FROM SPARK TO INFERNO

How Chinese biopharma innovation is forging the future of global oncology deal-making

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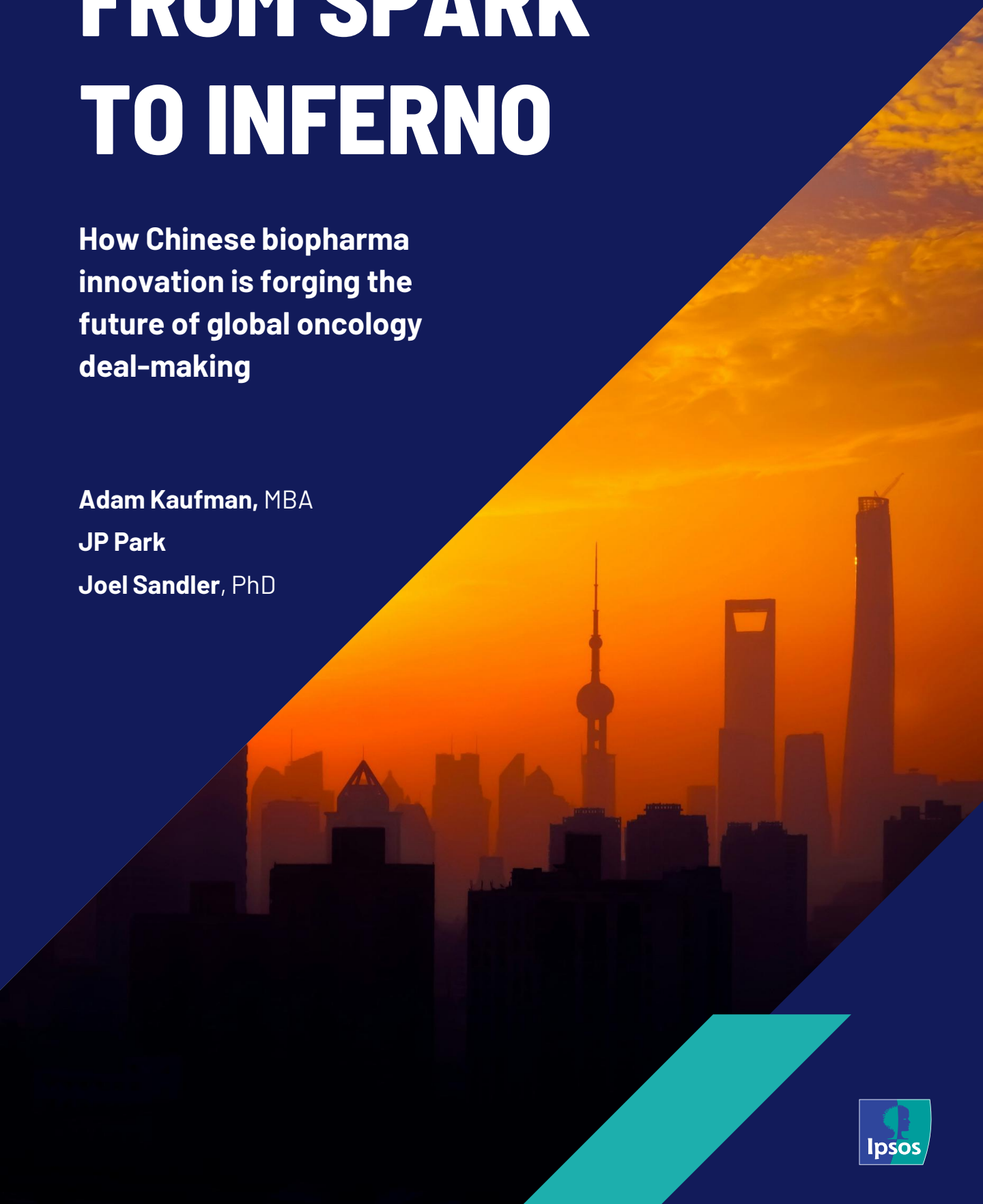

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Executive summary

The paradigm shift in global pharma:

The global pharmaceutical landscape is experiencing a fundamental shift as Chinese biopharmaceutical companies evolve from "fast followers" to innovation leaders, particularly in oncology. While several collaborations between Chinese biotechs and multinational corporations preceded it, the 2017 partnership between Legend Biotech and Johnson & Johnson (J&J) for their anti-BCMA chimeric antigen receptor T-cell (CAR-T) therapy Carvykti (ciltacabtagene autoleucel) represented a landmark event, as it was the first in-licensed asset of Chinese origin to become an oncology blockbuster.

China's unique development ecosystem:

The convergence of world-class contract research organizations (CROs) infrastructure, accelerated regulatory timelines, accessible capital markets, and institution-led clinical research has created an unparalleled drug development engine. This ecosystem enables more than 5,000 Chinese research and development (R&D) companies to advance from concept to clinical validation at unprecedented speed and efficiency, generating a massive pipeline of early-stage assets ripe for partnership.

Identifying future opportunities:

The next wave of transformative deals will likely center on combination immunotherapy approaches, particularly PD-1/4-1BB bispecifics and PD-1/IL-2 bifunctional biologics, alongside next-generation therapies for validated targets like Claudin-18.2 (CLDN18.2). Companies with assets in these areas are positioned for significant value creation as the first randomized data against the standard of care could trigger the next licensing frenzy.

Navigating strategic complexity:

Success in this transformed landscape requires sophisticated cross-border capabilities, including local market intelligence, rigorous scientific evaluation, and frameworks for balancing opportunity against geopolitical risk. Organizations must act quickly to secure partnerships while maintaining strategic discipline in asset selection and deal structuring to maximize value.

Introduction
A whirlwind year redefines the global pharma landscape

The past year has provided unprecedented levels of deal-making between Chinese biopharmaceutical innovators and multinational pharmaceutical companies.

The long-held narrative of China as a 'fast follower' is being rewritten with a new reality: China is emerging as an engine of therapeutic innovation, a "fast leader" whose science is not just catching up but is now setting the pace in some of the most competitive areas of drug development. This is particularly true in oncology, where a torrent of groundbreaking clinical data from Chinese labs is sparking deal-making frenzies and forcing global pharma giants to rethink their R&D strategies from the ground up.

China is proving particularly adept at identifying iterative approaches to validated biologic and cell therapy targets that may translate into meaningful clinical advances. It's a form of rapid, real-world Darwinian evolution for drug development: generate dozens of sophisticated variations and allow the Chinese clinical ecosystem – with its exceptional speed – to quickly select among the fittest candidates. China's advantage lies not just in the lab, but also in its unparalleled ability to rapidly enroll patients and generate the early proof-of-concept that separates a good idea from a great drug.

> **China is emerging as an engine of therapeutic innovation**

Clinical successes, primarily from China-based studies, are providing timely solutions for multinational pharmaceutical companies as foundational franchises like Keytruda (pembrolizumab, Merck & Co., Inc.; known as MSD outside the United States and Canada) face patent cliffs. The potential of assets such as Legend Biotech's Carvykti and Akeso's ivonescimab has sparked deal-making frenzies. However, translating these regional wins to global approvals remains a key hurdle. While Akeso's and Summit Therapeutics' ivonescimab showed a clear win in its China study, its global trial failed to meet its primary overall survival endpoint, underscoring the challenge of achieving success for global regulatory bodies.

This paper moves beyond the headlines to dissect this pivotal shift. We begin by examining the landmark deals that acted as catalysts, demonstrating how early, compelling data from China can ignite global interest and multi-billion-dollar partnerships. We then explore the unique ecosystem that enables this innovation and, most importantly, where we believe lightning might strike next. By comparing the oncology pipelines of China and the US, we identify modalities and targets where Chinese biotechs are poised to make the next big breakthrough. Finally, we discuss how organizations can navigate this complex but opportunity-rich environment, both for large pharmaceutical companies looking to forge successful cross-border partnerships and ex-China biotechs – companies headquartered outside China – seeking to inflect value against the backdrop of this rapidly evolving competitive landscape.

The tipping point
How Chinese clinical data ignited global deal frenzies

The current surge in "China-to-West" licensing deals is not a sudden phenomenon but the culmination of years of escalating innovation. A few key examples illustrate how a spark of compelling clinical data from a small Chinese cohort can rapidly ignite a global inferno of investment and strategic realignment.

Legend Biotech & BCMA CAR-T – putting a target on the map

Years before the current wave of deals, the partnership between Nanjing-based Legend Biotech and J&J set the template. In 2017, Legend presented astonishing data at the American Society of Clinical Oncology (ASCO) for its B-cell maturation antigen (BCMA) targeted CAR-T therapy in a small number of Chinese multiple myeloma patients. The results were so compelling that J&J moved swiftly, paying $350 million upfront for a worldwide collaboration to develop what would eventually become Carvykti.

This deal did more than just create a best-in-class therapy; it validated BCMA as a blockbuster target and demonstrated that transformative innovation could emerge from China and command a global stage. Crucially, the partnership became the first instance of a Chinese-originated, in-licensed asset achieving blockbuster status in oncology, establishing a powerful new precedent for the industry. The initial LEGEND-2 study in China was the crucial first step that led to a global development program and, ultimately, a therapy that has shown durable benefit in heavily pre-treated multiple myeloma.

The PD-1/VEGF bispecific gold rush

More recently, the oncology community has been captivated by PD(L)-1/VEGF bispecific antibodies, a class pioneered in clinical practice by Chinese innovators. The frenzy began with a bold, seemingly prescient move by Summit Therapeutics, led by the renowned team that previously led Pharmacyclics through its major value-creation period. In late 2022, relying on promising early data and a savvy trial design, Summit licensed the ex-China rights for Akeso Inc.'s candidate, ivonescimab, in a deal valued at up to $5 billion, with a $500 million upfront payment.

Summit's bet, which was made long before the drug was fully de-risked, initially appeared to have paid off nearly two years later: in 2024, Akeso released stunning head-to-head data from its HARMONi-A trial, showing ivonescimab was superior to Merck & Co.'s blockbuster Keytruda, in a Chinese non-small cell lung cancer (NSCLC) population. However, the challenge of translating this regional success to a global stage was underscored when the subsequent global HARMONi study, while demonstrating a positive trend, did not meet its primary endpoint of overall survival, creating regulatory uncertainty outside China.

This event opened floodgates: recognizing the immense threat and opportunity, major biopharmaceutical companies scrambled to get a foothold

The PD-1/VEGF bispecific gold rush

1. **October 2024:** BioNTech announced it would acquire Biotheus, a China-based biotech, in a deal including an $800 million upfront payment. The deal gave BioNTech full global rights to PM8002, a PD-L1/VEGF bispecific antibody it had already in-licensed from Biotheus.
2. **November 2024:** Merck & Co., Inc. (known as MSD outside the United States and Canada) announced it was licensing a PD-1/VEGF bispecific antibody from LaNova Medicines, paying $588 million upfront as part of a deal potentially worth over $1.5 billion.
3. **May 2025:** Pfizer announced its agreement to license the ex-China rights to 3SBio's PD-1/VEGF bispecific, SSGJ-707, for an upfront payment of $1.25 billion and milestones of up to $4.8 billion.

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This rapid succession of high-value deals, all centered on a novel class validated in China, proves that the global pharma industry now views Chinese innovation not as a secondary source, but as an essential component of their future oncology pipelines.

The innovation crucible
How China became a prolific source of bona fide therapeutic candidates

The explosion of high-quality, deal-worthy assets from China is no accident. It is the result of a unique convergence of factors that have created an ecosystem highly conducive to rapid, efficient, and increasingly innovative drug development, often in stark contrast to the environment in the West.

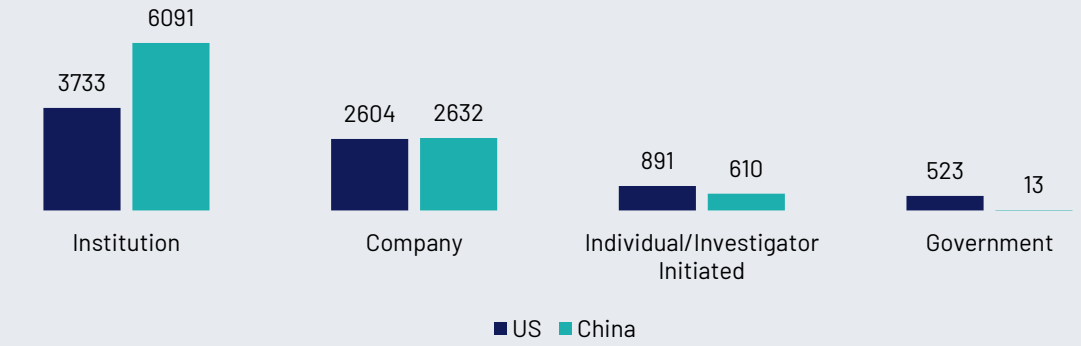
World-class outsourcing: The presence of global-scale contract research organizations (CROs) and contract development and manufacturing organizations (CDMOs) like WuXi AppTec provides Chinese biotechs with immediate access to high-quality, cost-effective development and manufacturing capabilities. This allows even small virtual companies to execute complex programs without massive capital investment in infrastructure.

Regulatory sophistication: China's National Medical Products Administration (NMPA) has undergone a dramatic modernization, aligning with global ICH standards. This has reduced investigational new drug review timelines to as little as 60 days, with some pilot programs aiming for 30 days. This regulatory velocity allows companies to move from concept to clinic at a pace unimaginable in the US or Europe.

Paths to liquidity: Reforms like the Hong Kong Stock Exchange's Chapter 18A have enabled pre-revenue biotechs to go public, injecting billions into the sector. The recent easing of listing standards on the Shanghai and Beijing markets has created even more pathways to liquidity, fueling a virtuous cycle of venture investment and new company formation.

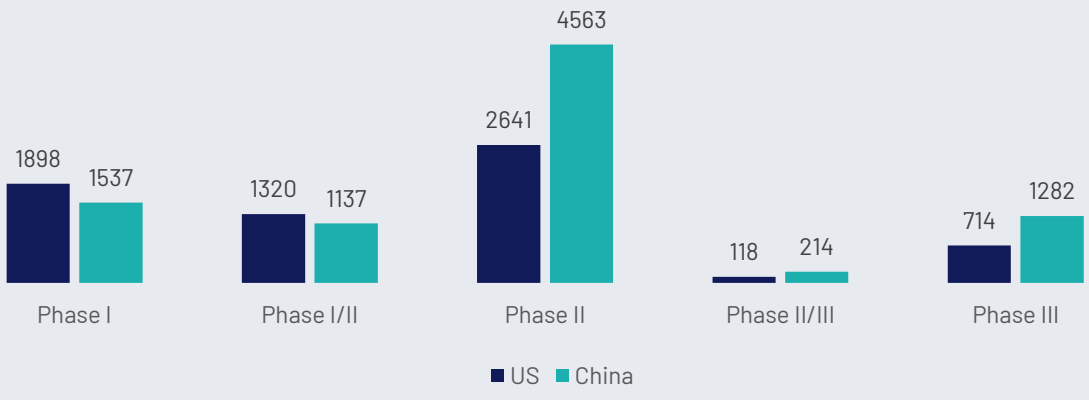
The explosion of high-quality, deal-worthy assets from China is no accident

Figure 1. Mix of clinical trial sponsors in oncology in China vs. the US



A competitive and unique ecosystem fuels a rich early-stage pipeline: The intense domestic competition among over 5,000 R&D-stage companies compels Chinese innovators to pursue best-in-class assets over simple "me-too" drugs. This drive for high-quality innovation is powerfully enabled by a clinical ecosystem that is fundamentally different from that in the West. As shown in Figure 1, China's landscape is dominated by institution-sponsored trials, creating a strong academic and hospital-led research foundation that allows for the rapid, early-stage exploration of novel concepts. The direct result of these converging forces – fierce competition and a unique clinical structure – is a pipeline heavily concentrated with early-stage programs, particularly in Phase I and Phase II (see Figure 2). This wealth of early-stage assets makes China a global engine for clinical innovation and a fertile hunting ground for Western pharma companies seeking de-risked programs to fill their pipelines.

Figure 2. Comparison of development phase for oncology pipeline in China vs. US



Pipeline analysis
US vs. China

When diving deeper into the composition of these pipelines, it is evident that China's oncology efforts are more concentrated in biologics than the more diversified US pipeline (see Figure 3). This strategic focus on a cutting-edge modality is further emphasized by the fact that China has strikingly more total development programs across major biologic categories, including antibody-drug conjugates (ADCs), monospecific antibodies, and bispecific antibodies (see Figure 4A). At first glance, this volume suggests clear leadership in these advanced therapeutic areas.

Figure 3. Comparison of oncology pipeline by modality in China vs. the US

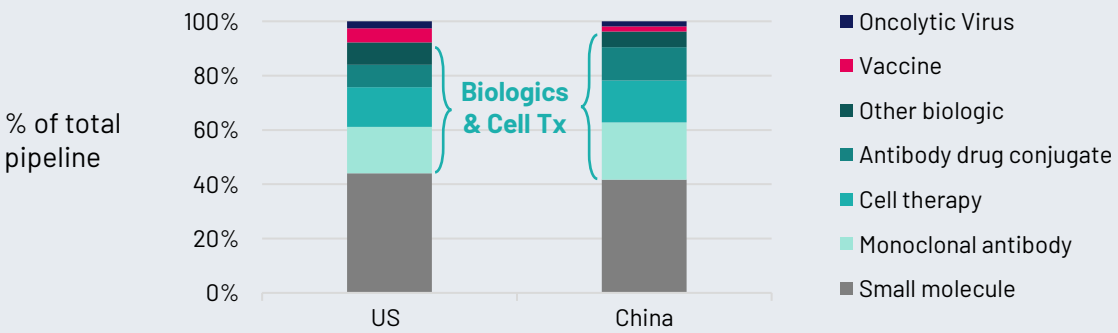


Figure 4A. Comparison of biologic activity in China vs. the US

Total # of programs by biologic category:

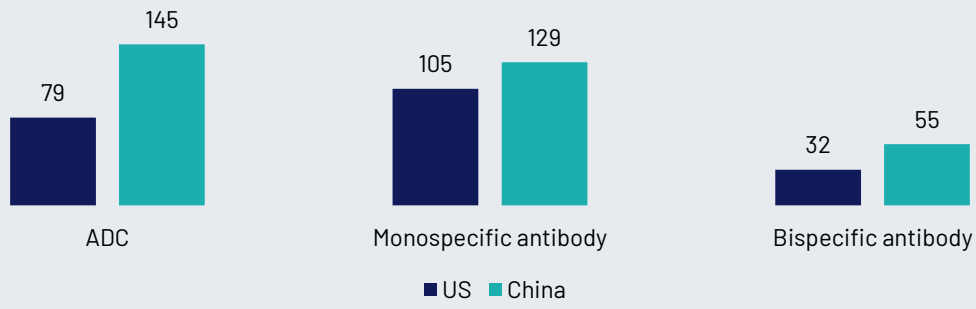
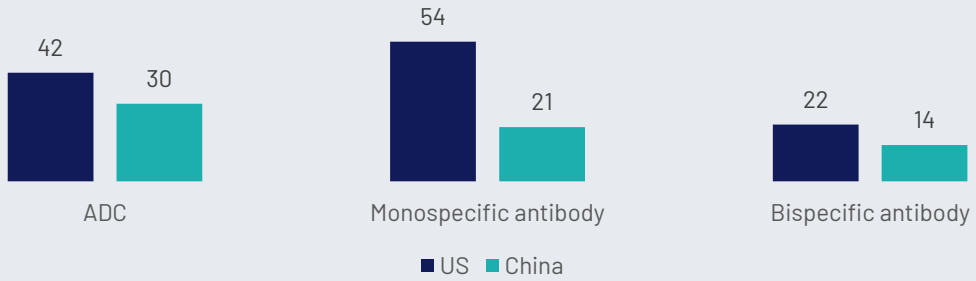


Figure 4B. Comparison of unique biologic programs in China vs. the US

Total # of unique (n=1) programs by biologic category:



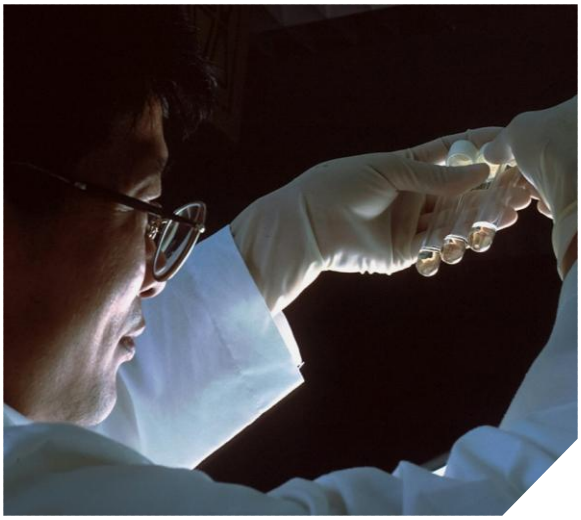
Despite having fewer programs, however, the US originates a higher number of unique programs in these key biologic categories (see Figure 4B). This crucial distinction suggests that while China is a powerhouse for development and optimization – a development engine adept at advancing multiple programs against known targets – the discovery of novel, first-in-class targets and true "zero-to-one" innovation still appears to be driven predominantly by the US. China's strength, therefore, lies in its ability to expertly iterate and improve upon existing concepts within its highly efficient clinical ecosystem. In contrast, the US appears to remain the primary hub for pioneering entirely new therapeutic approaches.

11

The next lightning strike
Forecasting the future of China's oncology pipeline

While the PD-1/VEGF story continues to unfold, the critical question for investors and deal-makers is where lightning might strike next. Our analysis of the oncology pipeline in China points toward several potential waves of disruptive innovation, with many promising programs already demonstrating a strong foundation of efficacy and safety. Notably, there are significant overlaps between the Chinese and US pipelines, particularly in the targeting strategies of next-generation bispecific antibodies. These shared strategies include combining checkpoint inhibition with anti-angiogenesis (e.g., PD-(L)1/VEGF), dual immune checkpoint blockade (e.g., PD-(L)1/CTLA-4), and T-cell-engaging bispecifics (e.g., CLDN18.2/CD3).

Among these, the combination targeting of PD-(L)1/4-1BB is particularly promising. This strategy pairs checkpoint inhibition with a powerful costimulatory signal and has recently gained significant clinical validation. For example, Genmab and BioNTech's acasunlimab demonstrated a 27% objective response rate (ORR) in heavily pre-treated NSCLC patients in data presented at ESMO 2025. Its success relies on a "conditional activation" mechanism that focuses the immune response on the tumor, mitigating the systemic toxicities that plagued earlier 4-1BB agonists. This strong clinical proof-of-concept makes the class a prime candidate for the next wave of "China-to-West" licensing deals, as numerous Chinese biotechs are advancing similar assets.



Another approach rapidly gaining traction involves the development of PD-1/IL-2 bifunctional biologics. This strategy effectively combines the PD-1 "brake release" with an engineered IL-2 "gas pedal" in a single molecule to powerfully stimulate cancer-killing T-cells. The strategic value of this class was recently highlighted by Genmab's acquisition of Merus for approximately $8 billion in late 2025. While the deal was primarily driven by Merus' late-stage asset petosemtamab, its pipeline also includes MCLA-145, a PD-L1/CD137 (4-1BB) bispecific, and the company has patented novel anti-PD-1 domains, signaling deep expertise in combining checkpoint inhibition with other mechanisms. This commercial endorsement sets the stage for a potential frenzy, and the field is now keenly watching for the first randomized data from a next-generation IO-combination asset, as a positive result against a standard of care could be the catalyst that ignites the next immuno-oncology deal activity.

Yet another area of focus is the race to develop a best-in-class therapy for validated solid tumor targets such as Claudin-18.2 (CLDN18.2). The recent approval of Astellas's first-in-class antibody, zolbetuximab (Vyloy), established a new blockbuster market in gastric cancer, and China is at the forefront of developing next-generation successors. For example, at the 2025 ASCO meeting, China's CARsgen Therapeutics presented pivotal data for its CLDN18.2 CAR-T, satricabtagene autoleucel (satri-cel), which demonstrated a statistically significant improvement in progression-free survival (PFS) compared to standard chemotherapy in heavily pre-treated gastric cancer patients.

Strategic challenges

The era of sourcing innovation solely from the West is over. The rise of Chinese biopharma is among the most meaningful strategic dynamics facing the industry today, presenting both immense opportunities and significant risks. Navigating this new global reality requires deep local knowledge, rigorous scientific and commercial evaluation, and a global perspective to connect the dots, especially as the threat of trade restrictions and other barriers can emerge unexpectedly.

For those on the "buy-side" (pharmaceutical companies, investors), these dynamics underscore the need for increased sophistication and reach in business development activities, including a strong local presence with local knowledge and the network to understand nuances of the Chinese market. Value inflection can come from anywhere, but once a target is validated, China's ecosystem can rapidly generate multiple high-quality, in-kind assets, creating a competitive buyer's market.

The new reality is further complicated by recently enacted US legislation, such as the Biosecure Act (the Biosecure Foreign Company Risk Management Act), which was ultimately passed as part of the US defense budget after two years of debate and incremental revisions. While the final law is less restrictive than earlier drafts and was shaped to be more acceptable to US biopharmaceutical companies, it still places limits on how US pharmaceutical and biotechnology companies can work with certain China-based companies. For global partners, this creates an additional layer of compliance, supply-chain, and geopolitical risk that must be weighed against the scientific and commercial opportunity when structuring China-related partnerships.

The rise of Chinese biopharma is among the most meaningful strategic dynamics facing the industry today

For US- and EU-based biotech companies, this new landscape presents a formidable challenge and a call for strategic clarity. The bar for creating value has been raised; companies are no longer just competing with domestic peers but with a global engine of innovation capable of moving from concept to clinical proof-of-concept with speed and efficiency. To stand out and attract partners or investment, ex-China biotechs must focus on either true "zero-to-one" innovation with novel targets or develop therapeutic modalities and assets with defensible "best-in-class" profiles. A robust global strategy is no longer a late-stage consideration but a day-one necessity, requiring a clear-eyed view of how an asset will compete against fast-moving alternatives emerging from China.

This is where Ipsos' expertise can add value. As a strategic partner with a robust local presence in China, including 20 years of Oncology Monitor data, and deep global expertise, we help clients navigate this new reality. Our teams leverage local knowledge for rigorous search and evaluation. At the same time, our proven Opportunity Assessment and Competitive Gaming frameworks provide the scientific and commercial acumen to identify true value and anticipate competitive dynamics. We bridge the clinical-commercial divide to help you make evidence-based go/no-go decisions and build the optimal global commercialization strategy. The future will belong to those who can build bridges to the world's new innovation powerhouses, and Ipsos has the expertise, infrastructure, and strategic foresight to help you do so and thrive.

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