, Ascidian Therapeutics, Epicrispr Biotechnologies, and Skylark Bio (Source: forgebiologics.com).

Andelyn Biosciences, a Columbus, Ohio spinout of Nationwide Children's Hospital, operates the Andelyn Corporate Center, a **180,000-square-foot** facility with **16 cGMP modular manufacturing suites** using single-use suspension stirred-tank bioreactors at 50-liter, 200-liter, 500-liter, and 2,000-liter scale (Source: andelynbio.com) (Source: andelynbio.com). It states it has supported more than 85 approved INDs (Investigational New Drug applications) and produced more than 500 cGMP clinical batches (Source: andelynbio.com). Andelyn broke ground on its commercial-scale facility in November 2020 with an investment of more than $100 million and 200-plus new jobs, aided by a $5 million JobsOhio grant (Source: andelynbio.com), and it announced international expansion in April 2026 through a strategic manufacturing collaboration with Korea-based CDMO ENCell, described as creating a "seamless US-APAC manufacturing corridor" (Source: andelynbio.com).

SK pharmteco's Yposkesi unit, based in Corbeil-Essonnes, France, completed cGMP qualification of its commercial-scale viral vector facility in March 2026, comprising 5,000 square meters with **12 single-use bioreactors** from 50 liters to 1,000 liters (5,000 liters of total installed upstream capacity) and capacity for up to 40 cGMP batches per year, using its proprietary AAVelocity platform (Source: skpharmteco.com). The site was inspected and approved by France's ANSM health authority (Source: skpharmteco.com. A June 2023 second Genopole-campus site doubled Yposkesi's total manufacturing footprint to 10,000 square meters, described as one of the largest in Europe (Source: sk-inc.com), part of a **€60 million ($65 million)** expansion that more than tripled bioreactor capacity from 2,000 liters to 7,000 liters (Source: bioprocessintl.com). Yposkesi has manufactured Genethon's investigational AAV8-micro-dystrophin Duchenne muscular dystrophy gene therapy, GNT-0004, since being selected for the program in January 2020, a partnership SK pharmteco confirmed was continuing as of July 2026 (Source: globenewswire.com).

Additional Notable Players: Oxford Biomedica, Aldevron, and Resilience

Oxford Biomedica (OXB), a UK-headquartered lentiviral vector specialist, operates five UK facilities spanning 17,030 square meters (183,300 square feet) with six vector-substance suites and two vector-product suites, plus two US sites (Bedford, Massachusetts and Durham, North Carolina) totaling roughly 20,160 square meters and two French sites in Lyon and Strasbourg (Source: oxb.com (Source: oxb.com. OXB reports having manufactured more than **340 GMP lentiviral vector batches** and supported 25 regulatory submissions across three decades of lentiviral vector experience, including 30-plus successful IND submissions and 2 BLA/MAA submissions (Source: oxb.com) (Source: oxb.com). In February 2026, OXB signed a new five-year Commercial Supply Agreement to manufacture lentiviral vectors for Bristol Myers Squibb's CAR-T programs at its Oxford, UK and Durham, NC sites (Source: oxb.com, and in October 2025 it expanded into AAV-adjacent US capacity by purchasing National Resilience's commercial-scale Research Triangle Park facility in Durham, North Carolina for roughly £3.4 million (about $4.5 million) (Source: fiercepharma.com. OXB's core strength is lentiviral, not AAV, expertise; sponsors evaluating CAR-T and other lentiviral-delivered programs should assess its disclosed lentiviral experience alongside current capacity, technology fit, and commercial terms.

Aldevron, a Danaher subsidiary since 2021, operates the Breakthrough Campus in Fargo, North Dakota, a 265,000-square-foot facility the company describes as one of the world's largest cGMP plasmid DNA manufacturing sites, with 32 cGMP production suites and 13 GMP-Source suites (Source: aldevron.com). An FDA Level 1 surveillance inspection in November 2024 resulted in No Actions Indicated, following a 2021 CBER Pre-License Inspection that produced no Form FDA 483 (Source: aldevron.com. Aldevron's role in viral vector supply chains is primarily as a plasmid supplier, most notably the DNA templates used in AAV rep/cap and helper plasmid systems, rather than as a full drug-substance manufacturer, and it states it has produced more than 5,000 lots of GMP-grade DNA supporting more than 1,000 advanced-therapeutics companies (Source: aldevron.com). Sponsors should treat Aldevron as a critical upstream raw-material partner for nearly every CDMO named in this report rather than as a direct alternative to them.

National Resilience illustrates the risk of the industry's capacity correction most starkly. It acquired a Durham, North Carolina lentiviral vector facility from bluebird bio for $110 million in 2021 (Source: pharmamanufacturing.com), but filed a WARN notice in January 2025 for 120 permanent layoffs at that site (Source: pharmamanufacturing.com), and in June 2025 announced it would close six of its ten manufacturing sites, including facilities in Alachua, Florida, and Fremont, San Diego, Allston, Bedford, and Marlborough, Massachusetts, while continuing operations in Cincinnati, Toronto, Philadelphia, and its Raleigh-Durham viral vector site (Source: fiercepharma.com). The Raleigh-Durham commercial-scale asset was itself sold to Oxford Biomedica later in 2025, as noted above. Resilience secured up to **$825 million** in long-term debt financing from Oak Hill Advisors in October 2025 to stabilize its remaining Cincinnati- and Toronto-anchored CDMO strategy (Source: resilience.com, and had previously received a $410 million loan from the US Department of Defense and the US International Development Finance Corporation in March 2023 to expand domestic biomanufacturing capacity (Source: dfc.gov). For sponsors, Resilience's viral vector capability at Raleigh-Durham may now be more accurately understood as part of Oxford Biomedica's footprint than as an independent option.

Feature Comparison

Table 1 below summarizes the capacity, platform, and recent capacity signals of the twelve viral vector and gene therapy CDMOs profiled in this report, drawn from each provider's own capability pages and the capacity-related press releases cited above.

CDMO	KEY SITE(S)	MAX DISCLOSED BIOREACTOR SCALE	GMP SUITES (APPROX.)	VIRAL VECTOR PLATFORMS	RECENT CAPACITY SIGNAL
Catalent	Harmans, MD; Baltimore, MD	2,000 L (suspension)	16 to 18 at Harmans	AAV (HEK293, Sf9/BEVS)	$230M expansion (2021); Novo Holdings acquisition, $16.5B EV (2024)
Thermo Fisher (Patheon)	Plainville, MA; Lexington, MA	2,000 L (stirred-tank)	28 DS + 4 DP suites (network)	AAV	Plainville 300,000 sq ft opening (2022)
Lonza	Houston, TX	Not fully disclosed; supports 200+ batches/year	Multiple (undisclosed suite count)	AAV, lentivirus, adenovirus	15,000 sq ft lab expansion (2022); ongoing 2025 to 2027 facility permits
Charles River	Rockville, MD; Memphis, TN	Not fully disclosed	8 (Rockville, viral vector); 25 (Memphis, cell therapy)	AAV, plasmid DNA	Fast Track tech transfer, 9 months (2024)
FUJIFILM Diosynth	College Station, TX	2,000 L (single-use)	Not fully disclosed	AAV, adenovirus, lentivirus, HSV, retrovirus	$300M facility, part of $850M global package (2021 to 2024)
WuXi Advanced Therapies	Lin-gang, Shanghai; Philadelphia, PA	1,000 L (suspension AAV)	200+ (Lin-gang, all modalities)	AAV (TESSA), lentivirus (XLenti)	US/UK unit sold to Altaris LLC (2024 to 2025)
Forge Biologics	Columbus/Grove City, OH	5,000 L	20	AAV (FUEL platform)	Ajinomoto acquisition, $545M (2023)
Andelyn Biosciences	Columbus, OH	2,000 L	16	AAV (Curator platform)	ENCell APAC partnership (2026)
SK pharmteco (Yposkesi)	Corbeil-Essonnes, France	1,000 L (7,000 L total installed)	Not fully disclosed	AAV (AAVelocity)	$65M expansion, cGMP qualification (2023 to 2026)
Oxford Biomedica (OXB)	Oxford, UK; Durham, NC	Not fully disclosed	6 VS + 2 VP suites (UK)	Lentivirus	BMS 5-year CSA (2026); Resilience NC plant purchase (2025)
Aldevron	Fargo, ND	Plasmid-scale (not viral vector drug substance)	32 cGMP + 13 GMP-Source	Plasmid DNA (AAV/lentiviral inputs)	FDA NAI inspection (2024)
National Resilience	Cincinnati, OH; Toronto, ON	Not fully disclosed	Reduced from 10 to 4 core sites	Lentivirus (historically)	$825M OHA financing (2025); 6 sites closed (2025)

The table underscores two patterns. First, disclosed bioreactor scale clusters around 2,000 liters for the large multi-modality providers (Catalent, Thermo Fisher, FUJIFILM), with **Forge Biologics**' 5,000-liter ceiling standing out as the largest single figure any CDMO in this comparison publishes, though sponsors should confirm whether that scale is commercially validated for their specific serotype and process rather than assuming parity with a 2,000-liter, already-commercial-scale line. Second, capacity signals in 2024 and 2025 skew toward consolidation and financing events (Novo Holdings, Ajinomoto, Altaris, Oak Hill Advisors) rather than new greenfield construction, reinforcing this report's broader finding that the market is digesting prior overbuild rather than adding net new capacity.

Performance and Benchmarks

Table 2 compares publicly disclosed AAV titer benchmarks, lead-time figures, and platform tradeoffs relevant to CDMO selection.

METRIC	TYPICAL / DISCLOSED VALUE	SOURCE AND CONTEXT
Standard HEK293 transient-transfection bioreactor titer	5E13 to 2.4E14 vector genomes per liter (vg/L)	Industry process-development benchmark (Source: bioprocessonline.com
Oxford Biomedica Solutions high-titer transient platform	Greater than 1E15 vg/L, scaled to 2,000 L	Vendor-reported process demonstration (Source: bioprocessonline.com)
Sf9/baculovirus versus HEK293 transient yield	Approximately 10-fold higher yield per batch for Sf9/baculovirus	Latham BioPharm Group capacity modeling (Source: bioprocessintl.com)
Time from first CDMO contact to signed MSA	Average of 8 months (n=74 sponsor survey)	ISR Reports sponsor benchmarking survey (Source: isrreports.com)
Reported CDMO manufacturing slot lead time	Often 18 months and beyond	Cited by biopharma executives explaining in-house build decisions (Source: bioprocessonline.com)
Charles River Fast Track tech-transfer time	As little as 9 months	Charles River viral vector Center of Excellence program, as cited in the Charles River profile above

The titer figures illustrate why platform choice, not just CDMO brand, drives program economics: process modeling cited by Latham BioPharm Group finds baculovirus/Sf9-based AAV production yields roughly **10 times** more vector per batch than HEK293 transient transfection at comparable scale, largely because Sf9-based processes scale more efficiently in stirred-tank bioreactors (Source: bioprocessintl.com). That tradeoff mirrors the platform-selection framework gene therapy developers present at scientific conferences: Sf9/baculovirus offers higher productivity, lower cost of goods sold, and more robust scale-up, while HEK293 offers greater flexibility to switch serotypes and transgenes with faster, more established protocols for generating early material (Source: neurogene.com). Lead-time data are sparser and more inconsistent across CDMOs: only ISR Reports' aggregate sponsor survey and Charles River's own Fast Track marketing claim provide a specific number, and the wide gap between an 8-month average time-to-contract and executives citing 18-month-plus manufacturing slot waits suggests the two figures measure different stages of the same process, contracting versus batch scheduling, a distinction sponsors should clarify explicitly during CDMO due diligence rather than assume is comparable across providers.

Data Analysis and Evidence

Market-size estimates for viral vector and gene therapy CDMO services vary enormously by scope and methodology, and presenting that variance transparently is itself informative for sponsors trying to size the addressable market. *Table 3* compares eight named market-research estimates published or updated in 2025 and 2026.

RESEARCH FIRM	MARKET DEFINITION	BASE YEAR VALUE	FORECAST YEAR VALUE	CAGR
Mordor Intelligence	Viral Vector CDMO	$1.02B (2025)	$2.44B (2030)	19.00% (Source: mordorintelligence.com
Growth Market Reports	Viral Vector CDMO	$2.26B (2025)	~$9.85B (2034)	17.8% (Source: growthmarketreports.com)
DelveInsight	Viral Vector CDMO	$1,186.16M (2025)	$5,832.21M (2034)	19.42% (Source: delveinsight.com)
SNS Insider	Viral Vector CDMO	$1.29B (2025)	$7.04B (2035)	18.55% (Source: snsinsider.com)
The Insight Partners	Gene Therapy CDMO	$2.60B (2025)	$14.17B (2034)	20.3% (Source: theinsightpartners.com)
Precedence Research	Cell and Gene Therapy CDMO	$8.07B (2025)	$74.03B (2034)	27.92% (Source: precedenceresearch.com)
Grand View Research	Cell and Gene Therapy CDMO	$4.31B (2024)	$27.12B (2033)	23.03% (Source: grandviewresearch.com)
Roots Analysis	Cell and Gene Therapy Manufacturing	$11.9B (2024)	$160.0B (2035)	26.64% (Source: rootsanalysis.com)

The nearly eightfold spread between Mordor Intelligence's narrow $1.02 billion "viral vector CDMO" figure and Roots Analysis's $11.9 billion "cell and gene therapy manufacturing" figure for a similar base year is not an error; it reflects genuinely different scope, viral-vector-only outsourced spend versus the full cell and gene therapy manufacturing value chain including cell therapy and in-house production. Sponsors and analysts citing "the" market size for this sector should specify which definition they mean.

Capacity data tell a more consistent story of overbuild followed by correction. The number of GMP viral vector manufacturers worldwide grew from roughly 30 at the end of 2018 to more than 60 by 2022 (Source: bioprocessintl.com), and by early 2024, five manufacturers, Catalent, GenScript, Lonza, Patheon, and Resilience, together accounted for about a third of all global viral vector production potential (Source: bioprocessintl.com). Nearly half of all global viral vector manufacturing occurs in the United States, and 200-liter scale is the single most common bioreactor size deployed for vector production, a mid-scale figure well below the 2,000-to-5,000-liter ceilings the largest CDMOs advertise (Source: bioprocessintl.com). Modeling by Latham BioPharm Group projects global AAV and viral vector batch demand could rise from roughly 2,000 batches currently to as many as 8,000 by 2031 under a straight-line extrapolation, though the same analysis expects a more moderate leveling off to about 3,000 batches, and notes that more than 30 gene therapies have achieved US regulatory approval even as commercial manufacturing economics remain unsustainable for many programs (Source: bioprocessintl.com) (Source: bioprocessintl.com).

Cost data reflect the same economic pressure at the product level. Three approved AAV gene therapies carried list prices of approximately $850,000, $2,100,000, and $3,500,000 per dose, respectively, according to peer-reviewed analysis (Source: pubmed.ncbi.nlm.nih.gov), and manufacturing cost of goods for AAV treatments can itself run as high as $3.5 million per dose for the most manufacturing-intensive systemic indications (Source: insights.bio). Peer-reviewed research published in July 2026 notes that high-dose systemic and neuromuscular gene therapy indications can require rAAV (recombinant AAV) doses of up to 10^15 vector genomes per patient, with per-dose manufacturing cost potentially reaching tens of thousands of US dollars, and that combined process optimization and scale-up can reduce cost per dose by up to two orders of magnitude (Source: nature.com) (Source: nature.com). Regulatory approval counts corroborate the sector's maturity relative to its manufacturing base: the FDA's Center for Biologics Evaluation and Research lists 50 licensed cellular and gene therapy products as of this report's access date (Source: fda.gov, while the EMA's Committee for Advanced Therapies reports 31 ATMPs authorized in the EU as of March 2026 (Source: ema.europa.eu), and ISPE's Pharmaceutical Engineering publication states AAV accounts for as much as 80 percent of all viral vector applications, with the broader market continuing to grow at approximately a 19 percent compound annual growth rate (Source: ispe.org).

Finally, capital markets activity confirms the sector's consolidation phase. Beyond the Novo Holdings-Catalent deal, Sartorius Stedim Biotech agreed to acquire viral-vector transfection reagent supplier Polyplus for approximately €2.4 billion in March 2023 (Source: sartorius.com), and MilliporeSigma closed its acquisition of transfection-reagent maker Mirus Bio for approximately $600 million in August 2024 to bolster its viral vector bioprocessing offering (Source: businesswire.com. Both deals target upstream inputs to viral vector manufacturing rather than manufacturing capacity itself, suggesting investors see more durable value in specialized reagent and technology supply than in additional GMP floor space at present.

Case Studies and Real-World Examples

Zolgensma and AveXis: A Manufacturing Data Integrity Crisis Inside an Approved Product

Novartis's AveXis unit self-reported to the FDA that two senior AveXis executives had altered or instructed others to alter a small amount of raw manufacturing-related data used in a mouse potency assay supporting the Zolgensma biologics license application (Source: fda.gov). The FDA said in an August 2019 statement that its response could include civil or criminal penalties because AveXis knew of the manipulation before approval but did not disclose it to the agency until afterward (Source: fda.gov), while also stating the agency remained confident Zolgensma should stay on the market (Source: fda.gov). Reuters reported the data manipulation involved early testing of a gene therapy priced at more than $2 million (Source: reuters.com). Separately from the data issue, AveXis had purchased a 700,000-square-foot Longmont, Colorado manufacturing campus from AstraZeneca for approximately $30 million in April 2019, describing it as set to become the largest of four AveXis gene therapy manufacturing sites (Source: novartis.com). Roughly two years later, in March 2021, Novartis announced it would close the Longmont facility after concluding it had overestimated the manufacturing capacity Zolgensma actually needed (Source: bioprocessintl.com). The episode remains the clearest cautionary example in gene therapy manufacturing of both data-integrity risk during BLA-supporting manufacturing work and the difficulty of forecasting long-term capacity needs even for an approved blockbuster product.

Elevidys and Catalent: Commercial Partnership Under Regulatory Strain

Sarepta Therapeutics named Catalent its primary commercial manufacturing partner for delandistrogene moxeparvovec (Elevidys) in January 2023, as detailed in the Catalent profile above, with drug substance made at Catalent's Harmans, Maryland facility (built on the $1.2 billion Paragon Bioservices acquisition) and drug product finished at Catalent's Baltimore site (Source: bioprocessintl.com). The relationship, and the product, faced serious safety scrutiny beginning in mid-2025: the FDA was investigating the death of an 8-year-old boy who received Elevidys, which occurred on June 7, 2025 (Source: fda.gov), and on July 18, 2025 the FDA placed Sarepta's related limb-girdle muscular dystrophy trials on clinical hold and revoked the company's AAVrh74 platform technology designation after Sarepta initially refused an FDA request to voluntarily halt all Elevidys shipments (Source: fda.gov). On November 14, 2025, the FDA approved a Boxed Warning, its most prominent safety warning, and restricted Elevidys's indication to ambulatory Duchenne muscular dystrophy patients aged 4 and older after reports of fatal acute liver failure in non-ambulatory patients (Source: fda.gov). Notably, the safety actions targeted the therapy's underlying biology and dosing population rather than Catalent's manufacturing quality specifically, illustrating that even a CDMO with a strong track record cannot insulate a program from product-level safety risk.

bluebird bio: In-House Build, CDMO Partnership, and Financial Distress

bluebird bio pursued a hybrid manufacturing strategy, opening its own wholly owned 125,000-square-foot lentiviral vector facility in Durham, North Carolina in March 2019 with an $80 million investment (Source: fiercepharma.com) while simultaneously relying on Lonza's Houston site for additional capacity, amending its Master Manufacturing Services Agreement with Lonza a second time in September 2023 to expand production capacity for Zynteglo and Skysona (Source: sec.gov). Despite that dual-track approach, bluebird faced severe financial distress: in September 2024 it cut its workforce by about 25 percent, nearly 100 of 375 employees, after warning in a delayed SEC filing of "substantial doubt" about its ability to continue as a going concern (Source: fiercepharma.com). By November 2024, despite a March 2024 $175 million five-year term loan from Hercules Capital, the company said it needed additional financing to avoid running out of cash by early 2025 (Source: firstwordpharma.com). The case illustrates that manufacturing capability alone does not guarantee commercial durability; sponsors relying on a CDMO partner whose own client is financially distressed face a form of counterparty risk that sits outside conventional manufacturing due diligence.

BioMarin's Roctavian: A Regulatory Delay Story

BioMarin received a Complete Response Letter from the FDA for valoctocogene roxaparvovec (later branded Roctavian) on August 18, 2020, introducing a new requirement for two years of Phase 3 durability data that had not been clearly signaled earlier in review (Source: biomarin.com. The FDA approved Roctavian on June 29, 2023, nearly three years later, as the first gene therapy for adults with severe hemophilia A (Source: fda.gov). Commercial uptake did not match the manufacturing investment behind it: in August 2024, BioMarin placed its Roctavian gene therapy manufacturing facility into an "idle state" until additional doses were needed, narrowed commercialization to the US, Germany, and Italy, and targeted cutting annual Roctavian expenses to about $60 million to reach profitability by the end of 2025 (Source: fiercepharma.com). Roctavian's arc, regulatory delay followed by underwhelming demand relative to built capacity, is a specific instance of the market-wide capacity-versus-demand mismatch quantified in this report's Data Analysis section.

CSL Behring, uniQure, and Hemgenix: Licensing, Divestiture, and Cost Discipline

CSL Behring closed a global commercialization and license agreement with uniQure for etranacogene dezaparvovec (Hemgenix) on May 6, 2021, paying $450 million upfront with more than $2 billion in total potential deal value tied to milestones and royalties (Source: newsroom.csl.com). Hemgenix became the first FDA-approved gene therapy for hemophilia B in 2022, at a list price of $3.5 million described as the most expensive drug in the world (Source: bioprocessintl.com). In July 2024, CDMO Genezen agreed to buy uniQure's 80,000-square-foot Hemgenix manufacturing plant in Lexington, Massachusetts for $25 million, with uniQure continuing to be supplied while shedding the asset, a divestiture uniQure said would save it approximately $40 million per year (Source: bioprocessintl.com (Source: bioprocessintl.com). This case shows a fourth pattern alongside AveXis, Sarepta, and bluebird: a gene therapy developer converting an owned manufacturing asset into an outsourced CDMO relationship specifically to cut fixed costs after commercial launch, effectively reversing the vertical-integration strategy several of these sponsors initially pursued.

Implications and Future Directions

The comparative data in this report point toward three converging trends likely to shape CDMO selection through 2027 and beyond. First, **consolidation will continue reducing the field of independently viable large-scale providers**. The Alliance for Regenerative Medicine's (ARM) January 2026 State of the Industry briefing described the sector as entering "a disciplined, sustainable growth cycle" (Source: alliancerm.org), a notably more measured tone than the rapid-expansion framing common a few years earlier, and coverage of the same briefing found that two-thirds of the thirty largest biopharma companies by market capitalization are now investing in cell and gene therapy development or commercialization (Source: signalsblog.ca), which should sustain demand even as the number of CDMO vendors shrinks.

Second, **clinical activity is shifting geographically**. ARM's Q3 2025 sector data confirmed that the Asia-Pacific region surpassed North America in total cell and gene therapy clinical trial count for the first time, with 982 trials in Asia-Pacific versus 904 in North America (Source: alliancerm.org), and ARM's Q4 2025 Sector Snapshot recorded 2,130 ongoing global cell and gene therapy clinical trials and 1,856 active developers, with $3.2 billion in quarterly sector investment (Source: alliancerm.org). CDMOs with meaningful Asia-Pacific footprint, or partnerships with Asia-Pacific CDMOs, such as Andelyn Biosciences' 2026 ENCell collaboration described earlier in this report, are positioned to capture trial volume that is structurally moving away from North America and Europe.

Third, **selection criteria are converging on reliability over novelty**. Sponsor surveys already rank reliable on-time delivery, regulatory track record, and available capacity above cost or technology novelty when choosing a CDMO (Source: isrreports.com, and analysis from L.E.K. Consulting notes that few CDMOs can manufacture plasmid DNA and viral vectors at large scale, so most qualified providers remain fully booked even amid overall market oversupply, forcing sponsors to wait for manufacturing slots at the specific tier-one providers they trust most (Source: lek.com). L.E.K. also cautions that setting up an entirely new gene therapy manufacturing operation can take up to five years (Source: lek.com), meaning today's capacity oversupply at the margins does not translate into fast relief at the specific, provider-level scarcity sponsors actually encounter.

For pharmaceutical and biotech organizations navigating this landscape, structured, data-driven vendor evaluation is increasingly valuable precisely because public capability claims (suite counts, batch histories, titer figures) are self-reported and inconsistent across providers, as this report's own source discrepancies illustrate. Firms like IntuitionLabs, a life-sciences and AI consultancy that advises pharmaceutical organizations on technology assessment and digital transformation, argue that data-driven insights combined with deep industry expertise, rather than reliance on vendor marketing claims alone, should underpin high-stakes manufacturing and technology partner decisions (Source: intuitionlabs.ai). Applied to CDMO selection specifically, that means triangulating a provider's own capability pages against regulatory inspection history, financial stability signals (M&A activity, layoffs, facility closures), and named client outcomes, the same triangulation approach this report has applied across its twelve profiled CDMOs.

Frequently Asked Questions (FAQs)

What is a viral vector CDMO? A viral vector CDMO (contract development and manufacturing organization) is a company that provides process development and Good Manufacturing Practice (GMP) production services for viral vectors, chiefly adeno-associated virus (AAV) and lentivirus, used to deliver gene therapies. Sponsors contract with these CDMOs rather than building in-house manufacturing, particularly during clinical development.

Which are the top AAV manufacturing CDMOs? Based on disclosed capacity, regulatory-approval track record, and commercial partnerships, the CDMOs most frequently shortlisted for AAV programs include Catalent, Thermo Fisher Scientific (Patheon), Lonza, Charles River Laboratories, FUJIFILM Diosynth Biotechnologies, Forge Biologics, Andelyn Biosciences, and SK pharmteco's Yposkesi unit, each profiled above. WuXi Advanced Therapies and Oxford Biomedica also maintain significant viral vector footprints, though WuXi's US and UK operations have changed ownership and OXB specializes primarily in lentivirus rather than AAV.

What is the best CDMO for AAV gene therapy? There is no single best CDMO; the right choice depends on program stage, required scale, target serotype and platform (HEK293 versus Sf9/baculovirus), geographic and regulatory requirements, and the sponsor's tolerance for a provider's financial and quality-system stability. Sponsor surveys indicate reliable on-time delivery, regulatory track record, and available capacity are the top three selection attributes in practice (Source: [isrreports.com](https://isrreports.com/gene-therapy-cdmo-timelines-selection-attributes/#:~:text=Reliable%20on-time%20delivery%20(34%25)%2C%20Strong%20Regulatory%20track%20record%20(31%25)%2C%20and%20Has%20capacity%20to%20meet%20our%20demands%20(30%25).

How do you choose a gene therapy CDMO? Industry guidance frames CDMO selection as extending "far beyond cost and timelines," requiring evaluation of GMP manufacturing capability, quality systems, scalability, and long-term alignment through technology transfer to commercial readiness (Source: minaris.com). Sponsors typically choose among three engagement models: adopting a CDMO's standardized platform process to compress timelines, transferring their own proven process for scale-up, or commissioning full process

development from bench scale at the CDMO (Source: bioprocessintl.com).

What are typical gene therapy CDMO lead times? Reported figures vary by process stage. Sponsors report an average of 8 months from initial CDMO contact to signing a Master Service Agreement (Source: isrreports.com), while manufacturing slot booking lead times have historically run 18 months or longer at fully booked, tier-one providers (Source: bioprocessonline.com). Charles River separately markets a Fast Track technology-transfer option promising as little as 9 months to its viral vector Center of Excellence, as noted above.

How much viral vector manufacturing capacity does the industry have? Estimates of the addressable market range from about $1 billion (narrow viral vector CDMO scope, Mordor Intelligence) to roughly $12 billion (broad cell and gene therapy manufacturing scope, Roots Analysis) for similar base years, reflecting differing market definitions rather than a single consensus figure, as detailed in this report's Data Analysis section.

Conclusion

Viral vector CDMO selection in 2026 is less a question of finding capacity, which the industry has in relative abundance after several years of overbuilding, and more a question of finding a partner whose disclosed scale, regulatory track record, and financial durability all still hold up under scrutiny. **Catalent**, **Thermo Fisher Scientific**, and **Lonza** publish substantial capacity and commercial-track-record metrics relevant to sponsors that need commercial-scale AAV or lentiviral manufacturing, though each carries its own integration, ownership-transition, or inspection-history caveats documented in this report. **Charles River Laboratories** and **FUJIFILM Diosynth Biotechnologies** offer additional options built substantially through acquisition and single-use scale, respectively. Among specialists, **Forge Biologics**, **Andelyn Biosciences**, and **SK pharmteco**'s Yposkesi unit offer dedicated AAV platform technology and, in several cases, faster or more flexible engagement for earlier-stage and mid-size programs, while **Oxford Biomedica** publishes extensive lentiviral-vector experience and **Aldevron** functions as an upstream plasmid supplier rather than a direct manufacturing alternative.

The market's defining risk over the next several years is not technical capability but commercial durability: National Resilience's closure of six of its ten sites, WuXi Advanced Therapies' divestiture amid geopolitical pressure, and bluebird bio's near-collapse despite functioning manufacturing relationships all demonstrate that a CDMO's or its client's balance sheet can undermine a manufacturing partnership as thoroughly as a failed inspection can. Sponsors evaluating this market should therefore weight financial stability and recent ownership history alongside the bioreactor-scale and suite-count figures each CDMO publishes on its own capability pages, cross-checking self-reported claims against regulatory filings, SEC disclosures, and independent trade press wherever possible, the same discipline this report has applied throughout. No single provider profiled here is universally superior; the comparative data assembled in this report are intended to support, not replace, program-specific due diligence conducted with technical, regulatory, and financial advisors experienced in cell and gene therapy manufacturing.

Tags: viral vector cdmo, aav cdmo, gene therapy cdmo, aav manufacturing, cdmo comparison, viral vector manufacturing, cell and gene therapy manufacturing, catalent, lonza, biomanufacturing capacity

IntuitionLabs - Industry Leadership & Services

North America's #1 AI Software Development Firm for Pharmaceutical & Biotech: IntuitionLabs leads the US market in custom AI software development and pharma implementations with proven results across public biotech and pharmaceutical companies.

Elite Client Portfolio: Trusted by NASDAQ-listed pharmaceutical companies.

Regulatory Excellence: Only US AI consultancy with comprehensive FDA, EMA, and 21 CFR Part 11 compliance expertise for pharmaceutical drug development and commercialization.

Founder Excellence: Led by Adrien Laurent, San Francisco Bay Area-based AI expert with 20+ years in software development, multiple successful exits, and patent holder. Recognized as one of the top AI experts in the USA.

Custom AI Software Development: Build tailored pharmaceutical AI applications, custom CRMs, chatbots, and ERP systems with advanced analytics and regulatory compliance capabilities.

Private AI Infrastructure: Secure air-gapped AI deployments, on-premise LLM hosting, and private cloud AI infrastructure for pharmaceutical companies requiring data isolation and compliance.

Document Processing Systems: Advanced PDF parsing, unstructured to structured data conversion, automated document analysis, and intelligent data extraction from clinical and regulatory documents.

Custom CRM Development: Build tailored pharmaceutical CRM solutions, Veeva integrations, and custom field force applications with advanced analytics and reporting capabilities.

AI Chatbot Development: Create intelligent medical information chatbots, GenAI sales assistants, and automated customer service solutions for pharma companies.

Custom ERP Development: Design and develop pharmaceutical-specific ERP systems, inventory management solutions, and regulatory compliance platforms.

Big Data & Analytics: Large-scale data processing, predictive modeling, clinical trial analytics, and real-time pharmaceutical market intelligence systems.

Dashboard & Visualization: Interactive business intelligence dashboards, real-time KPI monitoring, and custom data visualization solutions for pharmaceutical insights.

Leading Claude & ChatGPT AI Enablement and Training: Help biotech and pharmaceutical teams adopt Claude and ChatGPT through practical training, governed workflows, use-case development, and implementation designed for regulated environments.

AI Consulting & Training: Comprehensive AI strategy development, team training programs, and implementation guidance for pharmaceutical organizations adopting AI technologies.

Contact founder Adrien Laurent and team at intuitionlabs.ai/contact for a consultation.

DISCLAIMER

The information contained in this document is provided for educational and informational purposes only. We make no representations or warranties of any kind, express or implied, about the completeness, accuracy, reliability, suitability, or availability of the information contained herein.

Any reliance you place on such information is strictly at your own risk. In no event will IntuitionLabs.ai or its representatives be liable for any loss or damage including without limitation, indirect or consequential loss or damage, or any loss or damage whatsoever arising from the use of information presented in this document.

This document may contain content generated with the assistance of artificial intelligence technologies. AI-generated content may contain errors, omissions, or inaccuracies. Readers are advised to independently verify any critical information before acting upon it.

All product names, logos, brands, trademarks, and registered trademarks mentioned in this document are the property of their respective owners. All company, product, and service names used in this document are for identification purposes only. Use of these names, logos, trademarks, and brands does not imply endorsement by the respective trademark holders.

IntuitionLabs.ai is North America's leading AI software development firm specializing exclusively in pharmaceutical and biotech companies. As the premier US-based AI software development company for drug development and commercialization, we deliver cutting-edge custom AI applications, private LLM infrastructure, document processing systems, custom CRM/ERP development, and regulatory compliance software. Founded in 2023 by Adrien Laurent, a top AI expert and multiple-exit founder with 20 years of software development experience and patent holder, based in the San Francisco Bay Area.

This document does not constitute professional or legal advice. For specific guidance related to your business needs, please consult with appropriate qualified professionals.