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Publishing

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Published on April 16, 2025

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Biotech & Pharma Tariff-Driven VC Opportunities

Investment implications: Positioning for the next biotech cycle

PitchBook is a Morningstar company providing the most comprehensive, most accurate, and hard-to-find data for professionals doing business in the private markets.

Key takeaways

- **Tariff-driven American biotech resurgence:** The biotech sector is entering an "America-first resurgence" phase. From 2025 onward, protectionist tariff policies that incentivize domestic manufacturing repatriation, accelerate AI-driven innovation, and enhance national security through advanced platform technologies will create structural advantages for US biotech, although they may temporarily suppress M&A activity because of Big Pharma's focus on manufacturing infrastructure.

- **Premium investment opportunities in AI and manufacturing:** VC should target AI-driven platforms that streamline drug discovery and regulatory compliance (for example, Isomorphic Labs and Weave Bio) and startups advancing compact, automated biomanufacturing technologies (such as Cellares and Cellino). These areas address efficiency needs amid higher domestic labor costs and offer significant growth potential in a tariff-influenced market.

- **Supply chain resilience and market dynamics:** Strategic investments and government initiatives are critical to bolster supply chain resilience, particularly for traditional drug modalities such as generics and biosimilars. Tariff policies favoring American-made pharmaceuticals may shift market dynamics, promoting consolidation and giving domestic products (such as Eli Lilly's Zepbound) competitive edges, while cross-border licensing faces increased regulatory scrutiny due to trade tensions.

American biotech's three-phase evolution

The biotech sector has experienced a significant transformation through three distinct phases. The COVID-19 era (2020 to 2022) was defined by unprecedented capital influx, rapid infrastructure growth, and accelerated project timelines. This period gave way to the post-COVID correction (2023 to 2024), marked by market rationalization, valuation adjustments, and the elimination of speculative ventures—particularly visible in point-of-care testing. Currently, the sector is transitioning into the America-first resurgence (2025 onward), characterized by enhanced domestic capabilities driven by protectionist trade policies and significant integration of AI into research & development (R&D) and manufacturing processes.

Tariff-driven structural advantages

The current administration's tariff policies establish a robust framework for long-term American biotech dominance through three core mechanisms:

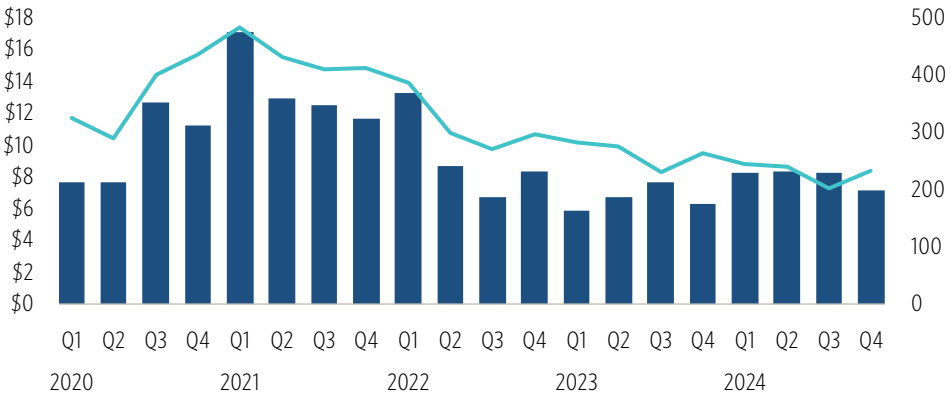
Repatriation of critical manufacturing: Tariffs incentivize the domestic production of essential pharmaceuticals, strategically leveraging negotiations to bolster local capacity.

Acceleration of innovation: Investor interest increasingly centers on startups developing advanced biomanufacturing and laboratory automation technologies, emphasizing smaller operational footprints and greater efficiency to mitigate higher domestic labor costs.

National security enhancement: Positioning biotech as critical infrastructure ensures continued American leadership in advanced platform technologies, especially those with national security and defense applications.

However, startups face risks due to a more competitive fundraising environment. Tariff-driven shifts toward manufacturing infrastructure by large pharmaceutical companies might temporarily suppress M&A activity, impacting investor returns. This scenario could lead to a further market correction, concentrating investments into the strongest ventures and ultimately elevating select deals. Nonetheless, biotech's fundamental resilience suggests sustained growth regardless of these short-term pressures.

Biopharma modalities VC deal activity by quarter



Source: PitchBook • Geography: Global • As of April 1, 2025

Select AI biotech deals

Companies	HQ location	Year founded	Deal size ($M)	Post-money valuation ($M)	Deal date
Xaira Therapeutics	South San Francisco, US	2023	$1,000.0	$2,700.0	April 23, 2024
Isomorphic Labs	London, UK	2021	$579.1	$1,793.5	March 31, 2025
Human Longevity	San Diego, US	2013	$500.0	N/A	January 1, 2013
Treeline Biosciences	Watertown, US	2021	$421.8	N/A	August 19, 2024
insitro	South San Francisco, US	2018	$400.0	$2,500.0	April 7, 2021
Formation Bio	New York, US	2016	$372.0	$1,700.0	June 26, 2024
Generate:Biomedicines	Somerville, US	2018	$370.0	$1,450.0	November 18, 2021
Valo	Lexington, US	N/A	$330.0	$1,250.0	March 11, 2021
Generate:Biomedicines	Somerville, US	2018	$273.0	$2,000.0	September 6, 2023
InSilico Medicine	Boston, US	2014	$255.0	$630.0	June 1, 2021

Source: PitchBook • Geography: Global • As of April 1, 2025

Prime investment targets

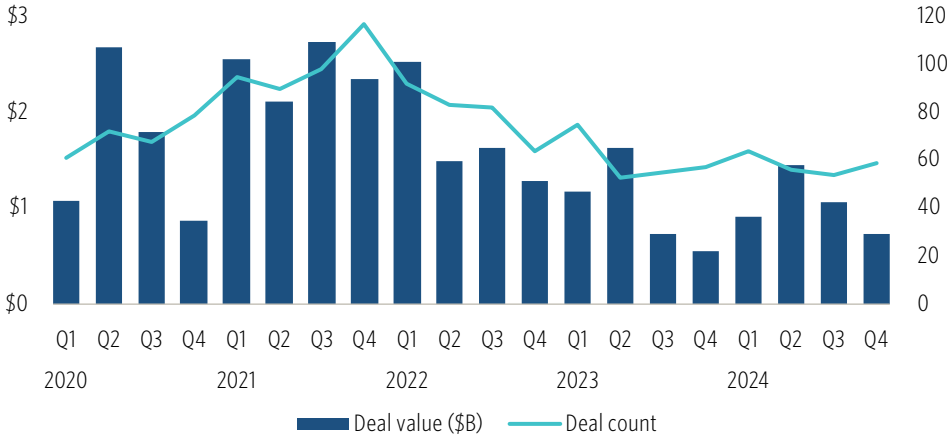
Premium investment opportunities lie in AI-driven platforms accelerating drug discovery and regulatory compliance.

Companies integrating computational tools with wet-lab validation represent premium investment opportunities. These platforms accelerate discovery while automating workflows and documentation, dramatically improving R&D efficiency. Simultaneously, regulatory burdens are addressed through AI-driven compliance platforms. A notable recent example is Isomorphic Labs, which raised $600 million for AI drug design to significantly expedite drug discovery timelines. The bets outside of R&D include optimizing the regulatory processes and documentation, such as Weave Bio and BlueNote AI.

Significant VC opportunities exist in biotech and pharma manufacturing, particularly in startups driving compact and automated production technologies.

The reshoring imperative presents significant VC opportunities in biotech and pharma manufacturing. Investors should prioritize startups advancing production technologies with smaller footprints and increased automation to mitigate higher domestic labor costs. Current investments are heavily oriented toward emerging innovations, as demonstrated by VC-backed companies such as Cellare, Cellino, and Elevate Bio, which leverage tech-driven process optimization to secure competitive advantages, especially in cell therapy manufacturing and development.

Pharma biotools VC deal activity by quarter



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Strategic investment and government initiatives are needed to bolster supply chain resilience, particularly in traditional drug modalities.

Ensuring supply chain resilience—particularly through domestic redundancy in application programming interface production, sterile manufacturing, and diagnostics—is essential. Substantial opportunities remain for enhancing production methods for traditional drug modalities, generics, and biosimilars, which are currently underrepresented in innovation investments. Concentrated investment approaches, similar to Resilience, which raised more than $1 billion, complemented by government initiatives akin to those deployed during COVID-19 for vaccine production, are critical to bridging these gaps. Other cases will be within the consolidation of existing infrastructure.

PE investors should target specialized infrastructure and consolidation opportunities in manufacturing.

PE investors should focus on specialized infrastructure investments targeting high-value niches within biotech & pharma manufacturing. Consolidation deals in biotech manufacturing may expand, driven by ongoing cost pressures. Big Pharma's continued vertical integration—from development to distribution—is increasingly relevant, notably influenced by intense competition in markets such as obesity treatments. Investment opportunities include modular, rapidly deployable manufacturing facilities adaptable across multiple modalities from small molecules to biologics and software-defined manufacturing systems offering rapid reconfiguration and flexibility, both poised for premium valuations amid reshoring trends. Convergence of VC and PE investors may be needed for next-generation biomanufacturing and AI-automation bets to emerge as key winners.

Select PE pharma LBO deals

Companies	HQ location	Year founded	Total raised ($M)	Last known valuation ($M)	Last financing deal type
Catalent	NJ	2007	$9,613.1	$16,500.0	Buyout/LBO
Genetic	Fisciano, Italy	2000	N/A	$1,264.1	Buyout/LBO
Bushu Pharmaceuticals	Saitama, Japan	1998	N/A	$769.0	Buyout/LBO
Alcami	Wilmington, US	1979	$1,102.1	$675.0	Buyout/LBO
Veranova	Wayne, US	1970	N/A	$622.1	Buyout/LBO
Famar	Athens, Greece	1949	$189.9	$553.2	Buyout/LBO
TriPharm Services	Morrisville, US	1994	$364.0	$464.0	Buyout/LBO
Genuone Sciences	Seoul, South Korea	2020	N/A	$447.8	Buyout/LBO
Halo Pharmaceutical	Whippany, US	2006	N/A	$425.0	Buyout/LBO
Corium Innovations	Grand Rapids, US	2022	N/A	$400.0	Buyout/LBO

Source: PitchBook • Geography: Global • As of April 1, 2025

Market dynamics

Tariff policies may favor American-made pharmaceuticals, influencing market dynamics and consolidation trends.

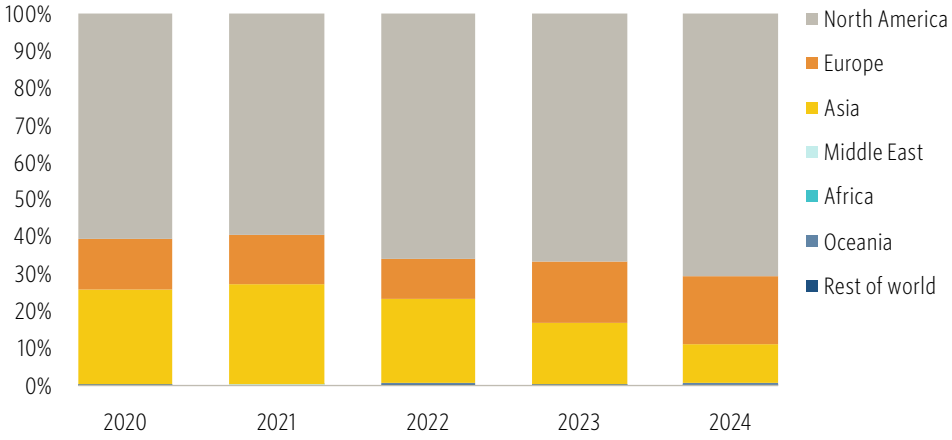
Tariff policies are reshaping pharmaceutical market dynamics, potentially giving American-made products advantages over foreign competitors. The shift away from relying on China for drug development and licensing could extend to approved products, exemplified by Eli Lilly's domestically produced Zepbound, potentially gaining market advantages over foreign competitors. Although complete exclusion of international products is unlikely, government policies significantly influence formulary positioning and reimbursement strategies, thus affecting market shares. These dynamics also increase PE investor value by promoting industry consolidation for more efficient drug development.

US restrictions may emerge to limit cross-border asset acquisition and licensing to limit the flow of capital

There is a notable transition from traditional drug development to strategic licensing, as international markets increasingly display proficiency in developing valuable pharmaceutical assets. Significant investments were made in Asia to build infrastructure during the COVID pandemic; however, this investment has significantly declined. This shift may partly serve as an alternative to challenges associated with drug development involving contract development and manufacturing organizations. Major pharmaceutical companies have recognized this trend, with Merck and AstraZeneca licensing GLP-1 candidates from Asia-based pharmaceutical firms. VC-backed biotech firms have similarly pursued this strategy, exemplified by Metsera's public offering, which notably included numerous assets licensed from Asia.

Nonetheless, current trade tensions have resulted in these cross-border licensing agreements facing heightened regulatory scrutiny, with bipartisan support likely due to the Biosecure Act since expertise and capital are flown outside of America. Investment in Asia-based pharma VC biotech has decreased sharply from $14.6 billion in 2021 to only $3.3 billion in 2024. However, these numbers don't reflect the profitability of the bets, which may be driving the need for less capital due to Big Pharma and biotech deals or licensing. Although foreign assets may become more affordable, they carry increased political risk in coming months, as policies building upon tariffs may emerge to limit cash flow to foreign nations.

Share of biopharma modalities VC deal activity by quarter



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Shifting capital sources may continue, but alternatives are not clear

America-first capital source diversity is emerging as a critical consideration for biotech ventures. This includes not only Asia-based investors investing in the US but also Asia-based LPs funding US investors. In parallel, much of this was reflected internally in funds as Asian LPs withdrew from investing in US funds mainly due to US policies emerging around 2016 during Donald Trump's first administration. Sovereign wealth funds from the Middle East play an increasingly prominent role in the biotech and tech sectors. The Public Investment Fund (Saudi Arabia), Qatar Investment Authority, and UAE entities (including Mubadala) have collectively deployed significant capital directly as co-investors and indirectly via funding funds, ultimately driving the size of leading VC funds to billions. This transition raises important questions about the volume and sustainability of American capital for deployment into biotech VC funds. No clear alternative funding sources exist for investors. Additionally, many corporations serving as LPs or acting as corporate VCs will potentially reduce risky investing to save cash for uncertain times.

Outlook: Strategic positioning for tariff-era success

The biotech sector is shifting to capital-efficient, domestically focused models. AI integration and manufacturing innovation will determine market winners in this protectionist environment. Early-stage investors should prioritize algorithmic innovation platforms, companies with domestic production capabilities, and solutions that reduce regulatory burdens. Other investors may continue to focus on short-term returns through late-stage clinical bets or public markets. Proposed pharmaceutical tariffs could increase imported material costs, prompting a shift to US production and larger early funding rounds to mitigate supply chain uncertainties. Regardless, the government's involvement can dramatically transform the landscape, as shown previously with Operation Warp Speed, a public-private partnership to facilitate the development of COVID-19 vaccines, to push for select innovation of national interests while pushing back others.