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BIOTECH'S COMING OF AGE

Biotech is back. But continued investor caution, the rise of China and fast-moving AI are changing the sector's contours. **By Melanie Senior**

The first four months of 2026 saw nearly $60 billion in up-front mergers and acquisitions (M&A) payments, biotech venture funding on track to top $30 billion over the full year, a dozen initial public offerings (IPOs), and the XBI index of public biotechs approaching its all-time-high.

Biotech is back. But the mood is more sober than jubilant.

Today's industry looks different from that of five years ago. It is battle-hardened and pragmatic, focused on what it needs to build, how fast and at what cost. Cutting-edge novelty and tech risk are (mostly) out; validated mechanisms, clinical data and capital efficiency are in. "There is a sense of optimism mixed with caution," says Josh Resnick, partner at RA Capital Management.

Facing apparently endless economic, geopolitical, regulatory and policy uncertainty, investors continue to mitigate risks they can control. They're doubling down on their existing companies, backing experienced teams, and focusing on well-tested modalities or precooked assets, often from China. They are building what pharma firms are buying today, rather than what they might wish for tomorrow.

The result is bigger rounds for fewer biotechs — a strong trend since 2023 — and even more crowding into hot spots like antibody–drug conjugates (ADCs), bispecifics or anything glucagon-like peptide-1 (GLP-1)-related (Fig. 1a). "The amount of capital being directed into these segments of biotech is even greater than last year," says Kenneth Harrison, senior partner, venture investments at Novo Holdings[1].

There are exceptions. Next-generation protein degradation methods and new gene editing techniques including in vivo chimeric antigen receptor (CAR)-T cell therapy are also winning support.

Yet the dominant dynamic — fewer, better-funded firms with safer assets — persists. So do two other hallmarks of biotech's coming of age: China and AI. China's fast-growing sector continues to produce best-in-class assets, but

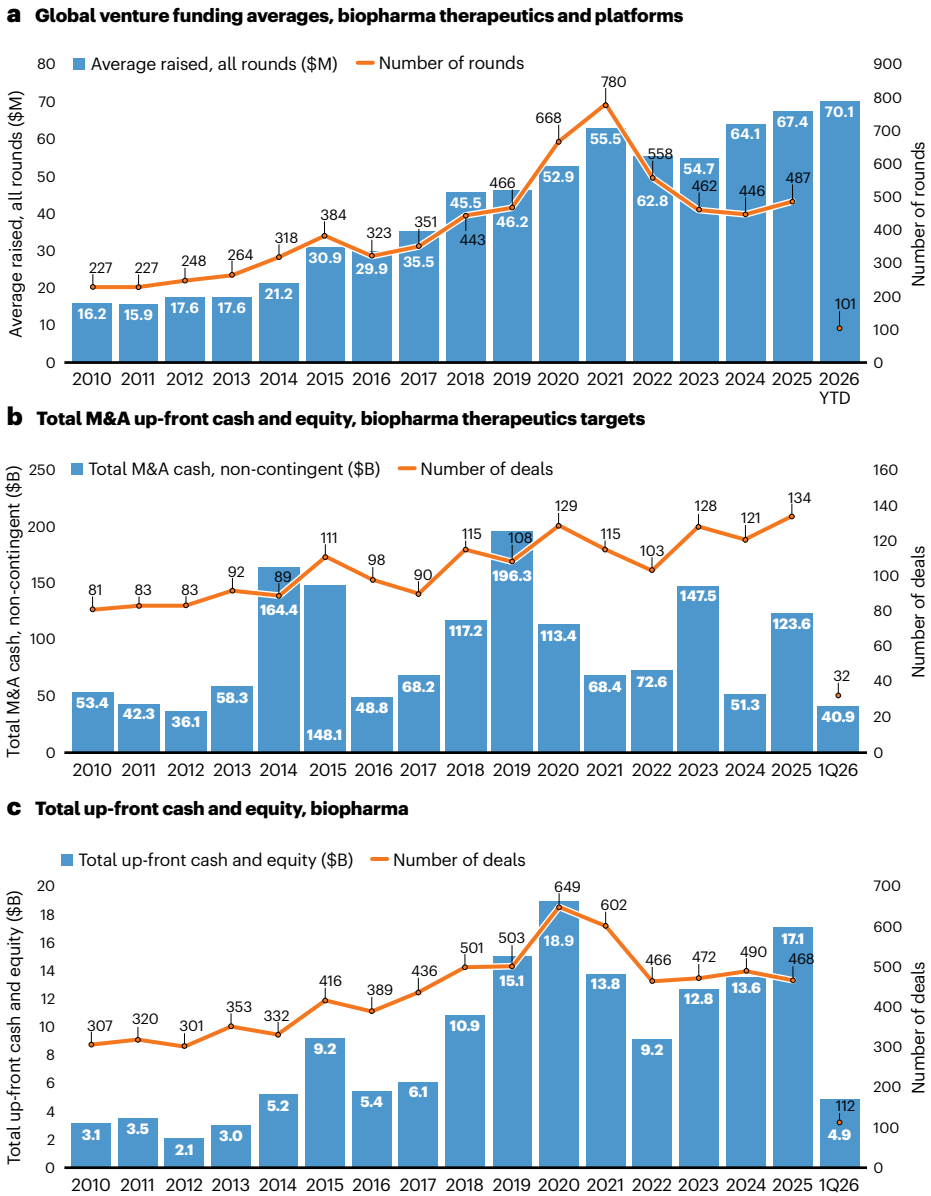


Fig. 1 | Since 2022, biotech rounds are bigger and fewer; the trend continues in 2026. a, Venture averages, global biopharma therapeutics and platforms. **b**, Total M&A up-front cash and equity for biopharma therapeutics targets. **c**, Up-front payments in biopharma partnerships are on track to break records in 2026. Source: DealForma.

the country also brings cheap, rapid early clinical testing. It is both competitor and enabler to the West's more mature sector.

Meanwhile, the growing impact of increasingly powerful AI models on drug discovery and design is fueling a new cohort of tech venture capital (VC)-backed startups and offering big pharma a direct supply of optimized discovery candidates.

Both forces challenge venture-backed biotechs' role as discovery engine to big pharma.

In 2026, the mature Western biotech sector is richer, more divided and more circumspect. It is no longer in crisis, but many investors are asking whether China's speed and AI's powers will weaken or potentiate conventional biotech, and how long the herd behavior around certain asset classes can continue.

Grow your own

Instructions for growing a biotech currently look as follows: license a best (or better)-in-class asset from China – GLP-1 relatives, ADCs and bispecific antibodies are favorites – stake it with experienced executives, pour on enough funding to get beyond phase 2, and watch it flourish into a rich acquisition target.

The $109 million series A raised by Copenhagen-based Sidera Bio in late 2025 to develop a GLP-1–glucose-dependent insulinotropic polypeptide (GIP)–fibroblast growth factor 21 (FGF21) triple receptor agonist licensed from China's Shanghai Minwei Biotechnology for obesity is one example. Another is Alveus Therapeutics' $197 million round in February 2026 to fund phase 2 trials of a GIP receptor antagonist–GLP-1 receptor agonist fusion protein sourced from China's Gmax Biopharm International and earlier-stage amylin agonists designed for more tolerable, 'higher quality' weight loss. The financing is not the kind that Paris-based Kurma Partners usually participates in. "We questioned whether it made sense to be part of this very large series A round," says Thierry Laugel, managing partner. "The answer, at the moment, is yes."

Other investors, including those typically more involved in early-stage biotech-building, are making similar calls. They cannot afford not to. They see huge returns like those accruing to investors in obesity-focused Metsera, sold to Pfizer in late 2025 for $10 billion after a fierce bidding war with Novo Nordisk. Many are seeking their next funds, trying to lure their own investors (limited partners) back to biotech during anxious macroeconomic times, with ongoing competition from less risky sectors like technology. "There are times when it is beneficial to be contrarian, but we also need to be 'in the flow' with regard to these highly sought-after therapeutic areas," says Novo Holdings' Harrison (Box 1).

Investor 'fear of missing out' on derisked deals swells round-sizes further: Novo Holdings in October 2025 co-led an oversubscribed $165 million A round in Expedition Therapeutics, built around a once-daily, oral dipeptidyl peptidase-1 (DPP-1) inhibitor licensed from Fosun Pharma. The funds will take the asset through phase 2 for chronic obstructive pulmonary disease (COPD), and, perhaps, toward a deal like Merck & Co.'s $10 billion acquisition of COPD-focused Verona Pharma, one of 2025's biggest acquisitions. (Verona's Ohtuvayre (ensifentrine) was already approved.) Kinaset Therapeutics' $103 million series B in January 2026 to advance pan-JAK inhibitor frevecitinib through phase 2 for severe asthma was also oversubscribed. "It's hard to predict where markets are heading, so we make investments where there is strong commercial

BOX 1

New funds focus on later-stage assets

The build-for-pharma formula directs new fund raises. Blackstone's $6.3 billion life sciences fund, announced March 2026, will focus on late-stage assets with blockbuster potential. Biotech VCs continue to shift downstream, too. Several in Europe, including Kurma Partners, are majority owned by large asset management groups. Jeito Capital's freshly raised $1.2 billion fund — twice the size of its predecessor — will support clinical-stage companies that can serve as 'plug and play' for pharma, according to founder and CEO Rafaèle Tordjman. London- and Geneva-based Medicxi will maintain its asset-centric strategy with its latest €500 million ($580 million) fund. Medicxi-founded Centessa, built around a collection of programs, was the subject of a $6.3 billion purchase offer in March from Eli Lilly. The lead program is orexin receptor-2 agonist cleminorexton, in phase 2 for narcolepsy types 1 and 2 and for idiopathic hypersomnia.

BOX 2

Regulatory and pricing risk

The FDA has endured 18 months of turmoil, with frequent leadership changes, low staff morale and mixed messaging over its approach to certain categories, like gene-edited medicines and cell-based therapies[6]. The latest departures include that of FDA Commissioner Marty Makary and of the acting head of the Center for Drug Evaluation and Research, who had been in the post only months. May 2026 also saw another new acting director appointed to the FDA's vaccine and cell therapy approval division, the Center for Biologics Evaluation and Research.

US drug pricing policy is also in flux. US President Donald Trump's Most Favored Nation executive order, issued in 2025, pegs US drugs prices to those in similarly wealthy countries in Europe or those in Japan. Companies may either limit non-US drug sales (by not launching at all, or by launching with US-level prices that limit uptake) or lower US prices. Neither is attractive. This policy, on top of Inflation Reduction Act of 2022 that forces negotiated Medicare prices onto high-selling drugs after 9 or 13 years on the market, is changing global drug launch strategies and the drugs pipeline.

logic," says Christoph Broja, partner at Kinaset investor EQT Life Sciences.

Safe-bet M&A

It's a rational approach. The IPO window remains selective, open to safer, later-stage stories. The clutch of US IPOs so far in 2026 includes Generate Biomedicines, whose phase 3 thymic stromal lymphopoietin (TSLP) antibody is similar to AstraZeneca's Tezspire (tezepelumab), and Kailera Therapeutics, with a phase 3 GLP-1–GIP agonist licensed from Jiangsu Hengrui Pharmaceuticals. In a late April IPO, Seaport Therapeutics raised $250 million for delivery-enhanced central nervous system drugs, fronted by a prodrug of the neurosteroid allopregnanolone in phase 2b for major depressive disorder.

Some new listings have faltered. Shares in Antwerp, Belgium-based Agomab Therapeutics (immuno-inflammation) and in Eikon Therapeutics (oncology) are down; both have assets in phase 2. But a more discerning public market is welcome, says RA Capital's Resnick. "The market is being rational."

Unlike IPOs, M&A is a certainty and offers investors a final exit. Pharma pipelines need to be filled as top-selling drugs lose exclusivity. 2025 was a strong year, with over $123 billion in up-front M&A payments. 2026 is on track to do even better, potentially becoming one of the richest dealmaking years ever (Fig. 1b).

Buyers in an uncertain world, like investors, want to mitigate regulatory and pricing risk (Box 2).

Several of the biggest M&A deals so far in 2026 involve best-in-class or more convenient drug candidates that originated in China (Table 1). Terns Pharmaceuticals attracted $6.7 billion from Merck for its oral allosteric BCR:ABL1 tyrosine kinase inhibitor for chronic myeloid leukemia, licensed from Hansoh Pharma. Rapt Therapeutics' phase 2b food allergy asset, long-acting anti-immunoglobulin E antibody ozureprubart, originated at Shanghai Jeyou Pharmaceutical. Three other acquisitions involved marketed rare disease drugs.

Despite strong M&A totals, there are way too few deals to go around for the many hundreds of biotechs. "The vast majority of investors are still waiting for an exit," says Christoph Broja at EQT, an investor in Planegg, Germany-based ADC firm Tubulis, recently acquired by Gilead Sciences for $3.15 billion.

Partnership patterns

R&D partnerships follow similar patterns as VC rounds and M&A: fewer, richer and more China-focused. Combined up-front payments of almost $5 billion in the first quarter of 2026 put the year on track to become the biggest ever for R&D licensing deals (Fig. 1c).

China-sourced assets made up nearly half of licensing deal value in 2025, according to Evaluate. This year that share could reach two-thirds (Fig. 2). Hundreds of Chinese biotechs are developing ADCs and multispecific antibodies, with specialist contract development and manufacturing organizations like WuXi XDC helping accelerate them into the clinic.

Signs of the times include Takeda's multi-asset deal with Innovent Biologics in late 2025 and, in early 2026, AstraZeneca's obesity-focused partnership with Hong Kong-based CSPC Pharmaceutical Group, each worth $1.2 billion up front. Takeda got global co-development rights to a PD-1–interleukin-2 α-bias bispecific antibody, rights outside greater China to a phase 3 claudin 18.2-directed ADC for gastric cancers, plus an option on a bispecific EGFR × B7H3 ADC. AstraZeneca bought similar territory rights to eight programs, including a long-acting GLP-1–GIP receptor agonist entering phase 1, and access to CSPC's AI-enabled peptide discovery platform and delivery technology.

Some deals are repeat business: Roche in January 2026 returned to MediLink Therapeutics with $570 million in up-front and near-term milestones for rights outside greater China to a B7H3-targeted ADC in phase 2 in China for lung and nasopharyngeal

Table 1 | M&A deals worth >$1 billion up front in 2026[a]

Companies	Date announced	Up-front cash ($ billion)	Most advanced stage at signing	Main therapy areas (modality)
Sun Pharmaceutical Industries (buyer) Organon (seller)	26 April 2026	$11.75	Marketed	Women's health (biologics; biosimilars)
Gilead Sciences (buyer); Arcellx (seller)	23 February 2026	$6.73	Phase 3	Oncology, autoimmunity (CAR-T)
Merck & Co. (buyer); Terns Pharmaceuticals (seller)	25 March 2026	$6.70	Phase 1/2	Oncology (small molecule)
Centessa Pharmaceuticals (buyer); Eli Lilly (seller)	31 March 2026	$6.30	Phase 2	Neuroscience (small molecule)
Biogen (buyer); Apellis Pharmaceuticals (seller)	31 March 2026	$5.60	Marketed	Rare autoimmune (peptide)
Eli Lilly (buyer); Kelonia Therapeutics (seller)	20 April 2026	$3.25	Phase 1	Autoimmunity, oncology (in vivo CAR-T)
Gilead Sciences (buyer); Tubulis (seller)	7 April 2026	$3.15	Phase 1/2	Oncology (ADC)
Neurocrine Biosciences (buyer); Soleno Therapeutics (seller)	6 April 2026	$2.90	Marketed	Rare genetic endocrine (small molecule)
Servier (buyer); Day One Biopharmaceuticals (seller)	6 March 2026	$2.50	Marketed	Oncology (small molecule, ADC)
GSK (buyer); Rapt Therapeutics (seller)	20 January 2026	$2.20	Phase 2	Allergy (antibodies)
UCB (buyer); Candid Therapeutics (seller)	3 May 2026	$2.00	Phase 2	Autoimmune (TCE)
Chiesi (buyer); KalVista Pharmaceuticals (seller)	29 April 2026	$1.90	Marketed	Rare diseases (oral)
Gilead Sciences (buyer); Ouro Medicines (seller)	23 March 2026	$1.68	Phase 1b/2a	Autoimmune (T cell engager)
Eli Lilly (buyer); Ventyx Biosciences (seller)	7 January 2026	$1.19	Phase 2	Autoimmune (small molecule)

[a]To early May. Excludes Pfizer/GSK/Shionogi changes to ViiV Healthcare shareholdings. Source: BCIQ.

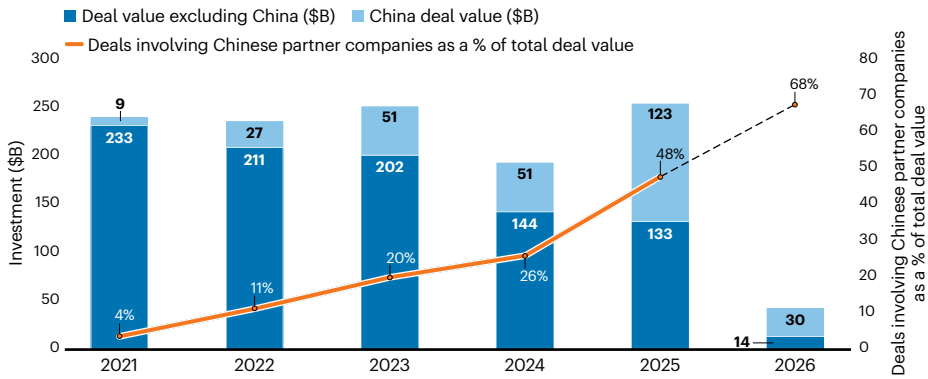


Fig. 2 | China-sourced assets could account for over two-thirds of licensing deal value in 2026. Source: Evaluate.

cancers. The Swiss group had licensed a cMet-targeted ADC in January 2024.

Next-gen ADCs everywhere

Evaluate projects global ADC sales of over $57 billion by 2032, almost triple 2026's total. M&A, partnership and venture deals continue to flow into a class with huge scope for expansion and differentiation. Since the start of 2025, ADC licensing deals have absorbed almost $3 billion in combined up-front payments, according to Evaluate.

Gilead's Tubulis buy was for a phase 1/2 ADC targeting as-yet-unconquered cancer target Napi2b and a conjugation technology. It came just weeks after the biotech had raised $361 million.

No wonder ADC biotechs subvert the 'too early to raise money' rule: Sidewinder Therapeutics attracted an oversubscribed $137 million series B in April 2026 for its preclinical bispecific ADCs. Marseille, France-based Adcytherix secured a $115 million series A in October 2025 for its ambition to develop new ADC payloads (most use topoisomerase-1 or tubulin inhibitors, leading to drug resistance), though its phase 1, topoisomerase-1 inhibitor-carrying lead ADC helped[2]. London-headquartered Valink Therapeutics raised almost $12 million in a pre-A round in October 2025 for AI-enabled bispecific ADC design, tapping two trendy fields.

Next-generation ADCs are also moving beyond cancer: Novartis's $12 billion Avidity Biosciences acquisition in October 2025 brought in late-clinical-stage antibody–oligonucleotide conjugates for rare genetic neuromuscular disorders. Linking therapeutic oligonucleotides to antibodies that target the transferrin receptor 1 on muscle cells may enable much higher levels of muscle uptake in patients with disorders such as Duchenne muscular dystrophy, potentially addressing the efficacy issues that have dogged marketed oligonucleotide therapies.

Immunology surge

A new treatment frontier is unfolding across autoimmune diseases. B cell-depleting CAR-T cell therapies and T cell engager (TCE) antibodies show clinical evidence of durable, treatment-free remission from disorders like lupus, pointing to possible immune system 'reset'[3].

Rich R&D partnerships and acquisitions over the last 18 months reflect this promise, and many other (cell- and non-cell-based) immune-modulating mechanisms are under investigation. The size of the autoimmune diseases therapy market, which some estimates put at over $220 billion by 2035, has drugmakers seeking the most effective, practical modalities.

In May 2026, UCB offered $2 billion cash for Candid Therapeutics, whose lead BCMA–CD3

BOX 3

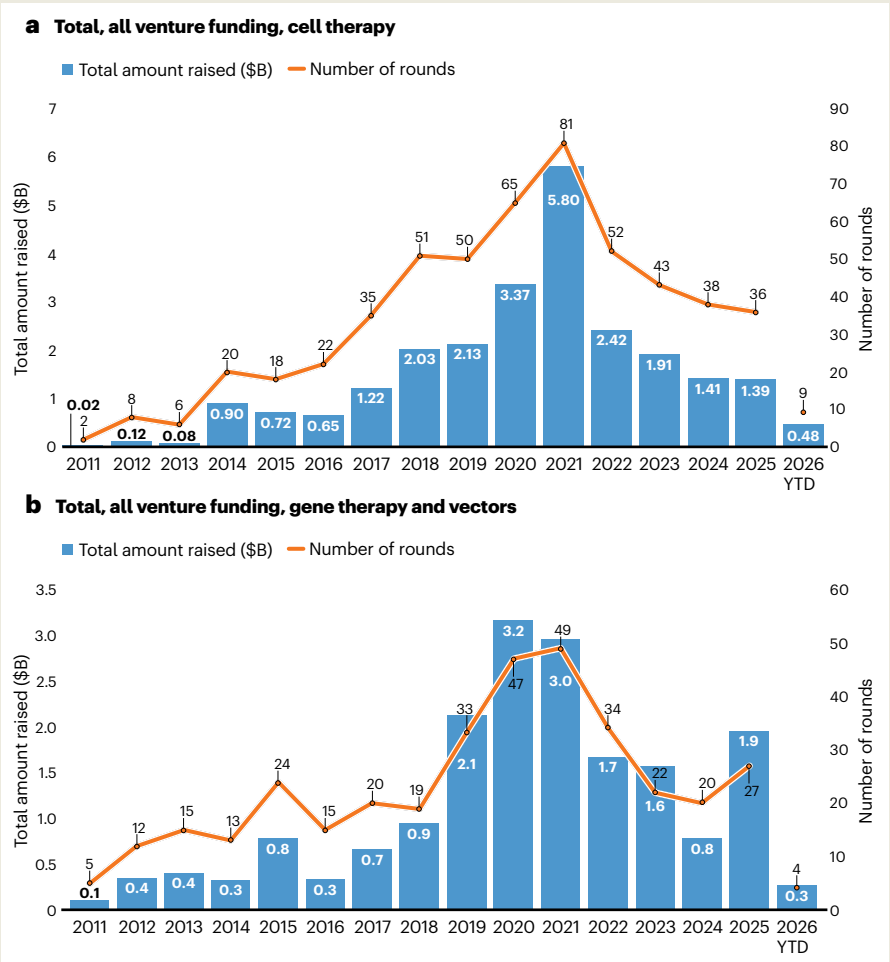
Cell and gene therapy (mostly) still out of favor

Most cell- and gene-therapy companies do not fit investors' and pharma's preference for derisked assets serving large markets and have suffered as a result (see image).

There are bright spots, including in vivo CAR approaches to autoimmune diseases and new gene editing and precision engineering tools — including AI-powered approaches — that may make gene therapies more precise, safer and more accessible. Companies are also working to reduce manufacturing costs.

Aspen Neuroscience raised $115 million in December and in March released promising data in 8 patients from a phase 1/2 trial of sasineprocel, an autologous induced pluripotent stem cell-derived dopaminergic neuron precursor cell therapy for Parkinson's disease. No immune suppression was required with the therapy, designed to restore dopamine and rebuild movement-linked neural circuitry. Aspen is reported to be eyeing an IPO. "We continue to fund truly innovative work with companies willing to go where no one else has — that is where the greatest returns ultimately lie," says Yuan at Lyfe, an investor in Aspen.

With more experience of the most commercially promising gene therapy indications, like eye diseases, wealthier pharmas like Eli Lilly can afford to take risks and benefit from low prices. Last year it licensed MeiraGTx's rare eye disease therapy and bought listed Adverum Biotechnologies for a fraction of its 2020 share price, even though its wet age-related macular degeneration therapy, ixo-vec, is now in phase 3.



Venture capital funding for cell and gene therapy has fallen sharply from 2021 highs. a, Total venture capital for all of cell therapy. b, Total venture capital for gene therapies and vectors. Source: DealForma.

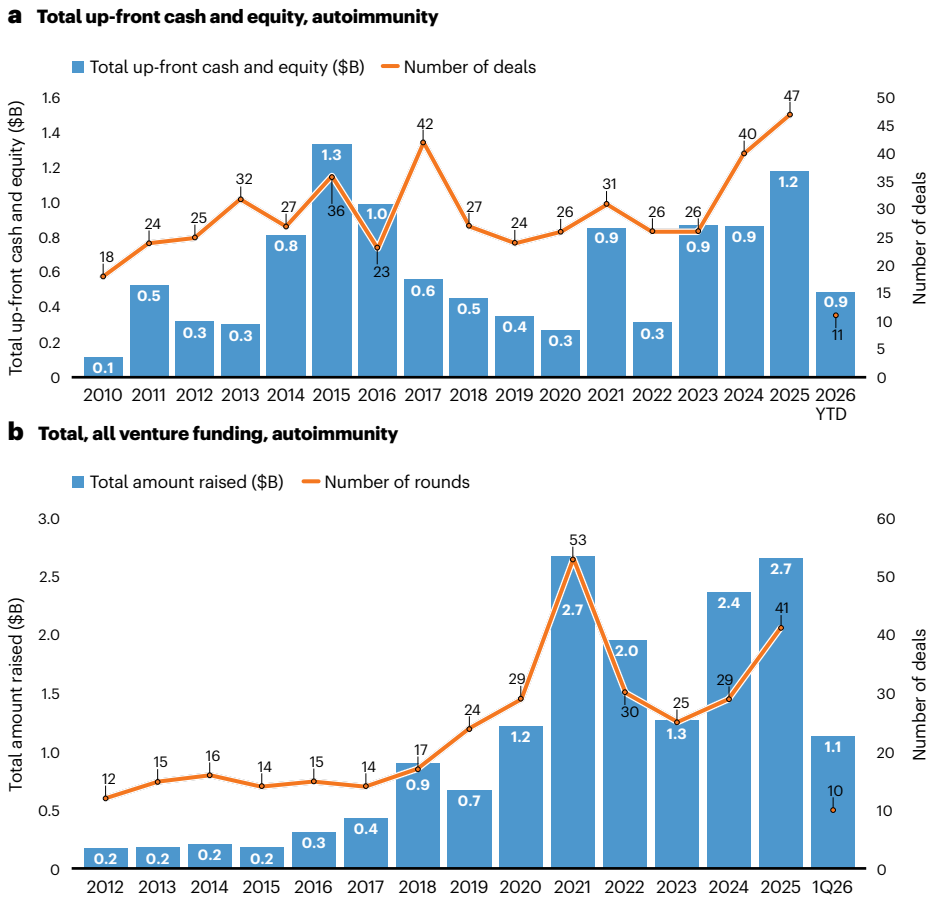


Fig. 3 | Up-front cash and equity in 2026 are on track to be the highest in a decade. a, Up-front cash and equity for autoimmunity-focused R&D partnerships. **b**, Total amount raised for autoimmunity from all venture funding. Source: DealForma.

TCE cizutamig (sourced from Shanghai-based EpimAb Biotherapeutics) is entering phase 2 for myasthenia gravis and interstitial lung disease secondary to rheumatological disease. The biotech had just raised half a billion dollars from investors including Venrock Healthcare Capital Partners and RA Capital Management ahead of a reverse merger with Rallybio that would have taken it public.

The acquisition mirrors Gilead's $1.67 billion deal, weeks earlier, for Ouro Medicines and its China-sourced, BCMA-targeted TCE in phase 1b for autoimmune cytopenias. (Ouro Medicines, created by VC firm Monograph Capital and GSK, emerged in January 2025 and was run by co-founder Jaideep Dudani, part of the founding team at Human Immunology Biosciences, sold to Biogen in 2024.)

In vivo CAR-T involves delivering genetic instructions for making T cells modified with chimeric antigen receptors (CARs) inside the body, potentially avoiding the cell extraction, processing and readministration required for autologous CAR-T therapy. Convenience is helpful in any treatment setting, but is particularly important in the case of chronic, non-life-threatening conditions like many autoimmune diseases. Prominent in vivo CAR-T immunology deals in 2025 include AbbVie's $2.1 billion acquisition of Capstan Therapeutics, whose phase 1 lead candidate uses lipid nanoparticles (LNPs) to deliver mRNA encoding a CD19-targeted CAR construct to cytotoxic T cells, and Bristol Myers Squibb's $1.5 billion deal for Orbital Therapeutics, whose preclinical lead candidate also uses LNPs to deliver an mRNA-encoded CAR that targets CD19. In the latter case, though, the RNA is circular, rather than linear, to provide greater stability and more durable protein expression. This year Eli Lilly followed suit, buying Orna Therapeutics for up to $2.4 billion for its LNP–circular RNA platform, including a clinic-ready in vivo CAR-T candidate that targets CD19.

In vivo CAR technology is also promising in oncology. Eli Lilly in April 2026 paid $3.25 billion for Kelonia Therapeutics, which uses modified lentiviral vectors to achieve permanent CAR integration in T cells and more durable responses in multiple myeloma. (By contrast, LNP-mediated mRNA delivery results in transient CAR expression suited to autoimmune settings, with repeat dosing if required.) Kelonia had not had an easy ride through the ongoing cell and gene therapy downturn (Box 3).

The total value of R&D partnerships in autoimmune disease more than doubled to almost $30 billion in 2025, according to DealForma. Up-front cash for autoimmune-focused R&D deals so far in 2026 point to decade-high full-year totals (Fig. 3a). Venture funding totals are also trending to an all-time-high (Fig. 3b).

Newcomer autoimmune biotechs include Prolium Bioscience, which raised $50 million in March to take a CD20-targeted TCE (licensed from KeyMed Biosciences and InnoCare) into the clinic for systemic sclerosis, and TRex Bio, which raised the same amount in January for its agonist of TNFR2, which is preferentially expressed on the most suppressive regulatory T cells in the skin and gut. The antibody is in phase 1a/b for atopic dermatitis.

Seed selection: degraders, precision gene engineering

With the spotlight still on later stage opportunities, many preclinical biotechs and their backers are struggling. It is too early to call it a crisis, however. In absolute terms, seed funding has more than doubled since 2020, according to DealForma. Seed rounds, like those at later stages, are bigger and fewer.

Several of the top seed rounds in 2026 support next-generation targeted protein degradation methods aiming to unlock previously undruggable targets (Table 2).

Paris-based Enodia Therapeutics and Utrecht, Netherlands-based Laigo Bio raised €20.7 million ($24 million) and €17 million ($20 million), respectively, in early 2026 – seed sums unheard of in Europe a few years ago (Box 4). Laigo is making bispecific E3 ligase-binding antibodies against cancer targets; Enodia is targeting the Sec61 endoplasmic reticulum membrane translocon to selectively degrade secreted proteins at the point of synthesis, rather than after they're fully folded.

Fortitude Biomedicines' lead candidate is a T cell-targeting bispecific antibody in Investigational New Drug application-enabling studies for axial spondyloarthritis, an autoimmune condition. Launched with $13 million in January, Fortitude has a pipeline that includes degrader–antibody conjugates for targeted

Table 2 | Top seed rounds of 2026 (to early May)

Company	Amount raised ($ million)	Date	Country	Description
Proxima (formerly VantAI)	80	13 January 2026	United States	AI drug discovery
Serif Biomedicines	50a	21 April 2026	United States	Modified DNA as medicine (AI-enabled)
Excalipoint Therapeutics	27.7	18 March 2026	China	TCEs for solid tumors
Enodia Therapeutics	24.2	8 January 2026	France	Degraders (targeting Sec61 translocon)
Laigo Bio	17	26 March 2026	Netherlands	Degraders (surface removal-targeting chimeras)
Aurora Therapeutics	16	9 January 2026	United States	Personalized gene editing
Infinitopes	15.4	21 January 2026	United Kingdom	AI to optimize target selection and trial support
Fortitude Biomedicines	13	26 January 2026	United States	Glue-DACs: ADCs using molecular glue degraders
Gelmedix	13	17 February 2026	United States	Regenerative cell therapy for vision loss
ParcelBio	13	7 May 2026	United States	Next-generation mRNA medicines
Signadori Bio	12.9	6 May 2026	France	In vivo monocyte immunotherapy
Tacalyx	12.8	29 April 2026	Germany	Cancer immunotherapy
Tecregen	12.5	8 January 2026	Switzerland	Thymus regeneration
Topos Bio	10.5	8 January 2026	United States	AI-powered drug discovery models
Idel Therapeutics	10.3	17 March 2026	Germany	Cytosol-directed delivery technology
Rybodyn	10	24 March 2026	United States	Exploring 'dark transcriptome' — RNA transcribed from non-coding DNA regions

Source: BCIQ. [a]Serif financing is not classified as seed in BCIQ.

BOX 4

European seeds

Enodia and Laigo Bio were shepherded to their seed funding by Argobio Studio, a startup co-founded with €50 million ($60 million) by Kurma and French government investor Bpifrance in 2021, with backing from Angelini Ventures, Evotec and Institut Pasteur. Another round of pre-seed support funding is said to be in the works.

In March 2026, Ysios Capital launched a €100 million ($115 million) company creation fund for Spain, while Kurma's €215 million ($252 million) Biofund IV, whose final closing was announced April 2026, plans early-stage investments and new company creation across Europe.

Large European VCs including Sofinnova Partners and Forbion in early 2026 created the European Life Sciences Coalition to encourage more pension capital into early-stage biotech.

degradation of transcriptional coactivators that cancer cells need to survive.

Selective pressure on startups is good, according to Roel Bulthuis, managing partner at Syncona. "Capital is concentrated in better ideas," he says, and in teams with more focused plans to generate returns. Capital is also concentrated in fewer, larger VCs who can afford to fund companies through several rounds. Early-only investors, unable to support their charges through to exit, have lower average returns, according to Preqin data cited by Bulthuis.

End-to-end VCs continue to nurture innovative startups in house, including several in precision gene engineering (Box 3). Dispatch Bio, founded by Arch Venture Partners and the Parker Institute for Cancer Immunotherapy, emerged in July 2025 with a $216 million series A to expand CAR-T cell therapies into solid tumors. The method involves first addressing a key challenge for such therapies — the lack of tumor-specific targets — by using an engineered tumor-specific virus to deliver a novel antigen to tumor cells, and then following up with next-generation CAR-T cells that target this antigen. Stylus Medicine, co-created by RA Capital and Khosla Ventures, is using large serine recombinases to precisely insert CAR payloads for in vivo cancer immunotherapy. Third Rock's Azalea Therapeutics, co-founded by CRISPR pioneer Jennifer Doudna, launched with $82 million in November and is chasing a similar goal. Its dual-vector approach uses T cell-targeted nanoparticles to carry CRISPR–Cas9 editing tools and AAVs to carry CAR transgenes[4].

These VCs also need safer plays: Third Rock's Syremis Therapeutics, which raised $165 million in December 2025, has a dual M1/M4 muscarinic receptor agonist in phase 1 for schizophrenia. The candidate follows in the footsteps of Karuna Therapeutics, which developed the M1/M4 muscarinic receptor agonist/antagonist Cobenfy (xanomeline/trospium chloride) — the first schizophrenia therapy in a new class for decades — and was acquired by Bristol Myers Squibb in late 2023 for $14 billion.

Next-gen AI — hype or hope?

AI-powered Proxima raised 2026's biggest seed round so far, from tech investors including DCVC and the chipmaker Nvidia.

This is the less selective, frothier biotech startup corner. Newly powerful generative AI models can turn the trial and error of

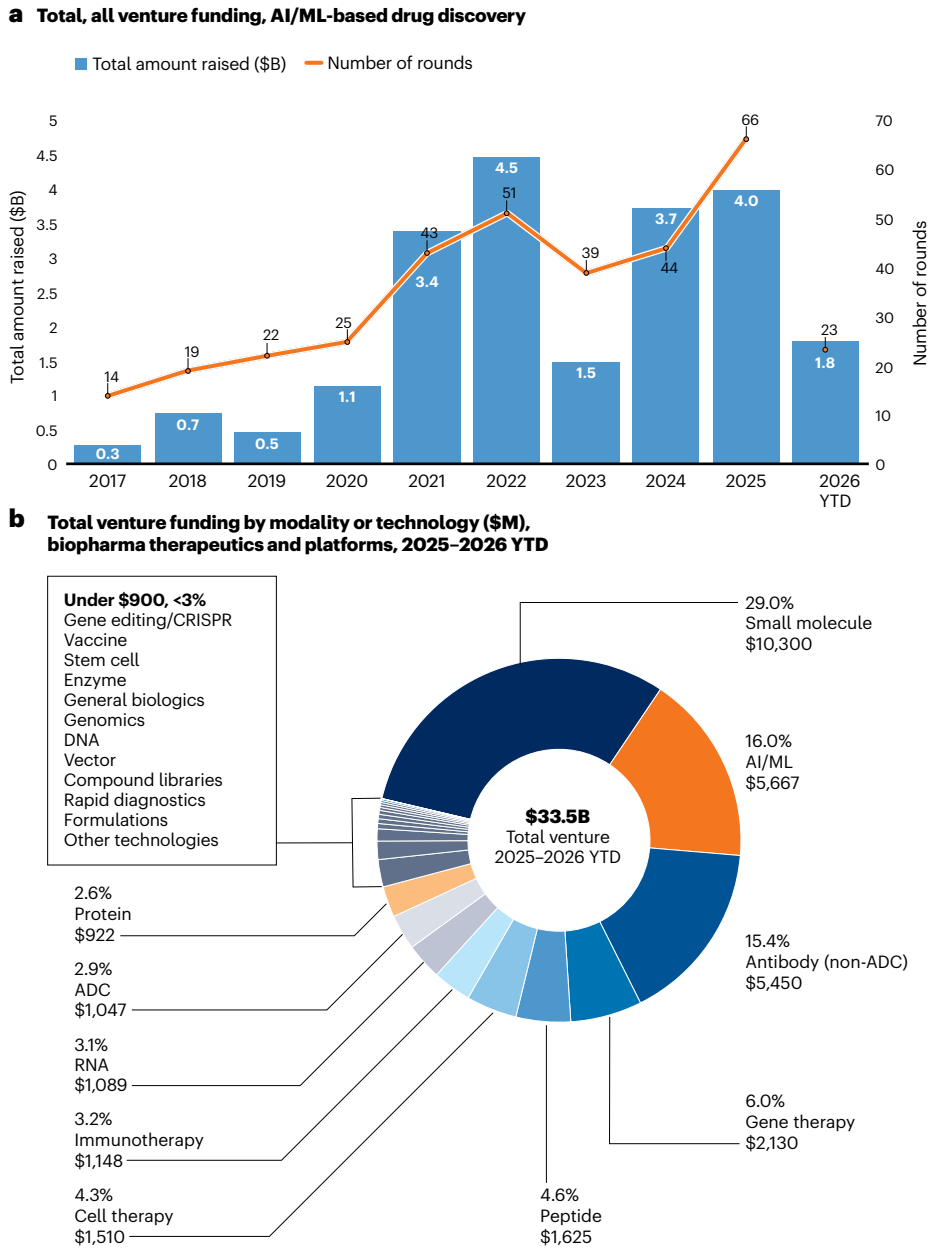


Fig. 4 | Total venture funding for AI/ML powered biotechs. a, Venture totals for AI/ML-powered biotechs, for which computational methods are as central to identity — and valuation — as biology. **b**, Total venture funding by modality or technology. Source: DealForma.

conventional discovery into rules-based engineering, say tech giants and their VC arms. They see drug R&D as one of AI's most valuable applications and are putting millions into 'AI-native' biotechs promising more precise, faster design of better drugs, and even programmable medicines[5]. Proxima is designing medicines that selectively modulate proteins, using detailed models of protein interactions. Chai Discovery, which raised a $130 million series B in late 2025, is using AI to make highly developable antibodies that may one day make wet lab testing redundant. Similar efforts are underway to machine-generate optimized degraders, macrocycles, conjugated and bispecific antibodies, and small molecules.

"We have spent the last decade looking at AI companies," says Annie Lamont, co-founder and managing partner of VC firm Oak HC/FT, until recently focused on healthcare and fintech. Then it co-led Chai's series B. Why? Because only now are the AI models good enough to not only find drugs faster, but to "find drugs that are more likely to be successful" in humans, says Lamont. After testing Chai's antibodies in its lab, Eli Lilly signed up in January 2026 to use Chai's models for new biologic design.

Serif Biomedicines emerged in April 2026 from Flagship Pioneering's incubator with $50 million. It is using AI to optimize sequences of modified DNA, which it packages inside LNPs with mRNA co-factors to create targeted, redosable medicines for genetic and immune system diseases.

First-quarter venture totals for AI- and machine learning-based (AI/ML) drug discovery firms suggest an annual haul of over $7 billion, almost double the previous year's (Fig. 4a). But these figures exclude $2.1 billion raised in May 2026 by Isomorphic Labs, an AI-backed drug discovery firm spun off in 2021 from Google DeepMind. (Isomorphic CEO Demis Hassabis developed the protein-folding predictor AlphaFold while at DeepMind.)

Since the start of 2025, total VC funding for AI-native biotechs — much of it from tech VCs — is second only to small molecules by modality or technology (Fig. 4b).

Many biologists and biotech VCs are skeptical of technologists' claims that machines can decipher biology's language and transform drug R&D. Earlier-generation AI biotechs fell short. Yet, as evidence builds of AI's impact on drug discovery timelines and of the quality of AI-optimized molecules, big pharma continues to engage, internally and via partnerships.

China catalyst

AI may be what helps Western biotech rise to the efficiency challenge presented by China. Speaking on a Heart of Healthcare podcast in early 2026, Lamont said: "We're in a race with China. They redesign drugs that already exist. If industry does not have the tools to rapidly accelerate novel therapeutics, we're going to be in trouble."

Others see China as an enabler. RA Capital helps its portfolio companies set up infrastructure in China to accelerate clinical development and cut costs, says Resnick. "The cheaper and faster we can develop drugs, the more resilient the sector is to price controls and other potential headwinds." Forbion managing partner and co-founder Sander Slootweg describes a global value chain in which Europe and the United States provide novel biology, China pushes molecules efficiently

and cheaply through proof-of-concept, and Western pharma firms run global clinical development.

China is evolving, though. For now, few of its companies can afford to take their drugs through clinical trials alone, in part because there is limited local VC funding. But the country's biotechs, most of which have AI tools baked in, will not remain service-providers for long. "Companies in China now realize that, as fast-followers, they face immense competition. So they have to look at newer, riskier programs," says Derek Yuan, partner at US–Asian healthcare investor Lyfe Capital.

Western biotech faces a similar challenge as it enters adulthood. Public biotech investors are not about to rush back into ultra-risky science. "The experiment that was run in 2020–2021 – financing ambitious new technologies without clinical data – didn't work," says Forbion general partner Nanna Lüneborg.

Yet biotech must balance the pull of safer, best-in-class assets with the need to stand out in a more global sector. It must do so while continuing to manage the geopolitical risk of US pushback against Chinese data in Investigational New Drug applications, the regulatory risk of the FDA's leadership merry-go-round and the economic risks of higher energy costs, more vulnerable supply-chains and a potential AI-mediated market meltdown.

China's challenge and AI's tools may be part of the answer. "In some ways, China's efficiency and speed could be what takes this industry to the next level," says Resnick.

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