W U T I S

ALTEOGEN

Equity Research Division

Alteogen Inc

Subcutaneous drug delivery enabler

Target Price: ₩292,397

Price *(20.01 / 21.01)*: ₩466,500 / ₩373,500

Downside Potential (20.01 / 21.01): -37.32% / -21.71%

Recommendation: SELL

Vienna, 21 January 2026

Team Overview

Equity Research

Vladimir Trofimov

Head of Equity Research

- Story Guidance
- Task Distribution

BSc. (WU) – 7th Sem.

Makar Vergovskiy

Associate

- Financial Modeling
- Valuation

BSc. (WU) – 3rd Sem.

Polina Zhuravlova

Analyst

- Company Overview
- Share Price Analysis

BSc. (WU) – 5th Sem.

Rocco Poltronieri

Fellow Analyst

- Business Model
- Valuation

B.Sc. (Wu) – 3rd Sem.

Bence Horváth

Fellow Analyst

- Strategy
- Industry Analysis

BSc. (WU) – 5th Sem.

Marc Biehl

Fellow Analyst

- Lifecycle Strategy
- Risks

BSc. (WU) – 5th Sem.

Agenda

Investment Thesis

Valuation prices in flawless execution despite low adoption risks and premature terminal value erosion

Key Investment Highlights

1. **Valuation Premium Implies Best-Case Execution**
   Valuation still implies flawless monetization and outsized BD, yet partners control launch timing, sequencing and adoption – limiting influence on rollout

2. **Platform Cliff Risk as Enhanze IP Rolls Off**
   Enhanze IP roll-off may lower barriers to entry, narrowing differentiation and compressing economics – bringing forward terminal-value erosion

3. **Keytruda SC – Adoption Friction and Compressed Runway**
   Adoption may remain muted pre-J-code and reimbursement normalization; nearby IV biosimilar entry shortens the runway to build SC penetration

4. **Disclosure Gap elevates Expectations**
   Limited visibility on scope and economics increases model risk – allowing expectations to outrun partner disclosures and comparable rollouts

5. **Insufficient Optionality for Future Pipeline**
   Rising platform and biobetter competition weakens pricing leverage, increasing exclusivity demands and constraining future BD and pipeline optionality

6. **Beneficiary of the IV-to-SC Lifecycle Trend**
   Pharmas approaching LoE are accelerating IV-to-SC reformulations; out-licensing agreements evidence demand for Hybrozyme-enabled switches

Company Overview

Alteogen has emerged as a leading IV-to-SC enabler with multiple global drug assets in development

Company Description

Alteogen Inc. is a biotechnology company developing **biologics** and **drug-delivery technologies**, including long-acting biobetters, antibody-drug conjugates, and biosimilars
Its **Hybrozyme** platform enables **subcutaneous delivery** of biologics and is partnered with global pharmaceutical companies

2008	~8, $Bn	9	12
Year of Foundation	Total Licensing Value	Global Pharma Partners	Drug Assets in Development

Management

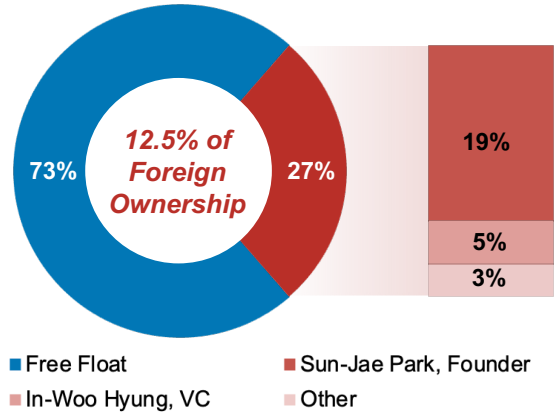
Tae-Yon Chun, PhD, JD

CEO
Since 2025

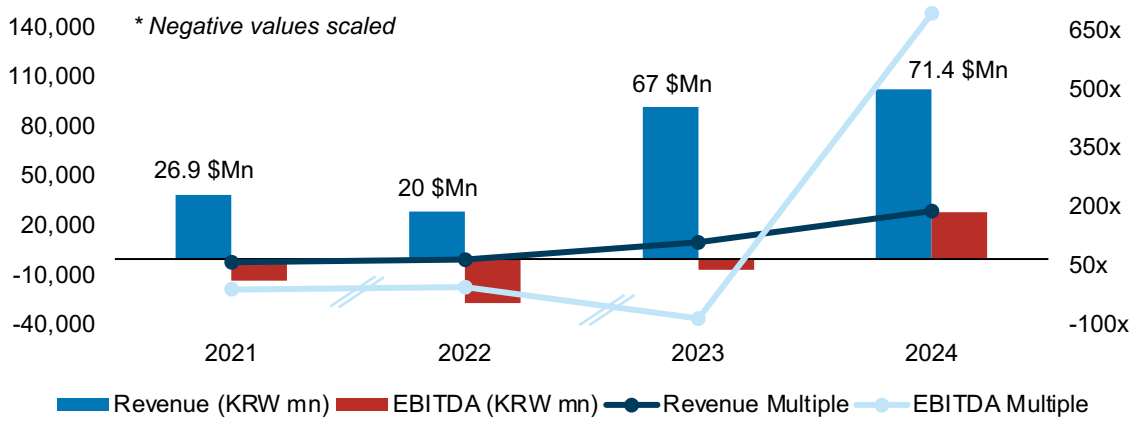
Vivek Shenoy, PhD, MBA

CBO
Since 2022

Shareholder Structure



Financial Performance



The Hybrozyme Pivot – Franchise Expansion vs. Lifecycle Constraints

Transforming **Legacy Franchises** to the **Hybrozyme Platform**, enabling **IV-to-SC Conversion** for major drugs

- Secured **Keytruda SC Royalties** via **Exclusive License** with **Merck & Co**
- Licensed **SC Oncology Portfolio** to **AstraZeneca** in deal worth **~$1.4Bn**
- Partnered with **Daiichi Sankyo** on **Enhertu SC** to expand in **ADC Drugs**

Expanding partnered **Conversions** to build a differentiated **Milestone + Royalty Pipeline** under Patent Life *(~2043)*

With shares up **>400% since early-2024**, the stock trades at a **demanding premium** to peers. Investors are ignoring the **material downside risk** from **biosimilar competition** eroding royalties from the mid-2030s and the **lack of residual value** post-2043 patent expiry

Share Price Performance

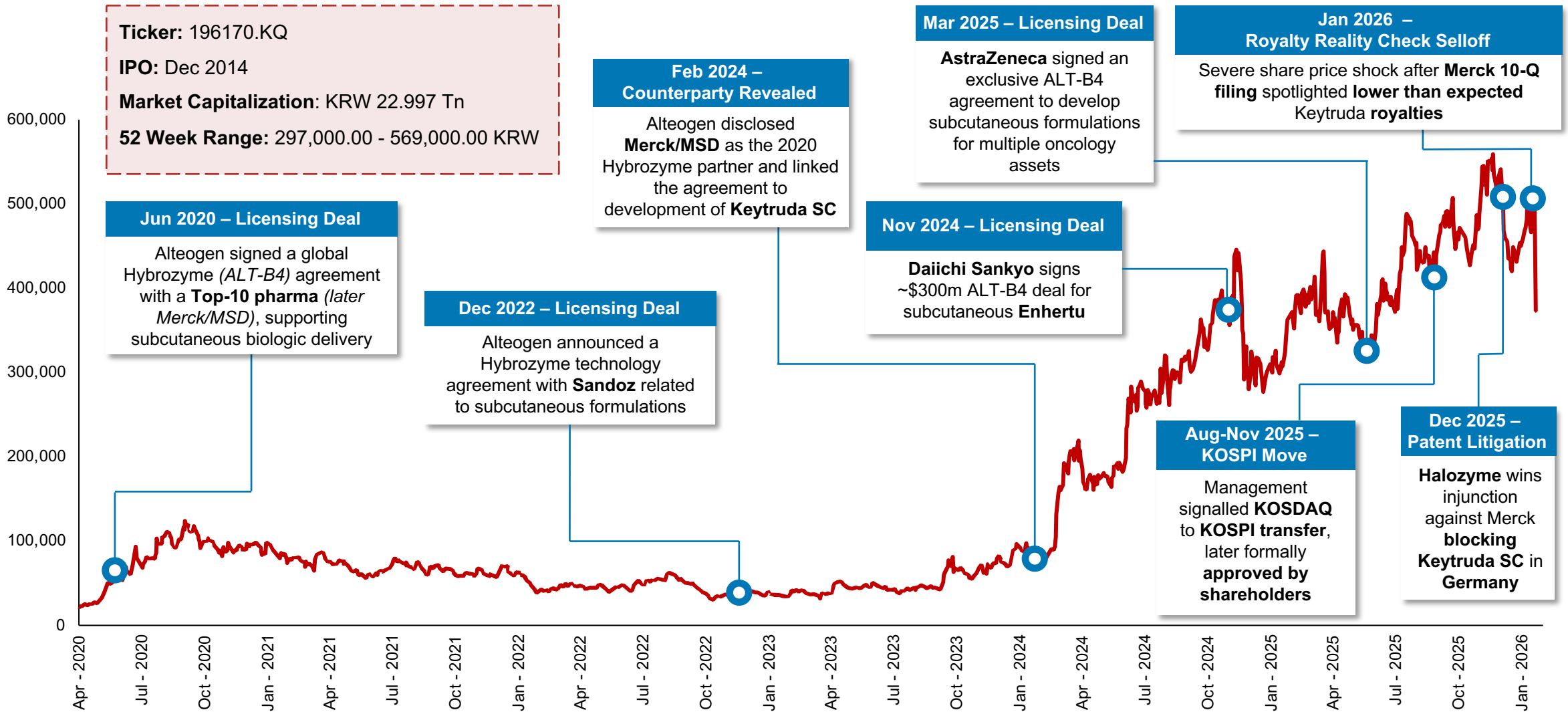
Deal-driven volatility creates repeatable post-catalyst pullbacks

Ticker: 196170.KQ

IPO: Dec 2014

Market Capitalization: KRW 22.997 Tn

52 Week Range: 297,000.00 - 569,000.00 KRW



Jun 2020 – Licensing Deal

Alteogen signed a global Hybrozyme *(ALT-B4)* agreement with a **Top-10 pharma** *(later Merck/MSD)*, supporting subcutaneous biologic delivery

Dec 2022 – Licensing Deal

Alteogen announced a Hybrozyme technology agreement with **Sandoz** related to subcutaneous formulations

Feb 2024 – Counterparty Revealed

Alteogen disclosed **Merck/MSD** as the 2020 Hybrozyme partner and linked the agreement to development of **Keytruda SC**

Mar 2025 – Licensing Deal

AstraZeneca signed an exclusive ALT-B4 agreement to develop subcutaneous formulations for multiple oncology assets

Nov 2024 – Licensing Deal

Daiichi Sankyo signs ~$300m ALT-B4 deal for subcutaneous **Enhertu**

Jan 2026 – Royalty Reality Check Selloff

Severe share price shock after **Merck 10-Q filing** spotlighted **lower than expected** Keytruda **royalties**

Aug-Nov 2025 – KOSPI Move

Management signalled **KOSDAQ** to **KOSPI transfer**, later formally **approved by shareholders**

Dec 2025 – Patent Litigation

Halozyme wins injunction against Merck **blocking Keytruda SC** in **Germany**

Bloomberg Finance L.P., Business Wire, Alteogen IR

Alteogen Inc

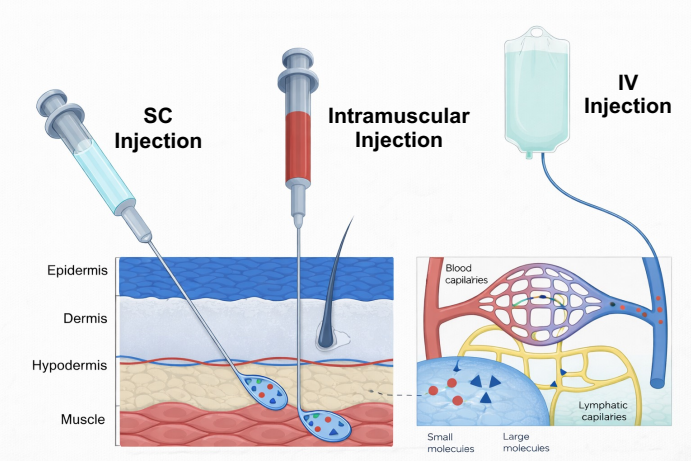
WUTIS – Equity Research

Market & Industry Overview

Intravenous *(IV)* and Subcutaneous *(SC)* Administrations – Comparison

SC improves clinic efficiency and total cost of care, but pricing and biosimilar dynamics will dictate end-market penetration

IV vs. SC: Economics & Incentives



Delivery Method Definitions
IVs enter the bloodstream with immediate effect
SCs target fat tissue for slower, sustained absorption

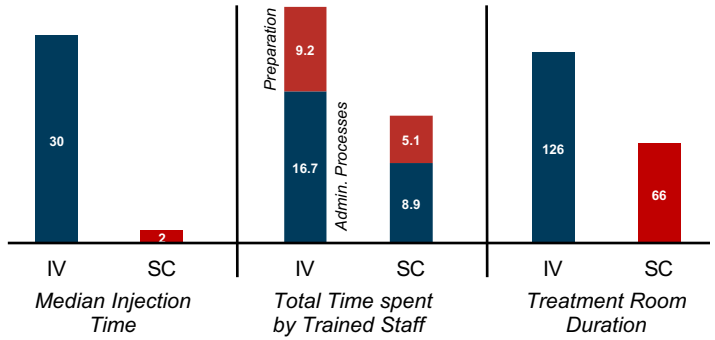
SCs Offer Key Patient Savings
For patients, shifting to SC injections offers significant **time-saving** and **cost-saving** benefits

IVs Preferred for Revenue Boost
US hospitals often prefer IVs, using the *"buy-and-bill"* system to maximize revenue on costly drugs

Insurers Drive Cost Efficiency
Insurers favor lower costs, making SC adoption a **key opportunity** for **savings**

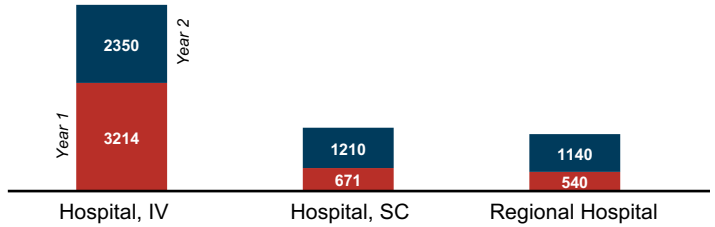
Key Advantages of SC

Time Comparison of Keytruda IV/SC, *Minutes*



SCs Improve Operational Efficiency
SC significantly reduces injection time, **room occupancy**, and **active time** spent by HCPs

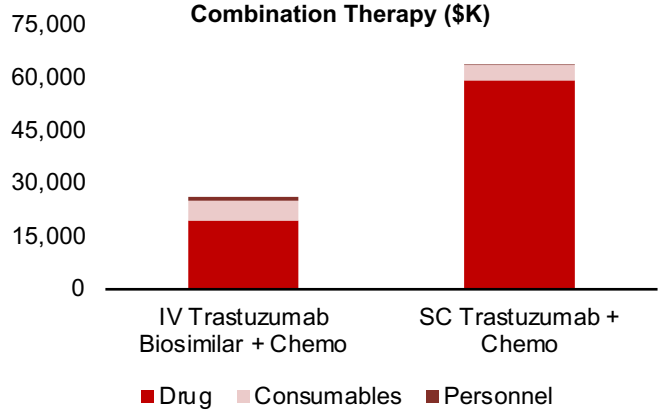
Cost Comparison of Natalizumab IV/SC, *2 Years*



Lower Burden Drives Cost Savings
Reduced administrative burden translates to significant cost savings via **lower resource use**

Implications for the End Markets

Combination Therapy ($K)



Insurers Favor SC Cost Efficiency
Insurers prioritize SC formulations on formularies provided they **maintain a clear cost advantage** over IVs

IV Biosimilars Erode Advantage
Deep **discounts** from IV biosimilars **threaten SC** cost benefits, particularly in combination therapies

SC Biosimilars Restore Balance
Long-term, SC biosimilar entry will lower prices, eventually **restoring the cost advantage** against IVs

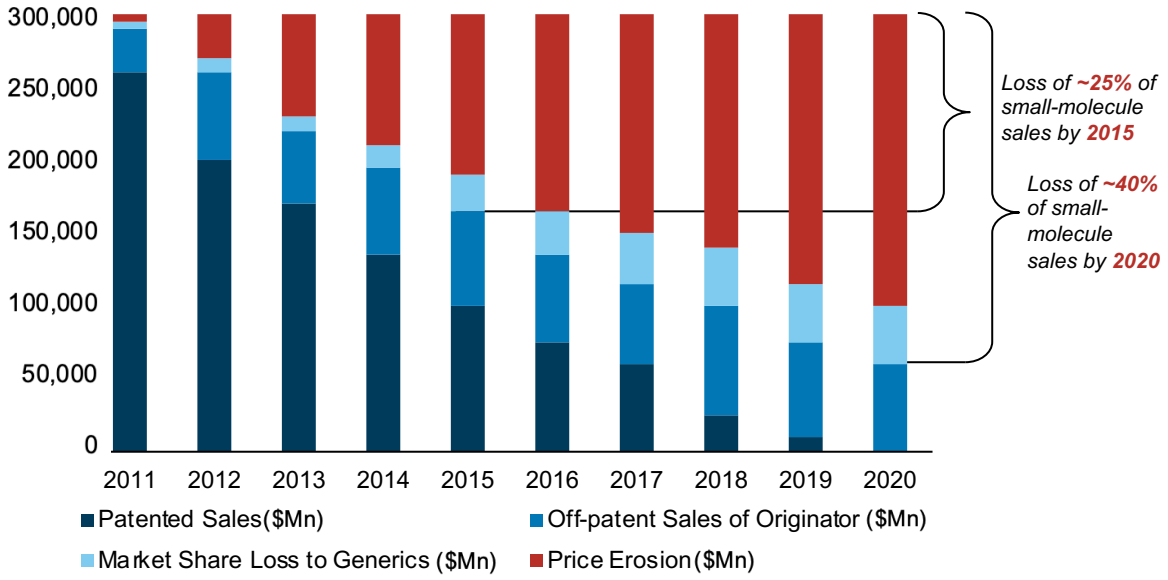
Price Spread Dictates Adoption
Ultimate market share depends on the **narrowing price gap** between **branded SCs** and **discounted IV options**

Alteogen IR, U.S. FDA, Merck HCP materials, HHS ASPE*
*(Medicare Part B drugs spending / payment methodology issue brief)

Strategic Conversion from IV to SC Administration

SC conversion helps Big Pharma preserve revenue and margins ahead of IV patent expiry and biosimilar entry

Sales at Risk in the US due to Patent Expiries



The 2 Tier Patent System

Composition of Matter
Tier 1 patent covers the **chemical compound** itself

Method of Use
Tier 2 patent covering the **co-formulation** and **application**

Implication for Big Pharma

The expiry of Halozyme's Enhanze enzyme turned the know-how into **commodity**
Competitors can **design around** biosimilars, as the **platform** is no longer protected

Lifecycle Management through SC conversion

Patent Renewal	SC Usecase	Customer Migration
Patent Life 20 years from the initial regulatory filing **Regulatory Extension** 5 years if patent life falls under 14 years	**Absorption** SC allows large volume-dispersion **Concentration** Lower serum peaks and drug wear-off	**Standard** Customers convert within franchise **Defensive Window** Conversion to be done before the IV expiry

Revenue Generation
This conversion transforms the patent cliff of the reference product into a **prolonged revenue tail**

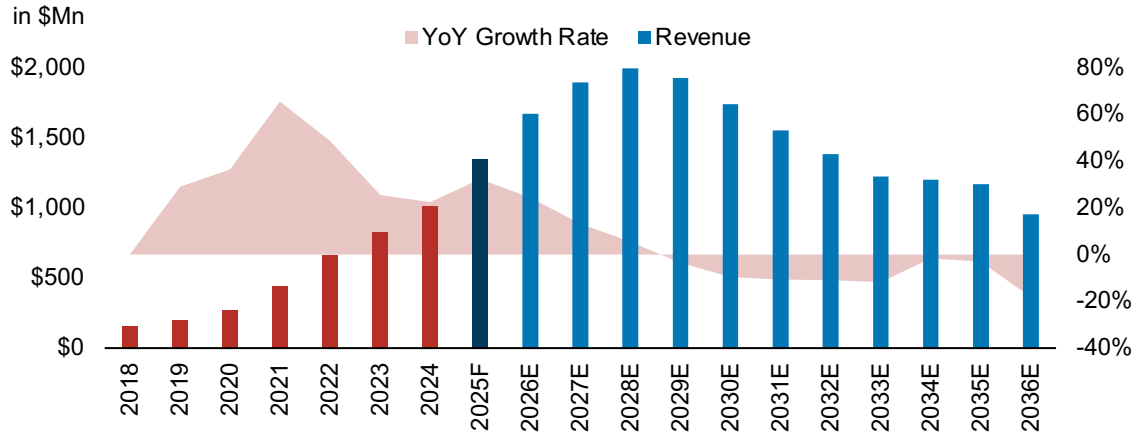
Margin Protection
Subcutaneous biobetters are positioned as **premium products**, this way maintaining franchise **profitability**

SC conversion is an effective **lifecycle management tool**, preserving **franchise value** from the entrance of **IV biosimilars**

Erosion of the Halozyme Monopoly

Enhanze patent expiry is commoditizing the SC enzyme platform and opening the door for new biobetter entrants

The Patent Cliff



Technology Lifecycle

Phase 1

Biobetters: the entrance of **superior** formulations, with longer patent life, extends **exclusivity**

High revenue franchises

Phase 2

Biosimilars: the enzyme becomes a **commodity**, introducing cost and reliability **competition**

Low revenue cost-competition

Phase 3

SC Standard: pharma companies **internalize** the technology, SC becoming the **standard** formulation

Flat rate platform supply

Market Shift

Halozyme Monopoly | **Alteogen Second-Mover Advantage**

Platform Implications

SC Enabler

The Enhanze formula was the first to **enable** the **SC administration** of high-dose biologics

IP Protection

The Halozyme platform offered strong **patent protection** for big pharma **franchises**

Embedding

Enhanze is deeply **embedded** in the industry, making the **switching costs** high

Lifecycle

Alteogen's Hybrozyme offers **extended** IP **protection** without altering the agent

Non-Exclusivity

Partners faced **lower strategic risk** by avoiding platform lock-in and **dependency**

Superiority

Alteogen provides enhanced **thermal stability** and lower immune response

Alteogen Inc

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Business Model & Strategy Overview

Pipeline Structure & Commercial Partnerships

The Hybrozyme platform translates SC conversion into structured milestone and royalty economics

Legacy Endeavours

ALT-B4 Platform *(Hybrozyme)*

Hybrozyme is Alteogens' recombinant human hyaluronidase technology platform, which enables **SC Injections**

ALT-B4 is licenced to customer to develop **SC versions of Drugs**

Patent Structure was established in **2024** and will **last until 2043**

ALT-BB4 *(Tergase)*

ALT-BB4 is an **enzyme** of the ALT-B4 platform and used as a **standalone product** to facilitate SC injection by softening the subcutaneous tissue

Existing Pipeline & Product Portfolio

License Partner	Drug(s)	Deal Value	Royalty
Merck	Keytruda	$776M	2%
Daiichi Sankyo	Enhertu	$300M	5%
Sandoz	Darzalex/Ocrevus	$143M	10%
GPC	Undisclosed	$1.373B	X
Intas Pharma	Phesgo	$115M	10%
Astra Zeneca	Undisclosed x2	$1.350B	5%
Merck	Undisclosed x5	$3.220B	X

Royalties are the **most valuable revenue component** after **sales milestones**, **development milestones** and **upfront fees**

Key Revenue Driver

Keytruda Qlex

Merck's blockbuster drug **Keytruda Qlex** is their **largest licensing deal** contributing significantly to Alteogen's financial prospects as **major revenue driver**

November 2020
Licensing Agreement – Alteogen & Merck
→ **$16M Upfront**

November 2021
Merck starts with Phase 1
→ **$3.5M Milestone**

May 2023
Merck starts with Phase 2
→ **$13M Milestone**

September 2025
FDA approval granted
→ **$25M Milestone**

Despite major licensing deals positioning Alteogen as a **leading SC platform provider**, its **valuation appears difficult to justify** amid structural headwinds from the **2030 Halozyme patent expiry** and 2029 U.S. pricing reforms that could compress prices and SC-linked royalties, with **Keytruda SC uptake particularly at risk** due to **late market entry**

U.S. SEC filings Merck, AstraZeneca Press Releases, Sandoz Press Releases

Keytruda Qlex Launch – early Dollars follow PD-(L)1 Curve

Reimbursement friction keeps switching muted until J-code lands

Adoption pre-J-code is slow

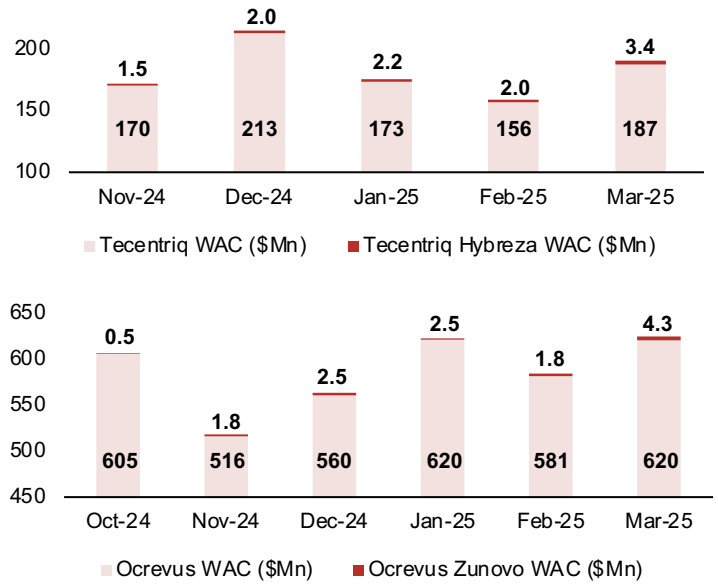
Adoption of new **IV-to-SC launches** is slow before a dedicated J-code as **reimbursement** is **clunky** and **HCPs delay switching** in the **first 6 months**

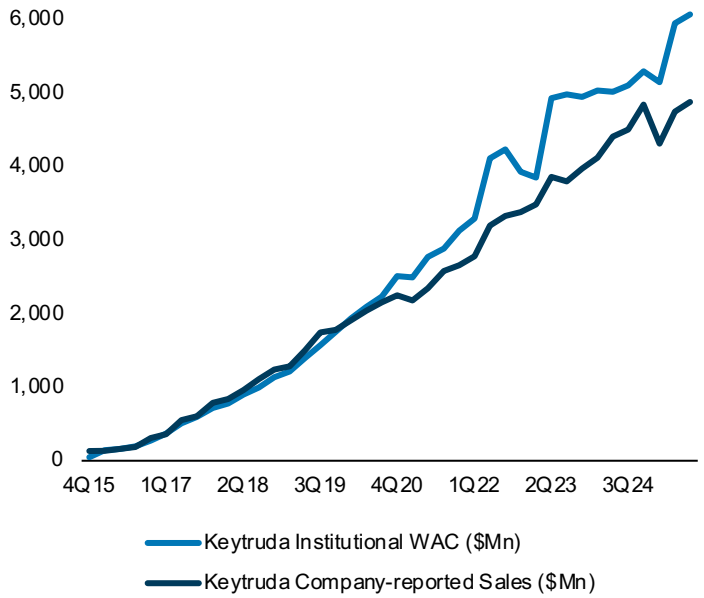
Data Source

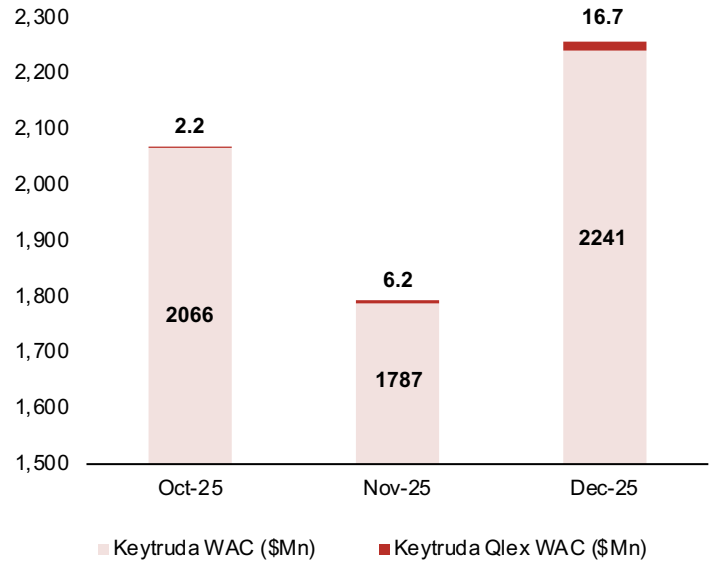
We use Symphony Health's **Whole Acquisition Costs** ($) as a **leading indicator** for company-reported **US sales**

Keytruda SC: Early Uptake

Three months in **Keytruda Qlex** is still **0.07% mix**: December **WAC $16.7M** on **$2.2Bn** franchise consistent with slow ramp into **Apr-26 J-code**



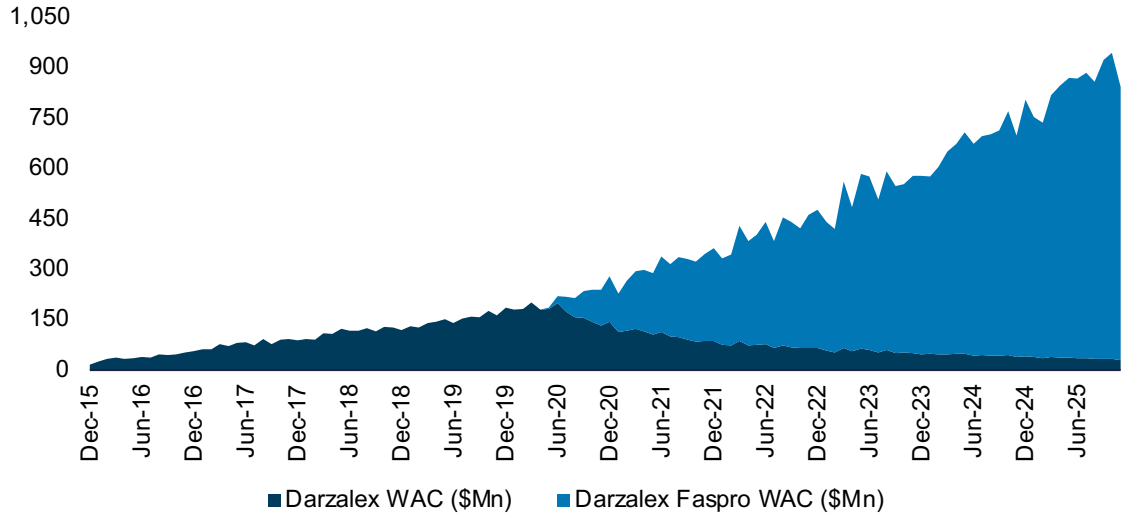


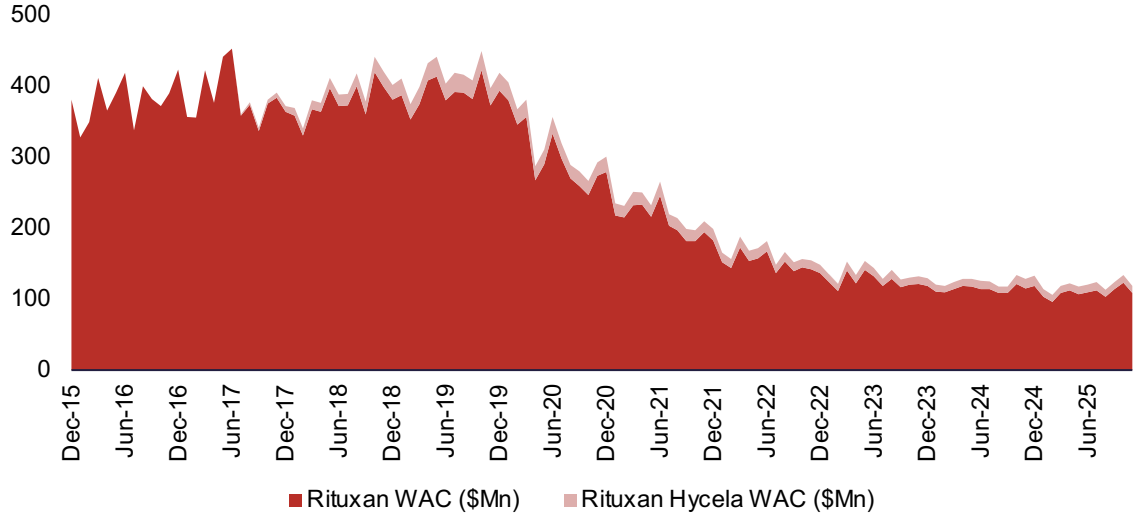


Early PD-(L)1 SC launches show **low conversion pre-J-code**; **Keytruda** tracks **this pattern** implying **muted near-term sales**

IV-to-SC Conversion Case Studies – Runway drives Uptake

Darzalex converted with long runway; Rituxan shows biosimilar timing caps extension share





Darzalex Faspro – Bull Case:

Darzalex Faspro launched in 2020 with IV expiry expected in 2029, **giving ~10 years of branded time** to **switch patients in US**

Inst. WAC dollars show **Faspro** steadily **ramps** as **IV declines**, while **total Darzalex** dollars **keep rising** for years after launch in the US

Rituxan Hycela – Bear Case:

Rituxan Hycela launched in 2017, but IV biosimilars arrived in 2019 **(~2 years runway)**, limiting branded conversion **despite shorter administration**

After biosimilar entry, **Rituxan dollars fell** sharply and **Hycela stayed a small slice**, illustrating how **biosimilar pricing** can **overwhelm an extension**

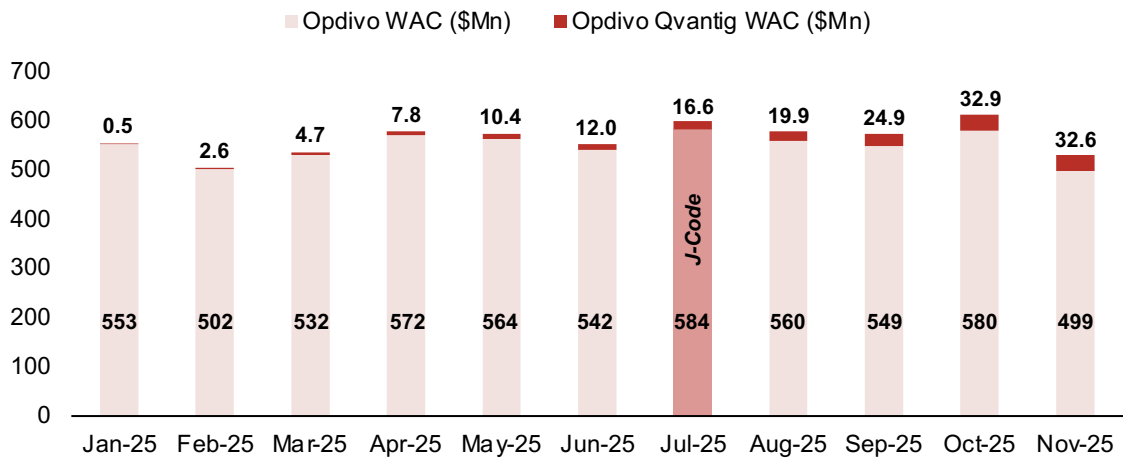
› These case studies suggest **IV-to-SC success is runway-dependent**: a **long monopoly period** enables contracting, workflows and **mix shift**, while **early IV biosimilar entry compresses runway** and **caps peak extension share** despite convenience

Bloomberg Finance L.P., Symphony Health, U.S. FDA, Teva / Celltrion Press Release

Implications for Keytruda Qlex – Drivers of Conversion

Opdivo Qvantig shows muted US switch post-J-Code; biosimilar clock limits SC ceiling

Opdivo Qvantig – US SC Uptake Post Coding



Biosimilars – Wave of 2028+

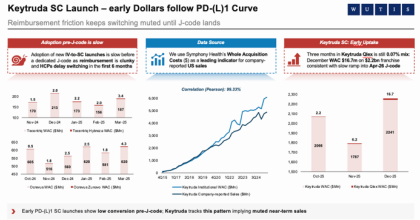
	Company	Phase	Year
RPH-075	R-Pharm	Phase 3, *Completion Jan 2026*	2028+
QL2107	Qilu Pharma	Phase 3, *Recruiting Dec 2026*	2028+
SB27	Samsung Bioepis	Phase 3, *Program Underway*	2028+
ABP 234	Amgen	Phase 3, *Programs Underway*	2028+
MB12	mAbxience	Phase 3, *Programs Underway*	2028+

Opdivo Qvantig – Best Peer Read-Across for Qlex
Both are PD-1s in US buy-and-bill; similar chair-time benefits & ~36m biosimilar runway – Opdivo stays c. mid-single-digit penetration despite Jul-25 J-code

Pembrolizumab Biosims Tighten Runway
Several late-stage biosimilars target ~2028 entry, boosting payer leverage and limiting branded SC peak share versus lower-priced IV biosimilar copies

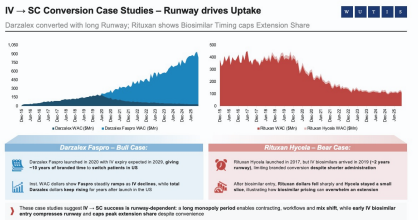
Implication for Keytruda Qlex

- Opdivo's post-coding path implies Keytruda SC **ramp after Apr-26** in the US, but likely **below management guidance**
- Opdivo reaching only **~6% after 1 year** supports measured Keytruda SC adoption & **conservative 2026E** mix



Implication for Keytruda Qlex

- A dense **2028+ biosim slate** likely **limits the ultimate SC penetration upside** for Keytruda franchise
- **Merck** must secure **Keytruda Qlex** as the **Standard of Care** to **limit** biosimilar **competition**



Impact of SC Adoption Guidance Downgrades

Alteogen might suffer outsized downside risk as a pure-play exposure to SC adoption

Radius Health, *Tymlos*

Access Gatekeeping

"Fail-First" step-edits forced patients to use generics before SC, creating a **structural volume bottleneck**

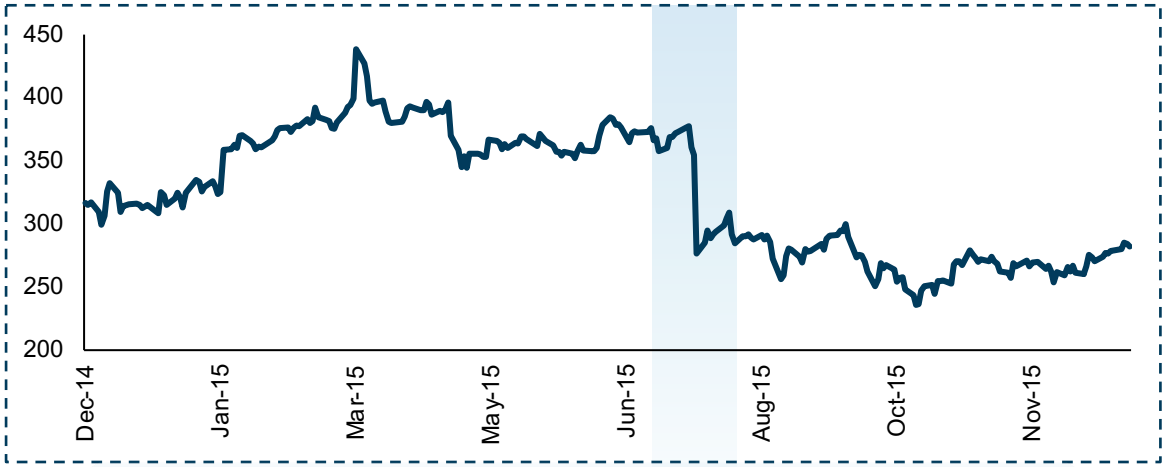
Guidance Cut

Cut full-year SC revenue guidance to **$210M** *(from $240M)*, citing **"slower than expected"** net sales

Valuation Reset

15% stock decline as the **"blockbuster SC launch"** thesis was invalidated

Biogen, *Plegridy*



Adoption Barriers

Physicians prioritized **regimen stability**, refusing to switch stable patients to **avoid clinical risk**

Growth Outlook

Slashed revenue CAGR from **~15%** to **~7%**, effectively **halving** the **long-term growth outlook**

Market Reaction

22% single-day crash wiped out nearly **$20B** in market capitalization

Bloomberg Finance L.P., Radius Health Form 8-K, The Motley Fool, Florida Agency for Health Care Administration, Reuters

Enhertu Development

Alteogen in a race to convert the world's first SC antibody-drug conjugate

Antibody-Drug Conjugate Conversion

High Concentration

ADCs require large **antibody doses**, making the limited volume SC injection **unstable**

Risk of **failing** the **stability test**

Viscosity

ADC payloads are **hydrophobic** and highly viscous, leading to **difficult injection** delivery

Risk of **injection force** becoming too **high**

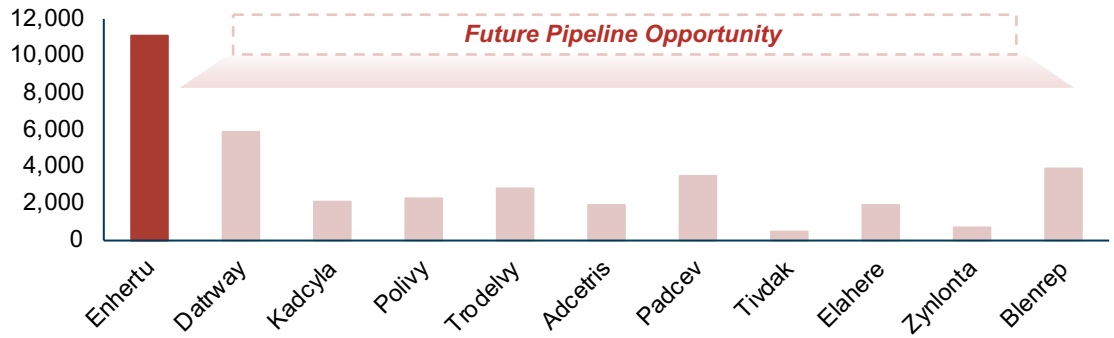
Toxicity

Longer absorption times lead to potential local **necrosis**, inflammation, and irritation

Risk of **inferiority** compared to **IV**

Future Candidates are Limited in Value

ADC Drugs Peak Annual Sales Consensus, Un-Risked, $Mn



The ADC Challenge

Antibody-drug conjugates are cancer therapies composed of an **antibody** that specifically targets cancer cells, a **cytotoxic drug** designed to destroy cancer cells, and a **chemical linker** that joins the two to deliver the toxic **payload** directly to the tumor

Closing the Gap

JSKN033 is the world's first subcutaneous drug to offer **ADC and immunotherapy** in one formulation

With its **nano-body** technology, **JSKN033** is administered **without** using **enzyme** platform

Speed	**52 seconds**
Viscosity	**No aggregation**
Nano-body	**< 2ml needed**

Approval Timeline

Stage	Duration
Preclinical	**2024 - 2025**
Phase 1	**2025 - 2029**
Phase 2	**2025 - 2029**
Phase 3	**2029 - 2031**
Regulatory Review	**2031 - 2032**

Limited Outlook

Alteogen's claim of securing **50% of the ADC market** is lacking feasible evidence

The competition is **ahead in development** and advances in **superior formulations**

Alteogen IR, Daiichi Sankyo IR, NCI trial listing, Bloomberg Finance L.P.

Alteogen Inc

WUTIS – Equity Research

Financials & Valuation

Disclosure Gaps & Moving Goalposts

Key deal economics & program status stay opaque – valuation becomes assumption-driven

What's missing to underwrite Fair Value

Keytruda Deal	*Merck Renegotiation*	*"GPC" Deal (2019)*	*Sandoz Deal*	*AstraZeneca Deal*
Alteogen – royalties after **last sales milestone**	Original Merck deal was framed as **multi-product**	**"Phase 1 preparation"** across filings years apart	Initial deal: **product(s) undisclosed**	"Several **oncology assets**" – **number** / **stage** unclear
Merck – discloses **2% royalty** – **10Q 25Q3**	2024 amendment ties exclusivity to **Keytruda**	**Low-probability / long-dated** unless evidence	July 2024: **reworked** – implicit **timeline reset**	**Exact economics** & **asset list** not disclosed
Alteogen – discloses "**Up to $1.0B** sales **milestones**"	*"Additional products"* language – **non-committal**	Is still **mentioned** in **every public disclosure**	**Confidential**; market clings to **headlines**	
Merck – books **$705M** in **milestone liabilities**	Post-amendment, *"other 5"* become a **black box**			

Keytruda's **core take-rate** wasn't disclosed by Alteogen: they cite "royalties after last sales milestone," but the **2%** rate only becomes explicit in **Merck's 25Q3 filing**

Keytruda milestone framing is **hard to reconcile**: **Alteogen** markets **"up to $1.0B"** sales milestones, yet **Merck** records **~$705M** in milestone liabilities

Pipeline status is **not auditable**: **Merck's** "additional products/**other ~5**" go quiet **post-renegotiation**, the **2019 GPC** deal remains in **Stage 1 prep for years**

Merck & Co. SEC filings, Korea Biomedical Review, BioSpectator, AstraZeneca Press Release

Ownership Structure & Information Asymmetry – What inflates Valuation?

Valuation disconnect fueled by retail speculation and misinformation

Asian Sell-Side Coverage

SHINHAN INVESTMENT CORP.	Hana Financial Group	CLSA	KYOBO Securities	DAOL 다올투자증권
TP – 730,000KRW	TP – 640,000KRW	TP – 620,000KRW	TP – 620,000KRW	TP – Not Rated
+59.56%	+39.89%	+20.60%	+20.60%	+0.00%

Keytruda SC Royalty Rate Inflation
Shinhan models **4% royalties** for base case to flow in **together with sales milestones**
Merck 3Q25: 2% royalty after sales milestones – 2x higher and starts later than modeled

Milestones "Right Away"
Shinhan & **Daol** – first sales milestone will hit 4Q *"right away"* ***("hundreds of KRW bn")***
Merck 3Q25: milestones – approval $51m, sales $1bn; Oct – paid $25m FDA-approval

Misdated Patent Cliff
Shinhan anchors U.S. cliff to 2029 (latest patents – they exist, but are litigation-prone)
Merck 2024 10-K: downside Jan-2028 (IRA pricing) & worsens after Dec-2028 patent expiry

Model Plumbing
Kyobo's model uses **bank-template line items**
E.g., *"net interest income", "non-interest income", "ROA", "PBV"*

Enhertu SC Deal-Value Numerology
Shinhan – **8%** Enhertu SC royalty*; Enhertu says ***"tiered royalties"***
Halozyme's platform deals for comparable SC enablement are **tiered mid-single-digit**

"IRA Avoidance"
Kyobo pitches ALT-B4 as *"IRA negotiation avoidance"*
CMS IPAY 2028 flags *"new version + add-on"* to avoid aggregation as a program-integrity risk

"Conservative Conversion" = Cherry-Picked Anecdote
Shinhan & **Daol** – MCD's 30-40% target *"conservative," "Tecentriq SC 32% in UK in 9 months"*
One-country adoption & Tecentriq has **5,5-6 year runway**; Keytruda faces LoE clock

"Risk Resolved" via PGR
Kyobo & **Hana** – Halozyme risk is *"resolved"* – PGR started
Merck 3Q25: Halozyme sued on 15 patents; 12 in PGR, 3 outside – district courts remain live

The **rally** is to a large extent fueled by **retail speculation** and **endorsement of refuted unit economics** – effectively **promoting "blue-sky" estimates** *(e.g., Keytruda 4% royalties, Enhertu 8% royalties)* that **clash** with the **actual contract terms.** In our view, the **share price decline of 21.01** will **further fuel** the **revision of assumptions** by the investors.

Hana Securities, Shinhan Investment Corp., CLSA, Kyobo Securities, DAOL, Merck & Co. SEC filings

** Daiichi Sankyo – ordered to pay an 8% royalty on Enhertu sales – after Seagen won a lawsuit claiming that the ADC infringed the patent*

Assumption Divergence from Industry Outlook

Korean analysts forecast Blue Sky estimates

Bear Case

Keytruda SC
- Launch: *FDA Purple Book* · **Sep 2025**
- PoS: *Approved* · **100%**
- Royalty: *Merck 25Q3 10Q* · **2%**

Enhertu SC
- Launch: *Stage 1 (2025)* · **2033**
- PoS: *No SC-ADC Precedent* · **50%**
- Avg. Royalty: *"Mid-single digits" (HALO¹)* · **4.5%**

Imfinzi SC / Imjudo SC
- Launch: *Ph-3 Failure* · **2033 / 2035**
- PoS: *New Joint Platform* · **70%**
- Avg. Royalty: *"Mid-single digits" (HALO¹)* · **4.5%**

Sandoz SC Biosimilars
- Launch: *Technical Development* · **2031**
- PoS: *Approved by Originator* · **80%**
- Avg. Royalty: *"Mid-single to low-double"* · **7.5%**

Intas SC Biosimilars
- Launch: *Technical Development (Ph-1)* · **2030**
- PoS: *Approved by Originator* · **80%**
- Avg. Royalty: *"Mid-single to low-double"* · **7.5%**

Future Pipeline

1	$540Mn
Deals / Year	*Avg. Deal Size*

Base Case

Keytruda SC
- Launch: *FDA Purple Book* · **Sep 2025**
- PoS: *Approved* · **100%**
- Royalty: *Merck 25Q3 10Q* · **2%**

Enhertu SC
- Launch: *Stage 1 (2025)* · **2032**
- PoS: *No SC-ADC Precedent* · **60%**
- Avg. Royalty: *"Mid-single digits" (HALO¹)* · **5.5%**

Imfinzi SC / Imjudo SC
- Launch: *Ph-3 Failure* · **2032 / 2034**
- PoS: *New Joint Platform* · **75%**
- Avg. Royalty: *"Mid-single digits" (HALO¹)* · **5.5%**

Sandoz SC Biosimilars
- Launch: *Technical Development* · **2030**
- PoS: *Approved by Originator* · **80%**
- Avg. Royalty: *"Mid-single to low-double"* · **9.5%**

Intas SC Biosimilars
- Launch: *Technical Development (Ph-1)* · **2029**
- PoS: *Approved by Originator* · **80%**
- Avg. Royalty: *"Mid-single to low-double"* · **9.5%**

Future Pipeline

2	$540Mn
Deals / Year	*Avg. Deal Size*

Bull Case

Keytruda SC
- Launch: *FDA Purple Book* · **Sep 2025**
- PoS: *Approved* · **100%**
- Royalty: *Merck 25Q3 10Q* · **2%**

Enhertu SC
- Launch: *Stage 1 (2025)* · **2031**
- PoS: *No SC-ADC Precedent* · **70%**
- Avg. Royalty: *"Mid-single digits" (HALO¹)* · **6.5%**

Imfinzi SC / Imjudo SC
- Launch: *Recent Singing* · **2031 / 2033**
- PoS: *New Joint Platform* · **80%**
- Avg. Royalty: *"Mid-single digits" (HALO¹)* · **6.5%**

Sandoz SC Biosimilars
- Launch: *Technical Development* · **2029**
- PoS: *Approved by Originator* · **80%**
- Avg. Royalty: *"Mid-single to low-double"* · **11.5%**

Intas SC Biosimilars
- Launch: *Technical Development (Ph-1)* · **2028**
- PoS: *Approved by Originator* · **80%**
- Avg. Royalty: *"Mid-single to low-double"* · **11.5%**

Future Pipeline

2.3	$540Mn
Deals / Year	*Avg. Deal Size*

Blue Sky Case

Keytruda SC
- Launch: *FDA Purple Book* · **Sep 2025**
- PoS: *Approved* · **100%**
- Royalty: *Shinhan Investment Corp* · **4%**

Enhertu SC
- Launch: *Stage 1 (2025)* · **2031**
- PoS: *Shinhan Investment Corp* · **80%**
- Avg. Royalty: *Shinhan Investment Corp* · **8%**

Imfinzi SC / Imjudo SC
- Launch: *Recent Singing* · **2031 / 2033**
- PoS: *New Joint Platform* · **80%**
- Avg. Royalty: *Shinhan Investment Corp* · **8%**

Sandoz SC Biosimilars
- Launch: *Technical Development* · **2029**
- PoS: *Shinhan Investment Corp* · **80%**
- Avg. Royalty: *Shinhan Investment Corp* · **15%**

Intas SC Biosimilars
- Launch: *Technical Development (Ph-1)* · **2028**
- PoS: *Hana Research* · **80%**
- Avg. Royalty: *"Mid-single to low-double"* · **11.5%**

Future Pipeline

3	$540Mn
Deals / Year	*Avg. Deal Size*

The Consensus Gap

Mispricing is further fueled by inflated peak sales

Methodology Overview

IV Revenues Forecast

Region Mix	Eligible Pool	Penetration	Reimbursement	Net Price
US / EU / RoW	*Treated Patients*	*Uptake Curve*	*ASP, Payer Mix*	WAC & Rebates

LOE / Biosimilars Entry: **Entry Date** → **Share Shift** & **Price Erosion** *(Ramp & Floor)*
Other exogenous Drivers: **Incidence** / **Diagnosis**, **Competition**, **Payer Mix** & **Rebates**

IV-to-SC Conversions Forecast

Diffusion Share: *Monthly SC Penetration (Ensemble Fit)*

$$\hat{S}(t) = \sum_{m} w_m \cdot \sum_{a} \alpha_a \cdot S_{m,a}(t)$$

Model Weights: *Curve-Family Weights by LOOCV*

$$w_m \propto 1/(\mathrm{RMSE}_m^2)$$

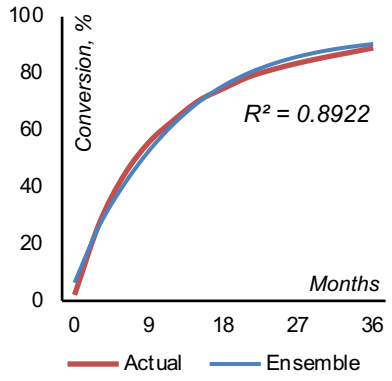
Analog Weights: *Objective Similarity & Maturity Scaling*

$$\alpha_a \propto \exp\left(-\frac{d_a^2}{2}\right) \mathrm{maturity}_a$$

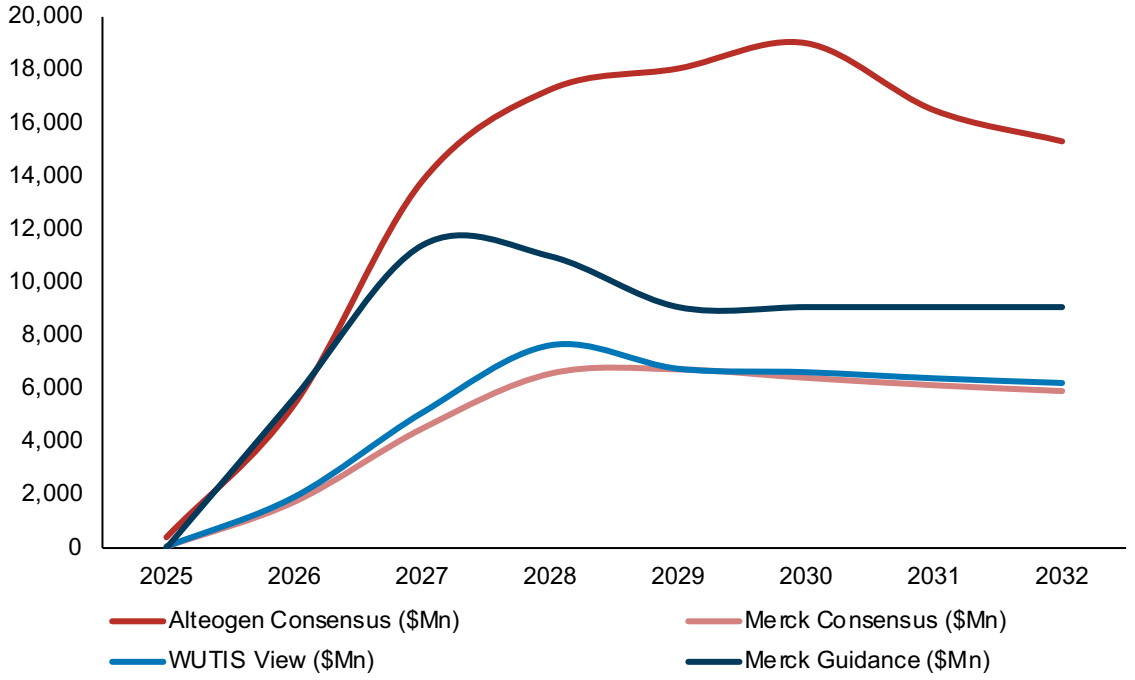
Similarity Distance: *Z-Score Distance (Runway, Δt)*

$$d_a^2 = \lambda * (\mathrm{runway} - \mathrm{runway}_a)^2 + (1-\lambda) * (\mathrm{Dt} - \mathrm{Dt}_a)^2$$

Actual vs Ensemble – Darzalex



Keytruda SC Consensus Gap



Implication – Mispriced Adoption Path

Korean Boutiques imply **~$18-19Bn** SC sales at **peak** (2030) and ~$15Bn in 2032 – about **2.5x Bloomberg consensus** (Keytruda Qlex) at **~$6-7Bn peak** and ~$5.9Bn in 2032. **Merck** frames uptake as **30-40% IV-to-SC conversion**, a meaningfully **lower pathway**

Priced in Assumptions

Current share price is driven by extreme assumptions, requiring high terminal growth and unusually low WACC to justify

Internal Assumptions

DCF – Technical Assumptions

DCF Incorporates Post-LoE Fade
Post-expiry fade built into the DCF, aligned with consensus Halozyme deceleration post-LoE

WACC Below Bloomberg Reference
WACC assumed at 8.4%, far below the 15.4% WACC level shown on Bloomberg

Terminal Growth Assumption Set
Terminal growth assumed at 3% in TV, well above inflation rate, despite limited future pipeline optionality

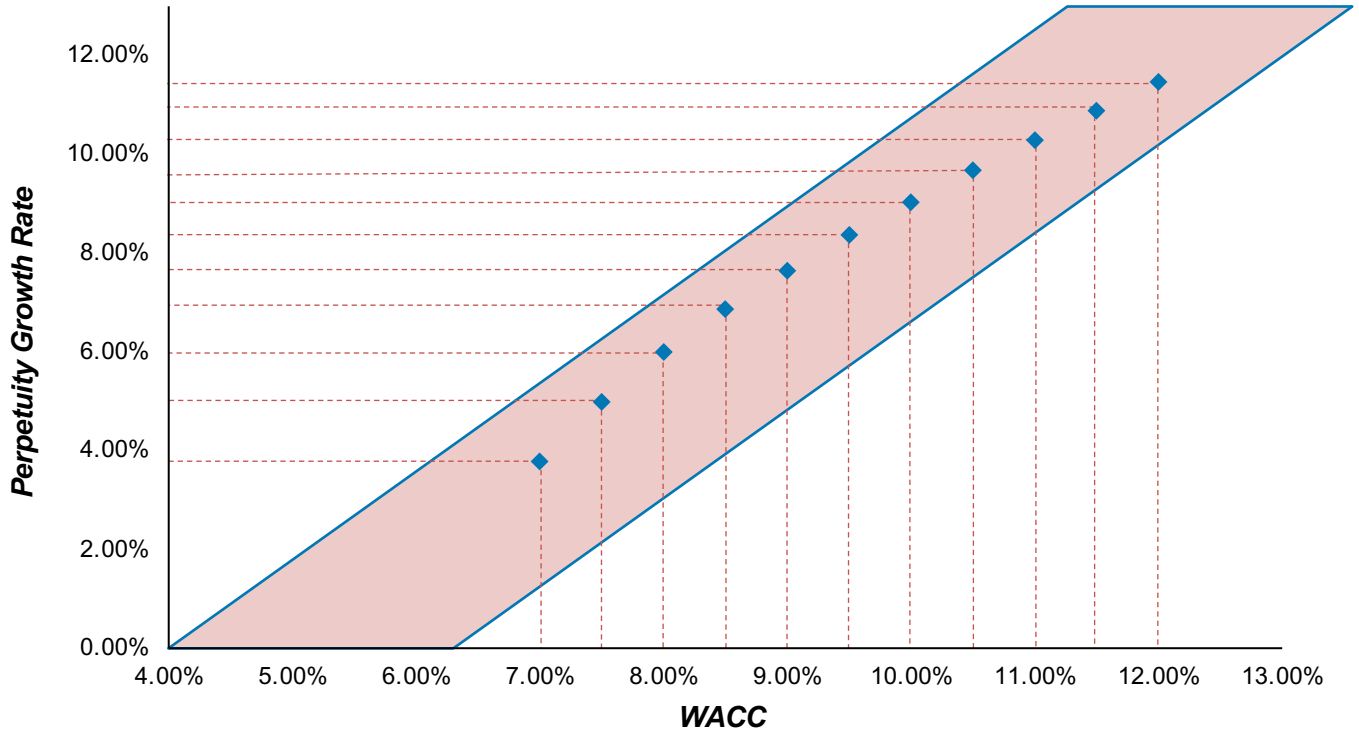
Assumptions on Operations

Capital Expenditures
CapEx on Lab Equipment and Drug Development is tied to scenario-sensible drug launch timelines

Working Capital & Timing
Inventories are forecasted to match the demand for doses with amount of enzyme needed to produce them

FCF Margin Framework
>85% Gross and >60% EBITDA margins during the early forecasted years driven by the kickoff of pipeline projects

Implied inputs to reach Hold Recommendation

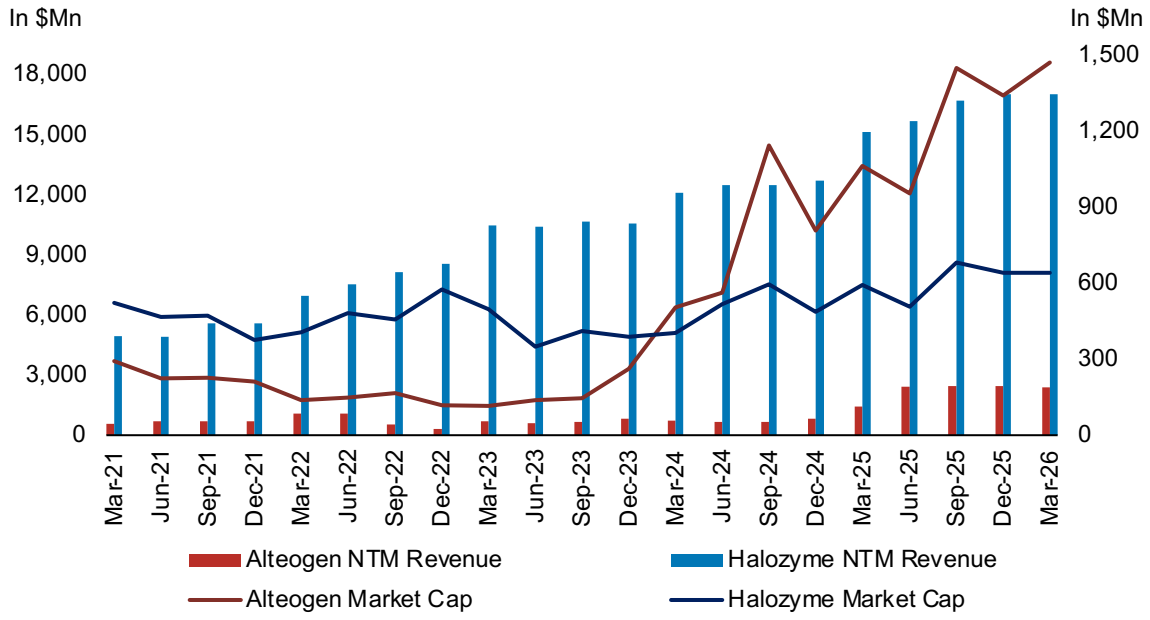


With our **Base Case assumptions**, which are mostly **in line with company disclosures** as well as **partner deal terms**, a **perpetuity growth rate of >6%** in combination with our current **WACC of 8.4%** would be needed to **justify the current share price**

Alteogen showcasing unprecedented Valuation

Alteogen valuation shows multiples being decoupled from revenues

Comparison of Revenues and Market Cap



	Alteogen, *EV/NTM Sales*	Halozyme, *EV/NTM Sales*
Pre-Launch	83.60*x*	14.90*x*
1st Launch	52.18*x*	16.53*x*
Peak Level	170.98*x*	26.73*x*
Current	54.41*x*	5.48*x*

In our view, Alteogen does **not possess** sufficient **pricing power** or **BD opportunity** due to its **shorter monopoly** period compared to Halozyme

Valuation Premium Unjustified – Unlike Halozyme's monopoly, Alteogen faces a unique risk of early generic competition due to Halozyme's platform expiry, eroding terminal value prematurely

The Multiple Erosion Timeline

First Launch Peak

Peak multiple came at the **first major launch**, as investors paid a premium for **growth potential** before the reality of a finite patent life set in

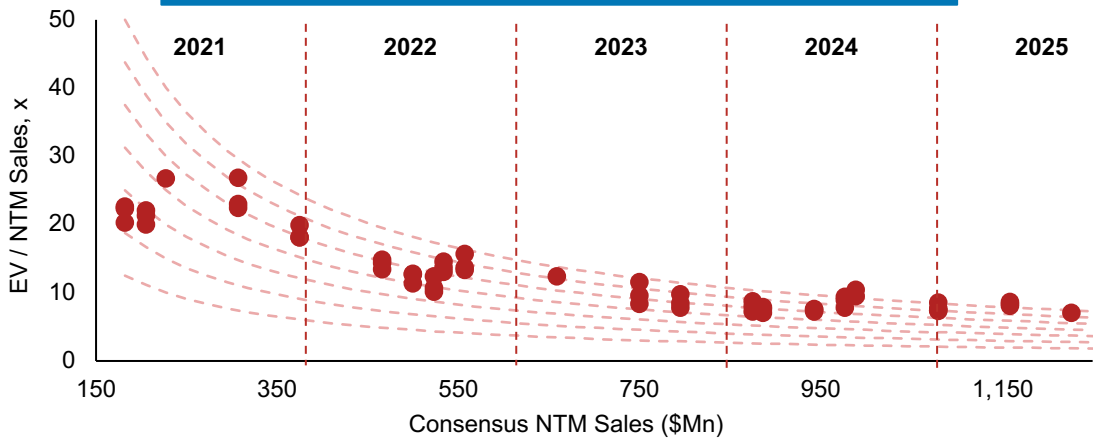
Early Cliff Discounting

Once monetization began, focus shifted to the **patent cliff**. Risks were discounted early, causing the **multiples to contract** even as **revenue ramped**

Multiples Erosion

Consequently, revenue growth did not lift valuation. Multiple erosion **offset earnings gains**, causing the stock to **trade sideways**

Valuation Multiple Compression Over Time

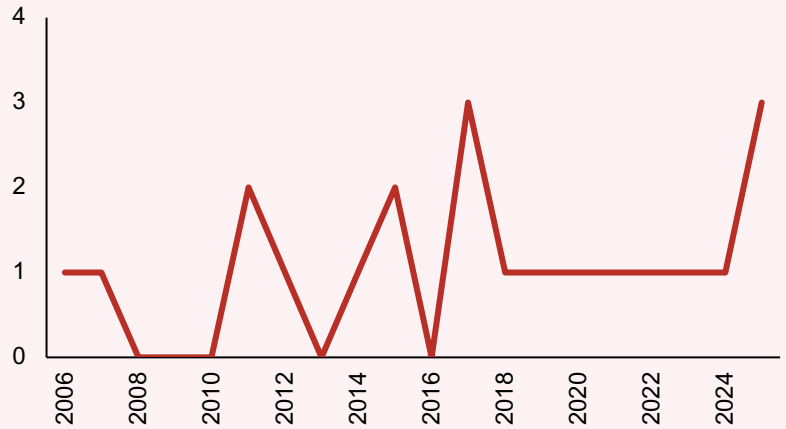


Bloomberg Finance L.P., Halozyme Therapeutics SEC filings

Business Development

Exclusive partnerships limit future deal pipeline

Halozyme



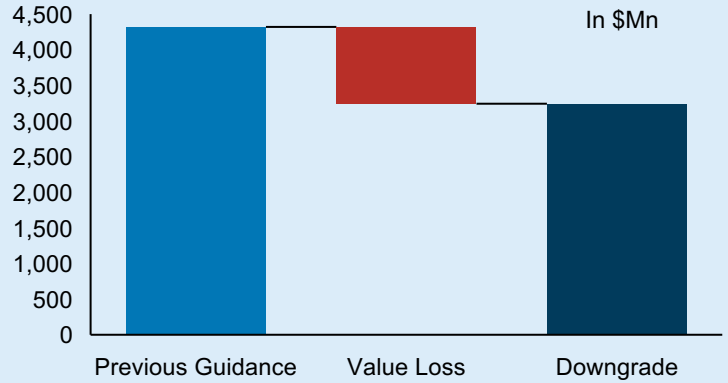
1 deal
per year **signed on average**

$541 million
average **deal value**

3.5 targets
per year **signed on average**

45%
rate of success

Alteogen



Guidance:
2 deals
per year **signed on average**

Downgrade:
6 deals
by **2030** *(21.01.26)*

Limited Growth Potential

The early signing **exclusive parentships** led to the **erosion** of potential **business development**

With a **long track** record of **success** and **100% approval** after Phase 3, Halozyme relies on **robust**, long-term **deal cycles**

Enhanze requires **late-stage**, **high-volume** biologics, limiting the number of **eligible candidates**

Implications

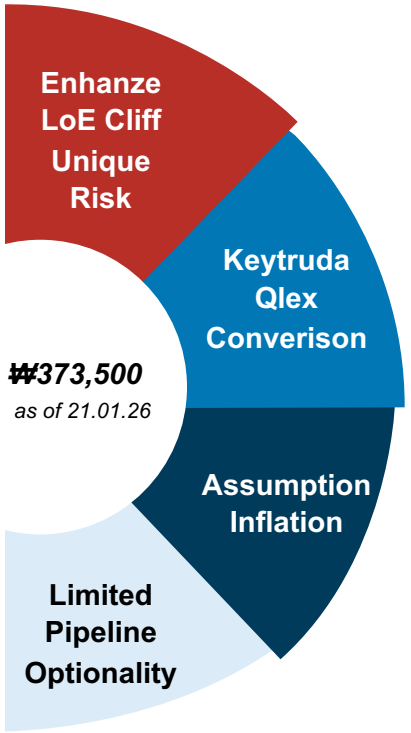
Alteogen's **shorter monopoly** phase restricts **pricing power,** forcing it to offer **exclusivity** for **deal volume**

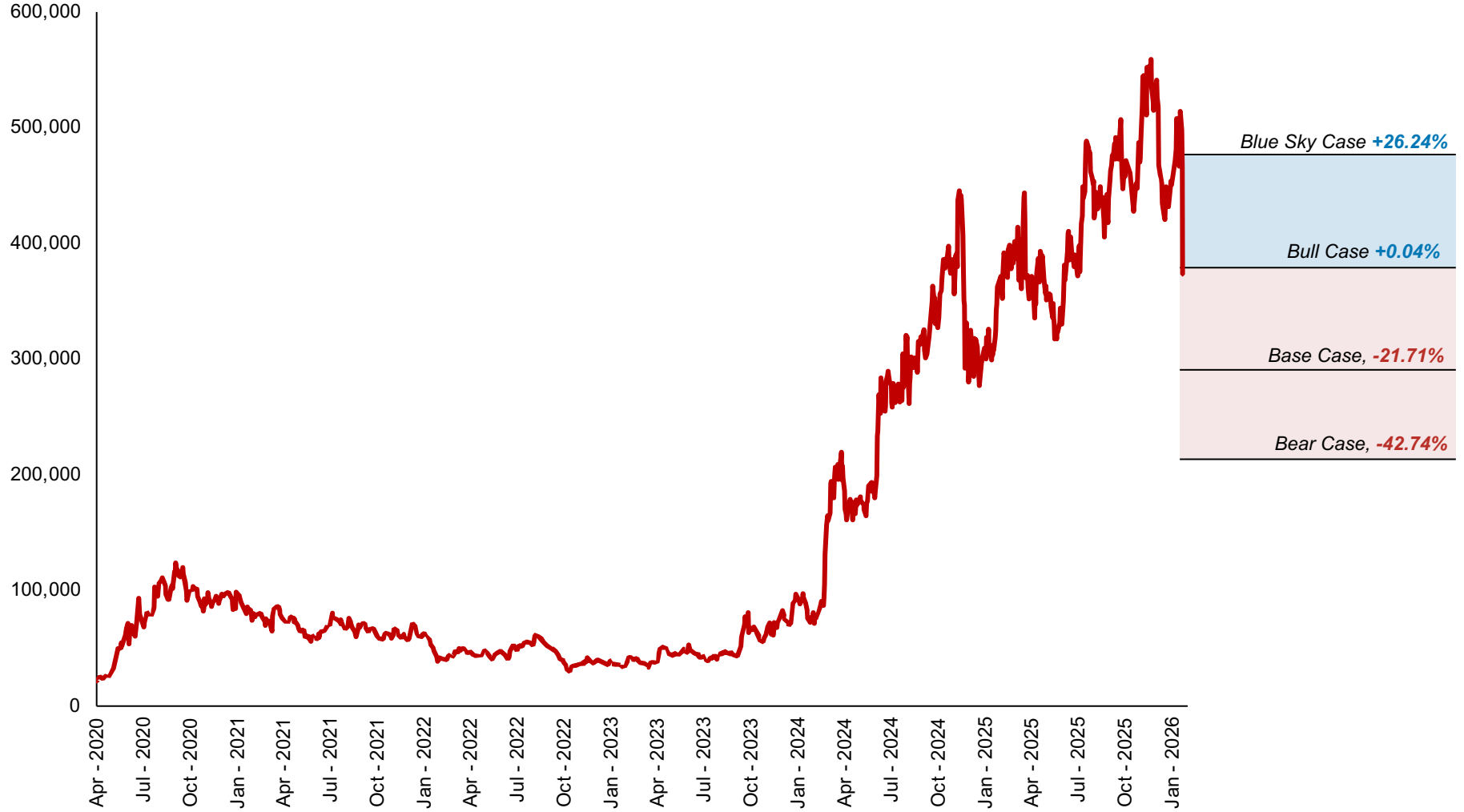
Alteogen is **missing** their **own guidance** on future pipeline**,** serving as an **early indicator** of narrow **total addressable market**

The company is at **risk** of falling into the **Halozyme Trap**, limiting potential partnerships by only signing **exclusive deals**

Conclusion

Upside is capped by limited pipeline value, while Enhanze cliff and SC conversion risks skew outcomes to the downside





Alteogen Inc

WUTIS – Equity Research

Appendix

Short Exposure via Put Spread financed with a Bear Call Spread, *as of 20/01*

W U T I S

Expressing the short thesis with defined risk and no reliance on stock lending

Trade structure *(10-Dec-26 listed expiry; Contract size 10 shares)*

Underlying: 196170 KS (KRX)		Spot ≈ 514,000 KRW	
Trade (Listed Options, 10-Dec-26):			
Buy	1x Put	K = 520,000	Last 118,600
Sell	1x Put	K = 400,000	Last 55,800
Sell	1x Call	K = 520,000	Last 149,200
Buy	1x Call	K = 600,000	Last 122,800

Indicative net premium: +36,400 KRW/contract ≈ 3,640 KRW/share (~0.71% of spot)

Why this removes key Execution Risks

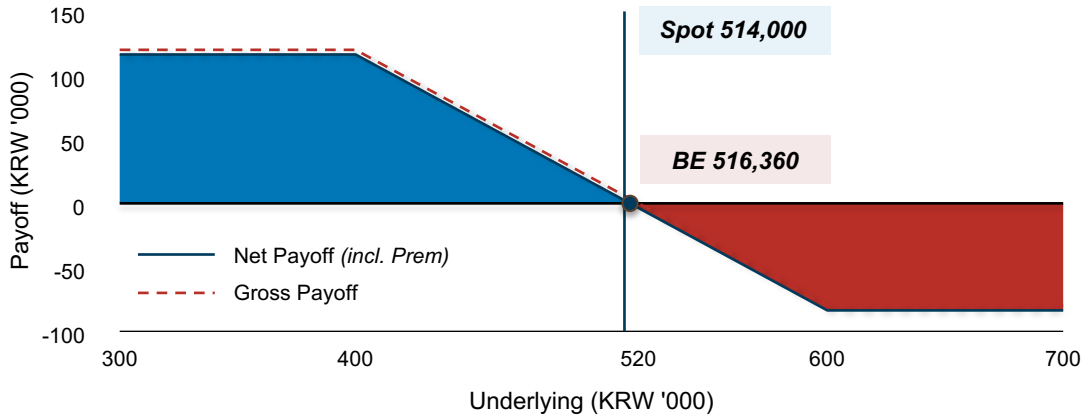
No Stock Borrow / Locate required	No Recall Risk / Buy-In / Borrow Fee uncertainty
Not a Cash Short Sale	Implementation is via listed Derivatives
Defined Max Loss	Between 520k-600k *(Call Spread Width)* + Net Premium
Defined Max Gain	Capped at 520k-400k *(Put Spread Width)* - Net Premium
Short-Selling Bans hit Cash Shorts	Listed Options can still express a bearish View

Economics per Share *(incl. Premium)*

Breakeven		516,360 KRW
Max Gain	(S ≤ 400k)	+116,360 KRW/share
Max Loss	(S ≥ 600k)	-83,640 KRW/share
EUR Translation:		
EURKRW Spot	≈ 1,709.72	BBG BGN, *21-Jan-2026*

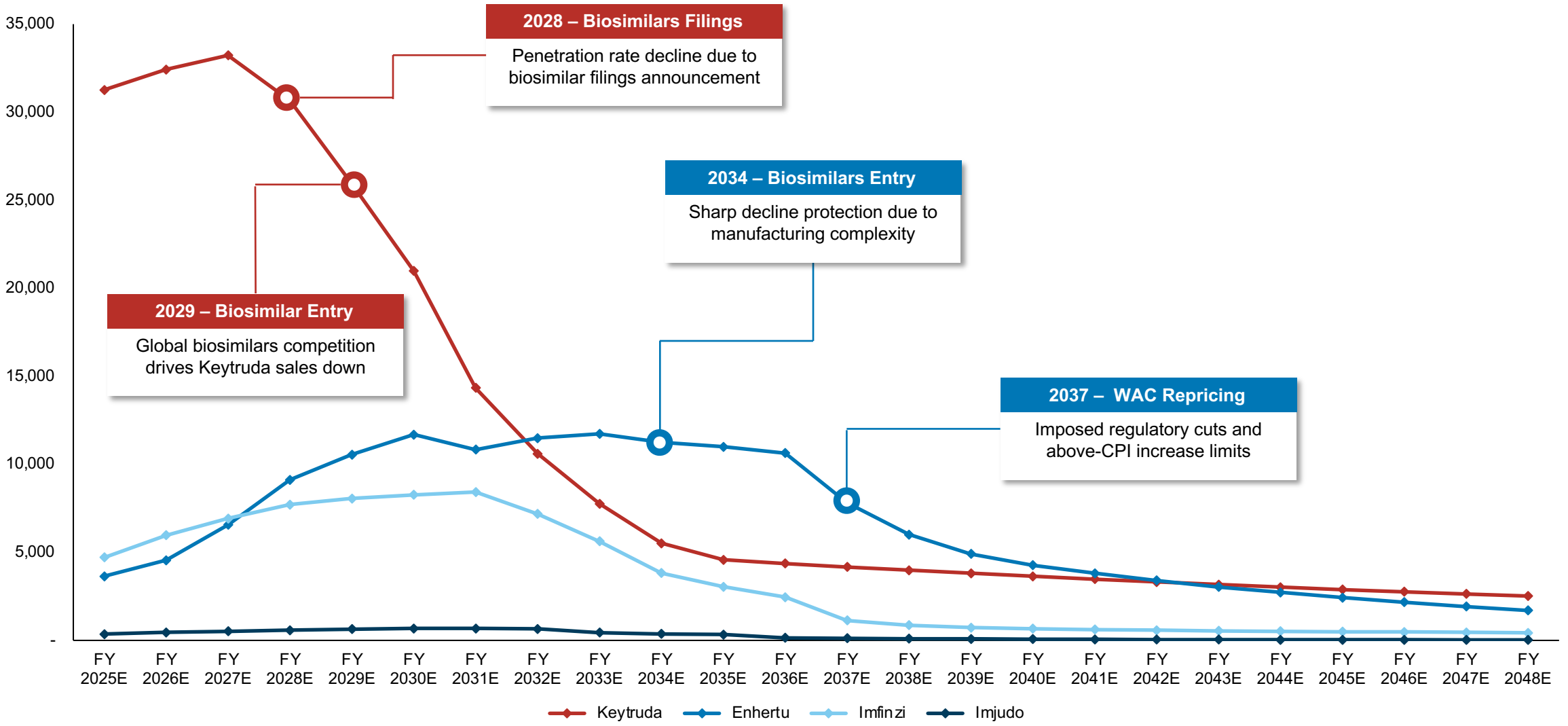
Max Gain	+€68.1 / Share	Max Loss	-€48.9 / Share

Payoff per Share – Gross vs Net *(incl. Indicative Premium)*



Global IV Sales Forecast – Base Case

Biosimilars entry as the major driver for the IV sales decline



IV-to-SC Revenue Forecasting

W U T I S

Ensemble diffusion & objective drivers *(fit on historical analog conversions)*

Modeling Process

SC Share – Dependent Variable

3 Objective Drivers

Runway – Months to Biosimilars	Time Saved – IV-SC Mins	Therapy Area – Category

SC Share – Dependent Variable

$Share(t) = J(t) \times \Sigma_m \omega_m \cdot F_m(t; \theta_m)$

$m \in \{Bass, Gompertz, Logistic, Weibull\}$

$J(t)$: reimbursement friction (J-code lag / ramp)

ω_m: model weights (inverse $RMSE^2$)

θ_m: per-analog fitted parameters (NLS)

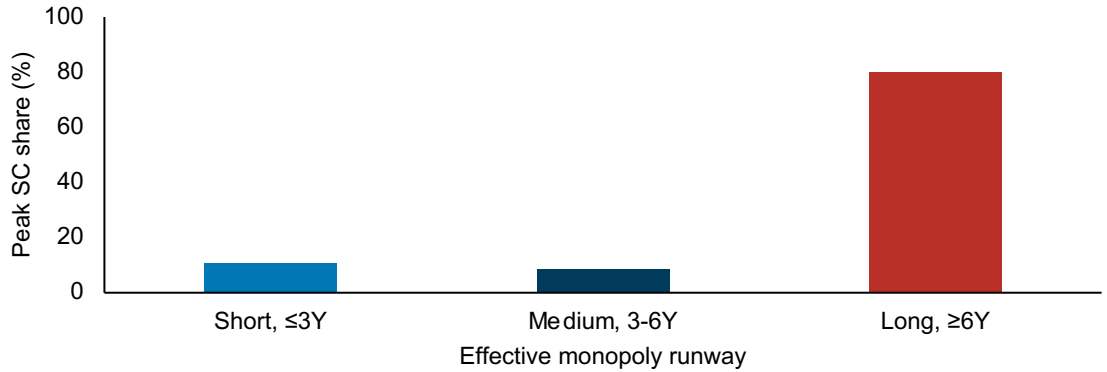
Fit Diagnostics – Across Analogs

Summary – Analog Set	#, Analogs	RMSE – Share
62% / 45%	11	0.25

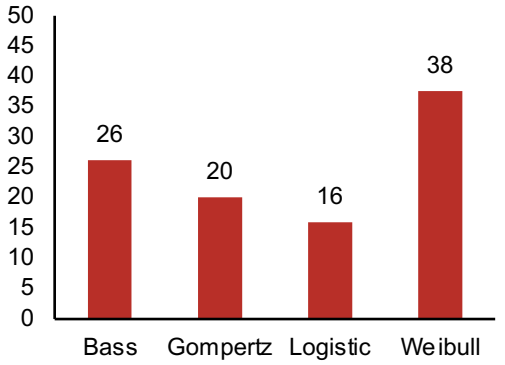
Summary of Results

What drives Peak Conversion – Cross-Case

Peak SC Share by Runway Bucket (Analog Set)



Ensemble Weights (ω_m)



Driver Usage

Runway to Biosim / **LoE** is the strongest consistent **predictor of peak SC share** across analogs

Time saved & **therapy area** inform **analog similarity** *(weighting)* and **ramp speed assumptions**

Symphony Health, U.S. FDA, CMS Medicare Part B ASP Drug Pricing Files, Seber & Wild (2003) Nonlinear Regression, Bates & Watts (1988) Nonlinear Regression Analysis

From Conversion to Revenues

Forecast pipeline & fit diagnostics

Process Description

Model

Ensemble Diffusion

Data Inputs

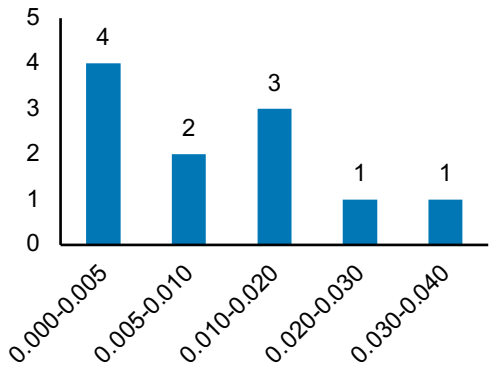
- SC Launch, Biosimilars Entry, LOE Dates
- Administration Times + Therapy Area
- J-Code Lag / Ramp + Tail Parameters

Calculations

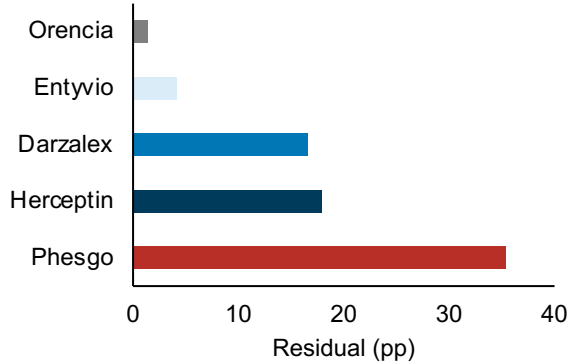
- Fit four diffusion Families per Analog (non-linear least Squares)
- Similarity-weight Analogs using objective Drivers
- Apply Reimbursement Friction J(t) + Post-Entry Tail

Backtest Distribution

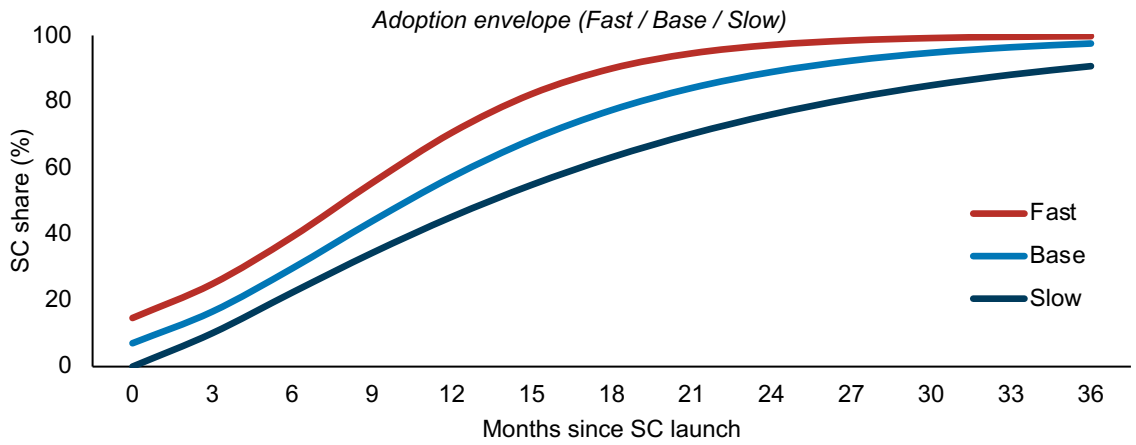
Fit RMSE – Across Analogs



Largest Positive Residuals



Ensemble reduces Curve-Specification Risk

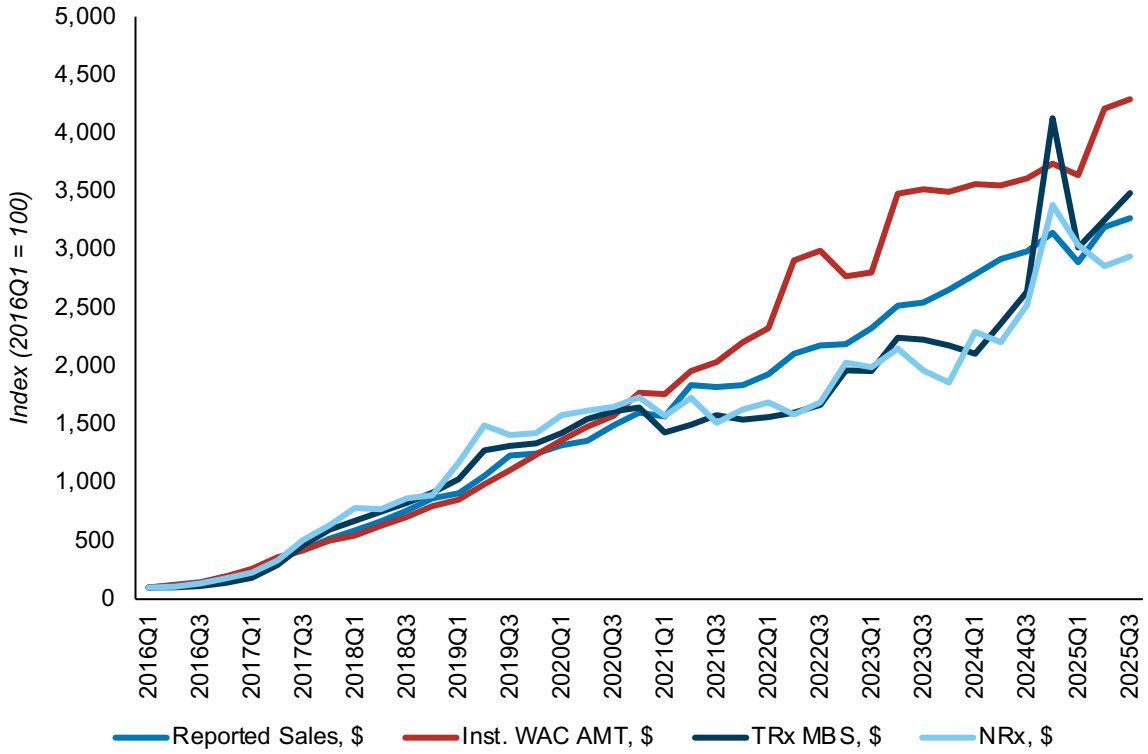


Symphony Health, U.S. FDA, CMS Medicare Part B ASP Drug Pricing Files, Seber & Wild (2003) Nonlinear Regression, Bates & Watts (1988) Nonlinear Regression Analysis

Data Source Selection

Choosing the cleanest proxy for Keytruda IV Revenue across the available series

Proxy metrics by source and takeaways



Inst. WAC AMT is the cleanest revenue proxy – it aligns most consistently with reported Keytruda IV revenue across level and inflections, and is less prone to benchmark-specific drift than other $ constructs

Inst. AWP AMT and Inst. MBS AMT are solid secondary $ proxies – they track the same direction as revenue, but can show small, persistent wedges as benchmark pricing conventions and channel pricing assumptions differ

TRx MBS and NRx are utilization signals, not revenue series – they reflect prescription/patient activity, but the $ translation depends on dose/cadence, units, and mix – so fit to reported revenue can vary over time

Across the full sample, **benchmark $-denominated channel series (Inst. WAC AMT / Inst. AWP AMT / Inst. MBS AMT)** provide a closer read-through to **Keytruda IV Revenue** than Rx-based measures; **we therefore use Inst. WAC AMT as the sole proxy**, and treat the remaining series as directional context only

Diffusion Models Calibration

Selection of the closest analogues for Keytruda and Enhertu based on the leading indicators

Training analogs + parameters (objective similarity)

Drug	Runway (mo)	DataMo	Time saved (min)	Onco (1/0)	Distance	Rank	Raw w	Norm w	Bass_P	Bass_p	Bass_q	Gomp_P	Gomp_k	Gomp_t0	Log_P	Log_k	Log_t50	Wei_P	Wei_lam	Wei_k
Entyvio	60	26	29.83	-	0.7684	2	0.5376	0.2134	0.1866	0.0133	0.1053	0.1884	0.0911	15.3645	0.1420	0.1951	15.6829	0.3622	44.4885	1.4653
Vyvgart	120	29	59.50	-	2.3193	10	-	-	0.8271	0.0104	0.1928	0.9701	0.1125	13.4249	0.8136	0.2223	14.7762	0.8499	17.8963	2.1080
Phesgo	65	65	85.00	1	0.8621	4	0.6896	0.2737	0.7984	0.0095	0.0100	0.6111	0.0328	30.9374	0.5002	0.0627	34.7689	1.2000	140.3749	1.0170
Herceptin	2	80	26.00	1	1.0280	6	-	-	1.1478	0.0017	0.0186	0.5380	0.0228	61.1528	0.3559	0.0538	56.6590	1.2000	196.8681	1.4693
Rituxan	16	101	84.00	1	0.7887	3	0.7327	0.2908	0.0847	0.0482	0.0100	0.0850	0.0637	8.3846	0.0841	0.0821	14.4281	0.0913	22.4773	0.7762
Darzalex	108	67	176.00	1	2.2769	9	-	-	0.9341	0.0905	0.0100	0.9301	0.1216	4.7314	0.9223	0.1594	7.9719	0.9718	11.3230	0.8082
Tecentriq	72	14	23.00	1	0.9178	5	0.2552	0.1013	0.1310	0.0294	0.0100	0.2300	0.0556	21.7312	0.0795	0.1860	11.5827	0.5304	200.0000	0.9013
Opdivo	36	11	26.00	1	0.0859	1	0.3044	0.1208	1.1995	0.0028	0.1159	0.2334	0.1146	12.5111	0.0989	0.3551	8.6274	1.2000	83.4816	1.3999
Ocrevus	72	14	140.00	-	1.3977	7	-	-	0.0482	0.0194	0.2888	0.0614	0.1695	8.8190	0.0432	0.3894	8.5188	0.0637	13.8345	1.8336
Actemra	96	83	59.83	-	1.6808	8	-	-	0.3959	0.0211	0.0100	0.3882	0.0383	19.9949	0.3605	0.0607	27.7755	0.9016	199.8084	0.7292
Orencia	132	113	29.75	-	2.6313	11	-	-	0.8061	0.0228	0.0100	0.7937	0.0397	18.5807	0.7714	0.0557	27.9369	0.9264	50.3644	0.8701

Training analogs + parameters (objective similarity)

Drug	Runway (mo)	DataMo	Time saved (min)	Onco (1/0)	Distance	Rank	Raw w	Norm w	Bass_P	Bass_p	Bass_q	Gomp_P	Gomp_k	Gomp_t0	Log_P	Log_k	Log_t50	Wei_P	Wei_lam	Wei_k
Entyvio	60	26	29.83	-	1.3741	5	0.2810	0.1026	0.1866	0.0133	0.1053	0.1884	0.0911	15.3645	0.1420	0.1951	15.6829	0.3622	44.4885	1.4653
Vyvgart	120	29	59.50	-	2.9122	10	-	-	0.8271	0.0104	0.1928	0.9701	0.1125	13.4249	0.8136	0.2223	14.7762	0.8499	17.8963	2.1080
Phesgo	65	65	85.00	1	1.3333	4	0.4111	0.1501	0.7984	0.0095	0.0100	0.6111	0.0328	30.9374	0.5002	0.0627	34.7689	1.2000	140.3749	1.0170
Herceptin	2	80	26.00	1	0.6445	2	0.8125	0.2966	1.1478	0.0017	0.0186	0.5380	0.0228	61.1528	0.3559	0.0538	56.6590	1.2000	196.8681	1.4693
Rituxan	16	101	84.00	1	0.0290	1	0.9996	0.3648	0.0847	0.0482	0.0100	0.0850	0.0637	8.3846	0.0841	0.0821	14.4281	0.0913	22.4773	0.7762
Darzalex	108	67	176.00	1	2.6391	9	-	-	0.9341	0.0905	0.0100	0.9301	0.1216	4.7314	0.9223	0.1594	7.9719	0.9718	11.3230	0.8082
Tecentriq	72	14	23.00	1	1.6128	6	-	-	0.1310	0.0294	0.0100	0.2300	0.0556	21.7312	0.0795	0.1860	11.5827	0.5304	200.0000	0.9013
Opdivo	36	11	26.00	1	0.7213	3	0.2356	0.0860	1.1995	0.0028	0.1159	0.2334	0.1146	12.5111	0.0989	0.3551	8.6274	1.2000	83.4816	1.3999
Ocrevus	72	14	140.00	-	1.6716	7	-	-	0.0482	0.0194	0.2888	0.0614	0.1695	8.8190	0.0432	0.3894	8.5188	0.0637	13.8345	1.8336
Actemra	96	83	59.83	-	2.2604	8	-	-	0.3959	0.0211	0.0100	0.3882	0.0383	19.9949	0.3605	0.0607	27.7755	0.9016	199.8084	0.7292
Orencia	132	113	29.75	-	3.2660	11	-	-	0.8061	0.0228	0.0100	0.7937	0.0397	18.5807	0.7714	0.0557	27.9369	0.9264	50.3644	0.8701

Diffusion Models Calibration

Selection of the closest analogues for Imfinzi and Imjudo based on the leading indicators

Training analogs + parameters (objective similarity)

Drug	Runway (mo)	DataMo	me saved (mi	Onco (1/0)	Distance	Rank	Raw w	Norm w	Bass_P	Bass_p	Bass_q	Gomp_P	Gomp_k	Gomp_t0	Log_P	Log_k	Log_t50	Wei_P	Wei_lam	Wei_k
Entyvio	60	26	29.83	-	1.9385	4	0.1103	0.0520	0.1866	0.0133	0.1053	0.1884	0.0911	15.3645	0.1420	0.1951	15.6829	0.3622	44.4885	1.4653
Vyvgart	120	29	59.50	-	3.5632	10	-	-	0.8271	0.0104	0.1928	0.9701	0.1125	13.4249	0.8136	0.2223	14.7762	0.8499	17.8963	2.1080
Phesgo	65	65	85.00	1	2.0156	5	0.1312	0.0619	0.7984	0.0095	0.0100	0.6111	0.0328	30.9374	0.5002	0.0627	34.7689	1.2000	140.3749	1.0170
Herceptin	2	80	26.00	1	0.3477	1	0.9413	0.4440	1.1478	0.0017	0.0186	0.5380	0.0228	61.1528	0.3559	0.0538	56.6590	1.2000	196.8681	1.4693
Rituxan	16	101	84.00	1	0.6831	2	0.7919	0.3735	0.0847	0.0482	0.0100	0.0850	0.0637	8.3846	0.0841	0.0821	14.4281	0.0913	22.4773	0.7762
Darzalex	108	67	176.00	1	3.3498	9	-	-	0.9341	0.0905	0.0100	0.9301	0.1216	4.7314	0.9223	0.1594	7.9719	0.9718	11.3230	0.8082
Tecentriq	72	14	23.00	1	2.2106	6	-	-	0.1310	0.0294	0.0100	0.2300	0.0556	21.7312	0.0795	0.1860	11.5827	0.5304	200.0000	0.9013
Opdivo	36	11	26.00	1	1.2186	3	0.1454	0.0686	1.1995	0.0028	0.1159	0.2334	0.1146	12.5111	0.0989	0.3551	8.6274	1.2000	83.4816	1.3999
Ocrevus	72	14	140.00	-	2.3595	7	-	-	0.0482	0.0194	0.2888	0.0614	0.1695	8.8190	0.0432	0.3894	8.5188	0.0637	13.8345	1.8336
Actemra	96	83	59.83	-	2.9048	8	-	-	0.3959	0.0211	0.0100	0.3882	0.0383	19.9949	0.3605	0.0607	27.7755	0.9016	199.8084	0.7292
Orencia	132	113	29.75	-	3.8990	11	-	-	0.8061	0.0228	0.0100	0.7937	0.0397	18.5807	0.7714	0.0557	27.9369	0.9264	50.3644	0.8701

Training analogs + parameters (objective similarity)

Drug	Runway (mo)	DataMo	me saved (mi	Onco (1/0)	Distance	Rank	Raw w	Norm w	Bass_P	Bass_p	Bass_q	Gomp_P	Gomp_k	Gomp_t0	Log_P	Log_k	Log_t50	Wei_P	Wei_lam	Wei_k
Entyvio	60	26	29.83	-	1.5169	4	0.2286	0.0863	0.1866	0.0133	0.1053	0.1884	0.0911	15.3645	0.1420	0.1951	15.6829	0.3622	44.4885	1.4653
Vyvgart	120	29	59.50	-	3.1238	10	-	-	0.8271	0.0104	0.1928	0.9701	0.1125	13.4249	0.8136	0.2223	14.7762	0.8499	17.8963	2.1080
Phesgo	65	65	85.00	1	1.5755	5	0.2891	0.1092	0.7984	0.0095	0.0100	0.6111	0.0328	30.9374	0.5002	0.0627	34.7689	1.2000	140.3749	1.0170
Herceptin	2	80	26.00	1	0.3102	1	0.9530	0.3599	1.1478	0.0017	0.0186	0.5380	0.0228	61.1528	0.3559	0.0538	56.6590	1.2000	196.8681	1.4693
Rituxan	16	101	84.00	1	0.3102	1	0.9530	0.3599	0.0847	0.0482	0.0100	0.0850	0.0637	8.3846	0.0841	0.0821	14.4281	0.0913	22.4773	0.7762
Darzalex	108	67	176.00	1	2.9290	9	-	-	0.9341	0.0905	0.0100	0.9301	0.1216	4.7314	0.9223	0.1594	7.9719	0.9718	11.3230	0.8082
Tecentriq	72	14	23.00	1	1.7702	6	-	-	0.1310	0.0294	0.0100	0.2300	0.0556	21.7312	0.0795	0.1860	11.5827	0.5304	200.0000	0.9013
Opdivo	36	11	26.00	1	0.7880	3	0.2240	0.0846	1.1995	0.0028	0.1159	0.2334	0.1146	12.5111	0.0989	0.3551	8.6274	1.2000	83.4816	1.3999
Ocrevus	72	14	140.00	-	1.9530	7	-	-	0.0482	0.0194	0.2888	0.0614	0.1695	8.8190	0.0432	0.3894	8.5188	0.0637	13.8345	1.8336
Actemra	96	83	59.83	-	2.4682	8	-	-	0.3959	0.0211	0.0100	0.3882	0.0383	19.9949	0.3605	0.0607	27.7755	0.9016	199.8084	0.7292
Orencia	132	113	29.75	-	3.4595	11	-	-	0.8061	0.0228	0.0100	0.7937	0.0397	18.5807	0.7714	0.0557	27.9369	0.9264	50.3644	0.8701

Keytruda Qlex Modeling

IV-to-SC Conversion – Adoption Curves Forecast

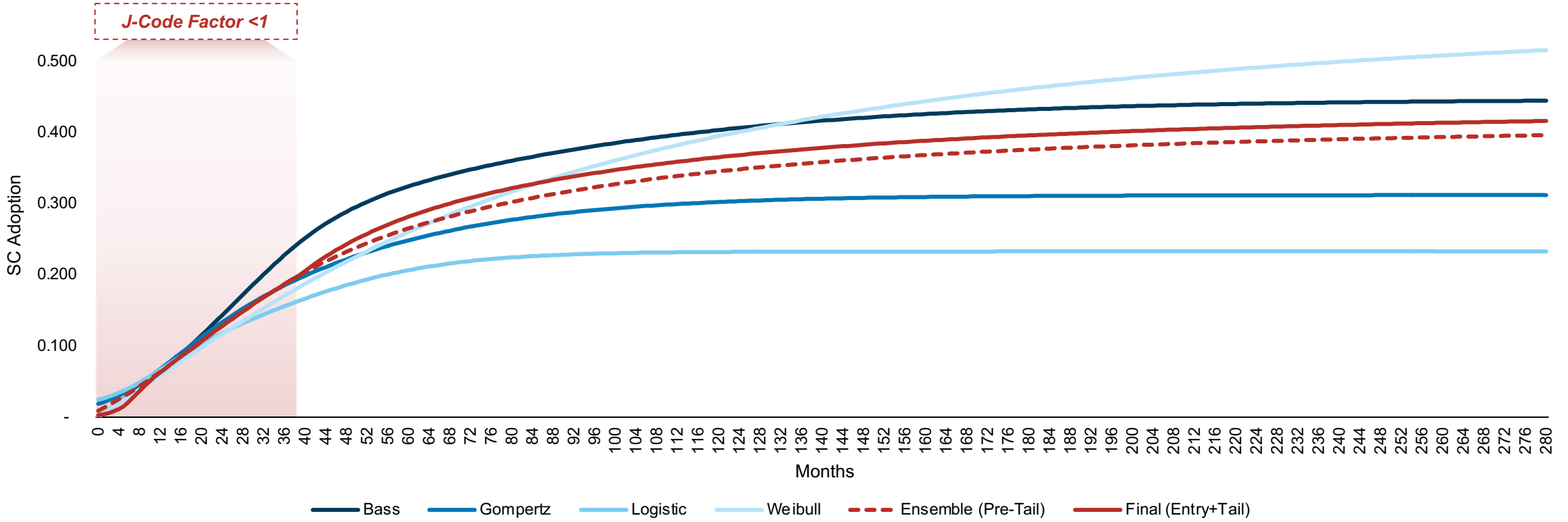
Closest Historical IV-to-SC Adoption Analogues

Opdivo		
Runway:	**Oncology**	**IV-SC Mins**
36 Months	*Yes*	*26*

Entyvio		
Runway:	**Oncology**	**IV-SC Mins**
60 Months	*No*	*29.8*

Rituxan		
Runway:	**Oncology**	**IV-SC Mins**
16 Months	*Yes*	*84*

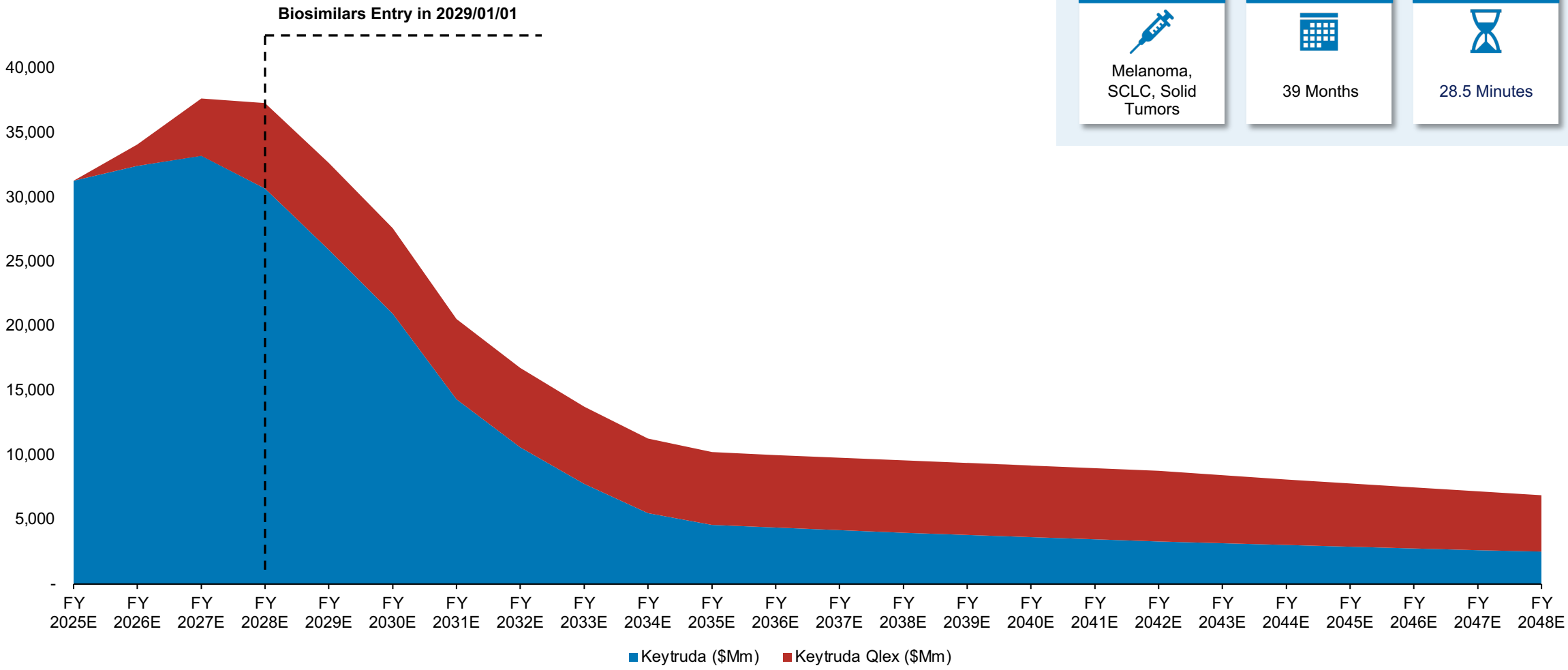
Phesgo		
Runway:	**Oncology**	**IV-SC Mins**
65 Months	*Yes*	*85*



Keytruda Qlex Modeling

IV-to-SC Conversion – Sales Forecast

Treatment Area	Runway	Time Saved
Melanoma, SCLC, Solid Tumors	39 Months	28.5 Minutes



Enhertu SC Modeling

IV-to-SC Conversion – Adoption Curves Forecast

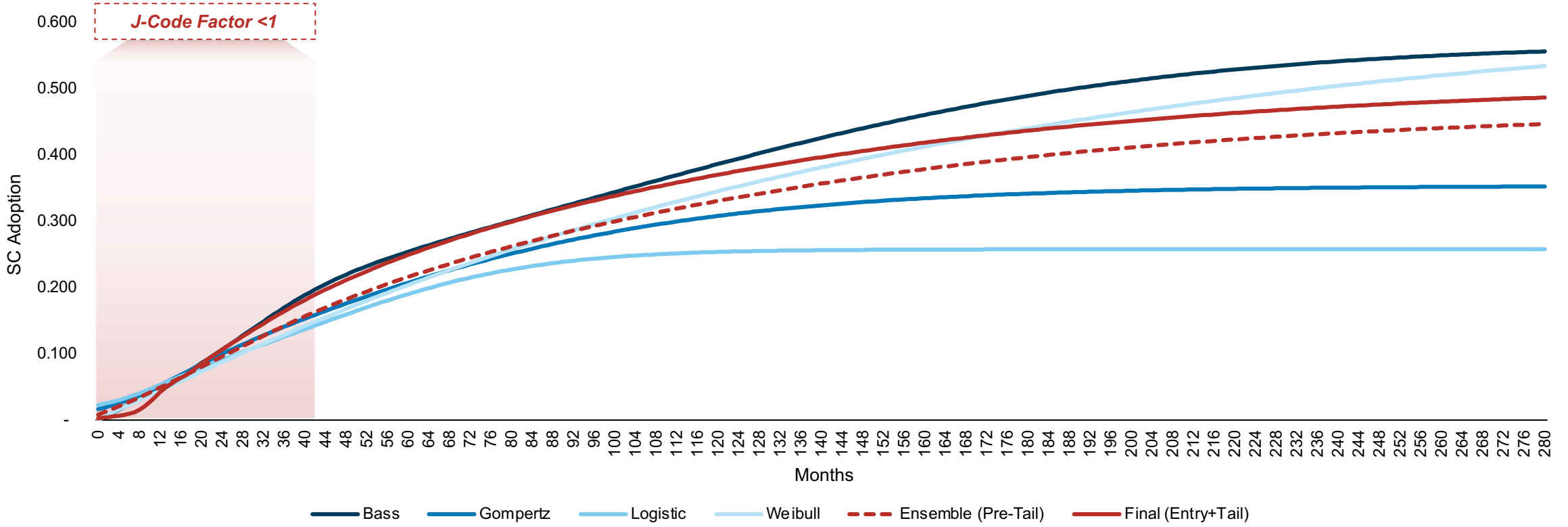
Closest Historical IV-to-SC Adoption Analogues

Rituxan		
Runway:	**Oncology**	**IV-SC Mins**
16 Months	*Yes*	*84*

Herceptin		
Runway:	**Oncology**	**IV-SC Mins**
2 Months	*Yes*	*26*

Opdivo		
Runway:	**Oncology**	**IV-SC Mins**
36 Months	*Yes*	*26*

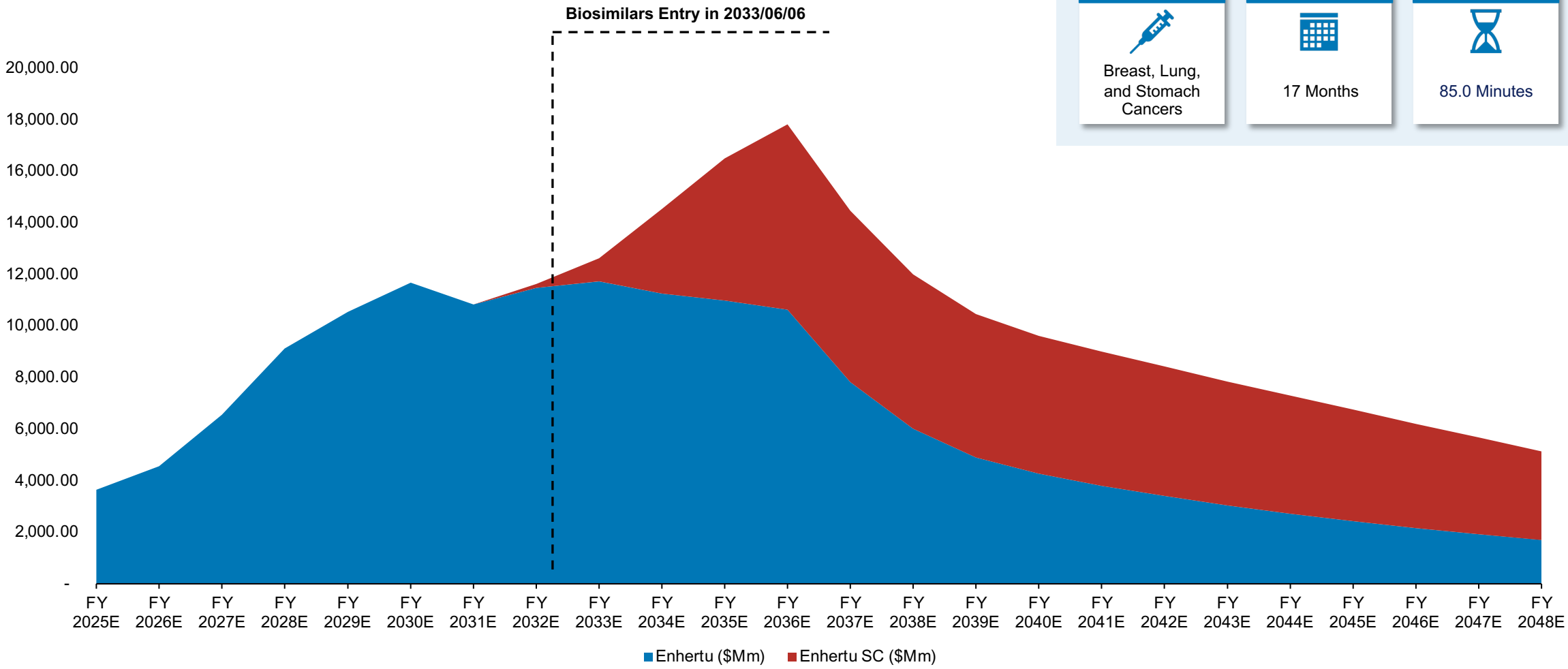
Phesgo		
Runway:	**Oncology**	**IV-SC Mins**
65 Months	*Yes*	*85*



Enhertu SC Modeling

IV-to-SC Conversion – Sales Forecast

Treatment Area	Runway	Time Saved
Breast, Lung, and Stomach Cancers	17 Months	85.0 Minutes



Imfinzi SC Modeling

IV-to-SC Conversion – Adoption Curves Forecast

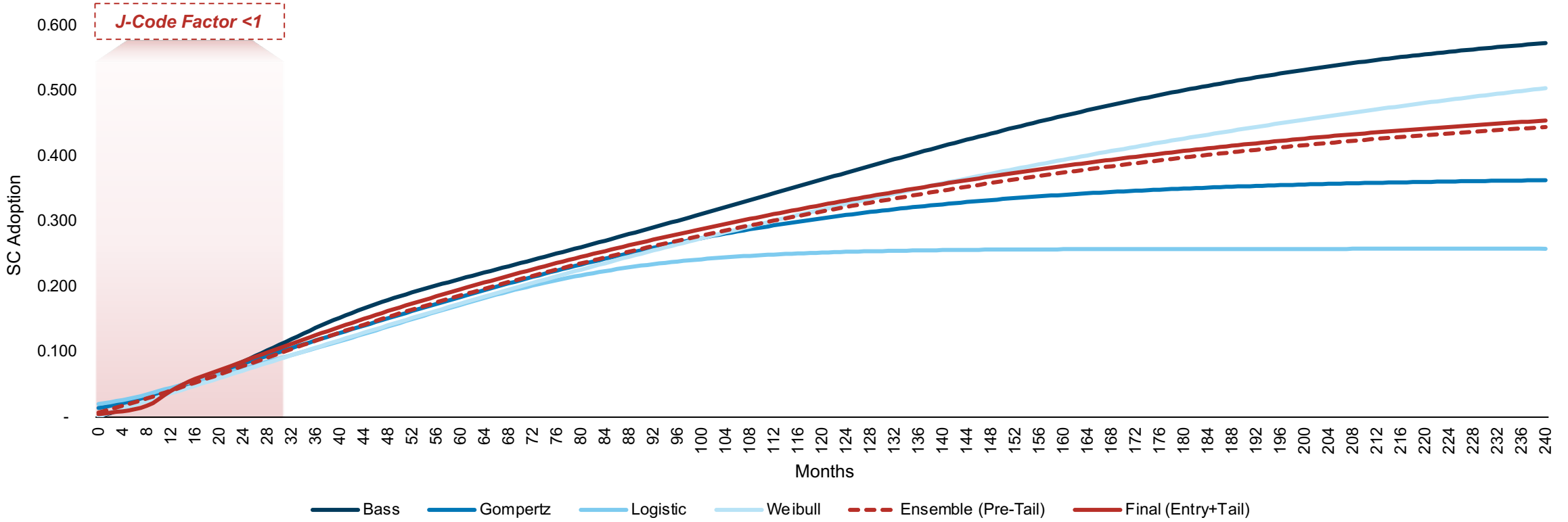
Closest Historical IV-to-SC Adoption Analogues

Herceptin		
Runway:	**Oncology**	**IV-SC Mins**
2 Months	*Yes*	*26*

Rituxan		
Runway:	**Oncology**	**IV-SC Mins**
16 Months	*Yes*	*84*

Opdivo		
Runway:	**Oncology**	**IV-SC Mins**
36 Months	*Yes*	*26*

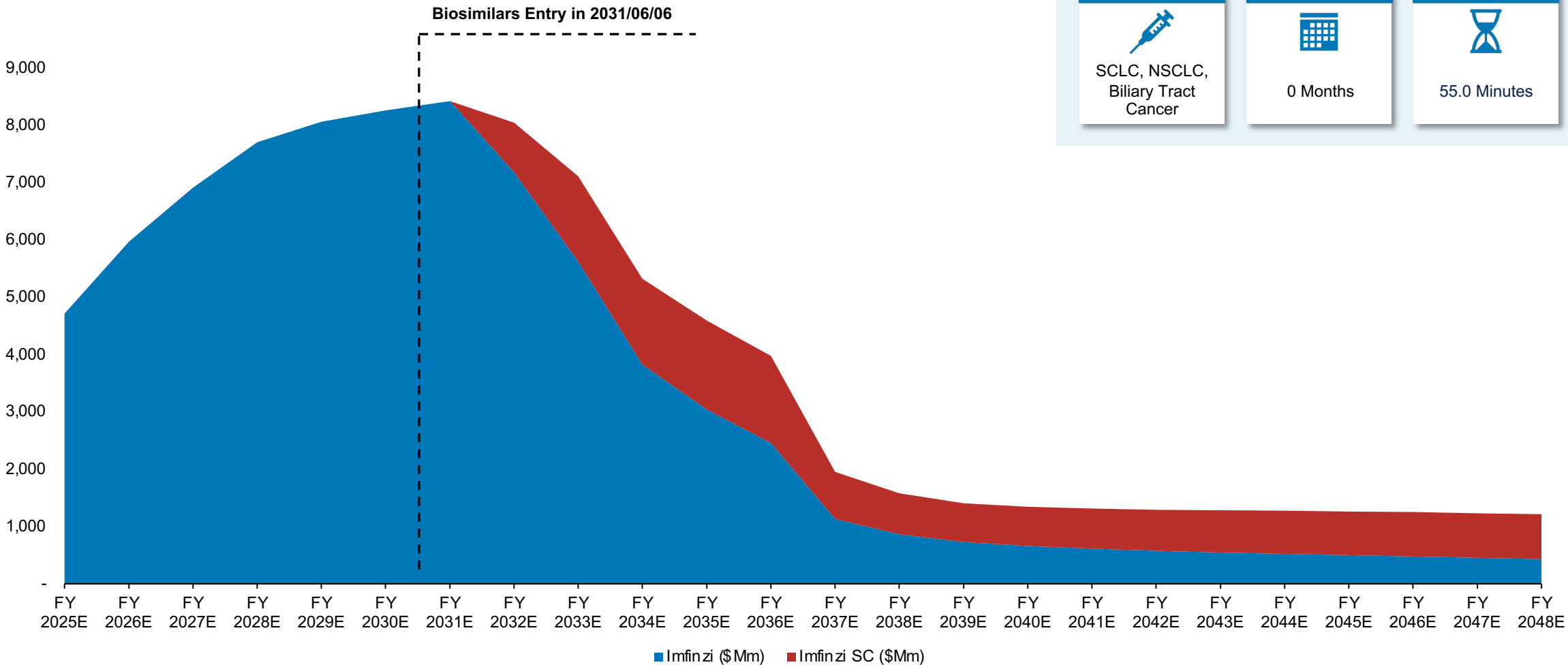
Entyvio		
Runway:	**Oncology**	**IV-SC Mins**
60 Months	*No*	*29.8*



Imfinzi SC Modeling

IV-to-SC Conversion – Sales Forecast

Treatment Area	Runway	Time Saved
SCLC, NSCLC, Biliary Tract Cancer	0 Months	55.0 Minutes



Imjudo SC Modeling

IV-to-SC Conversion – Adoption Curves Forecast

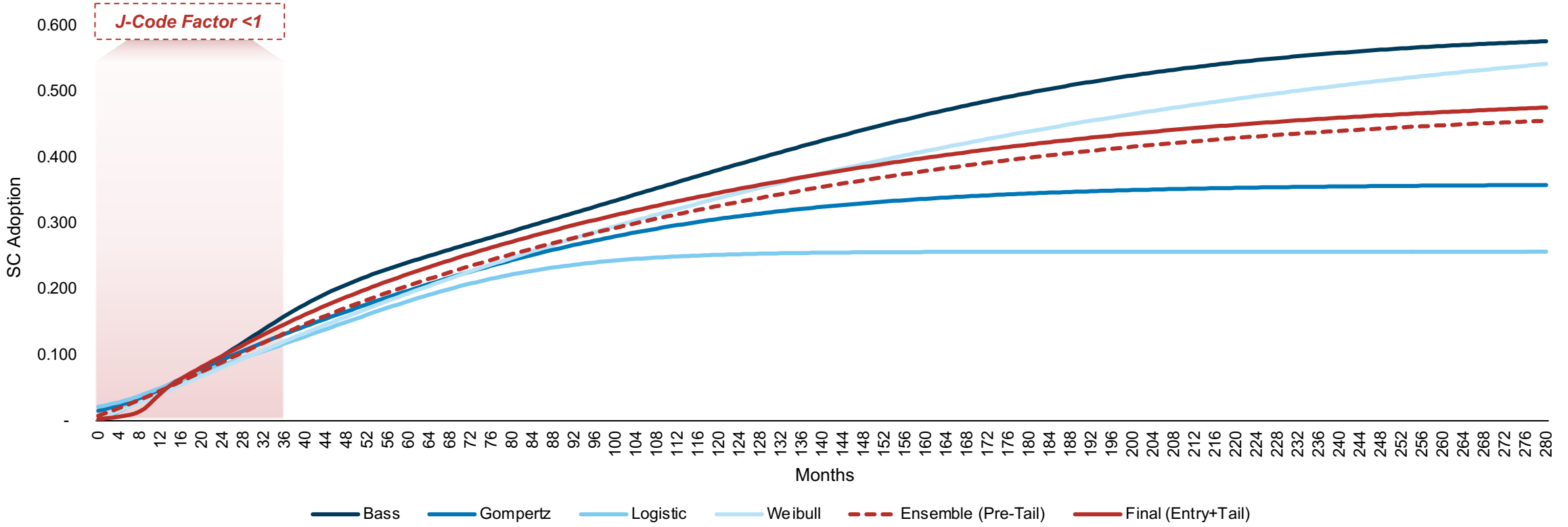
Closest Historical IV-to-SC Adoption Analogues

Rituxan		
Runway:	**Oncology**	**IV-SC Mins**
16 Months	*Yes*	*84*

Herceptin		
Runway:	**Oncology**	**IV-SC Mins**
2 Months	*Yes*	*26*

Opdivo		
Runway:	**Oncology**	**IV-SC Mins**
36 Months	*Yes*	*26*

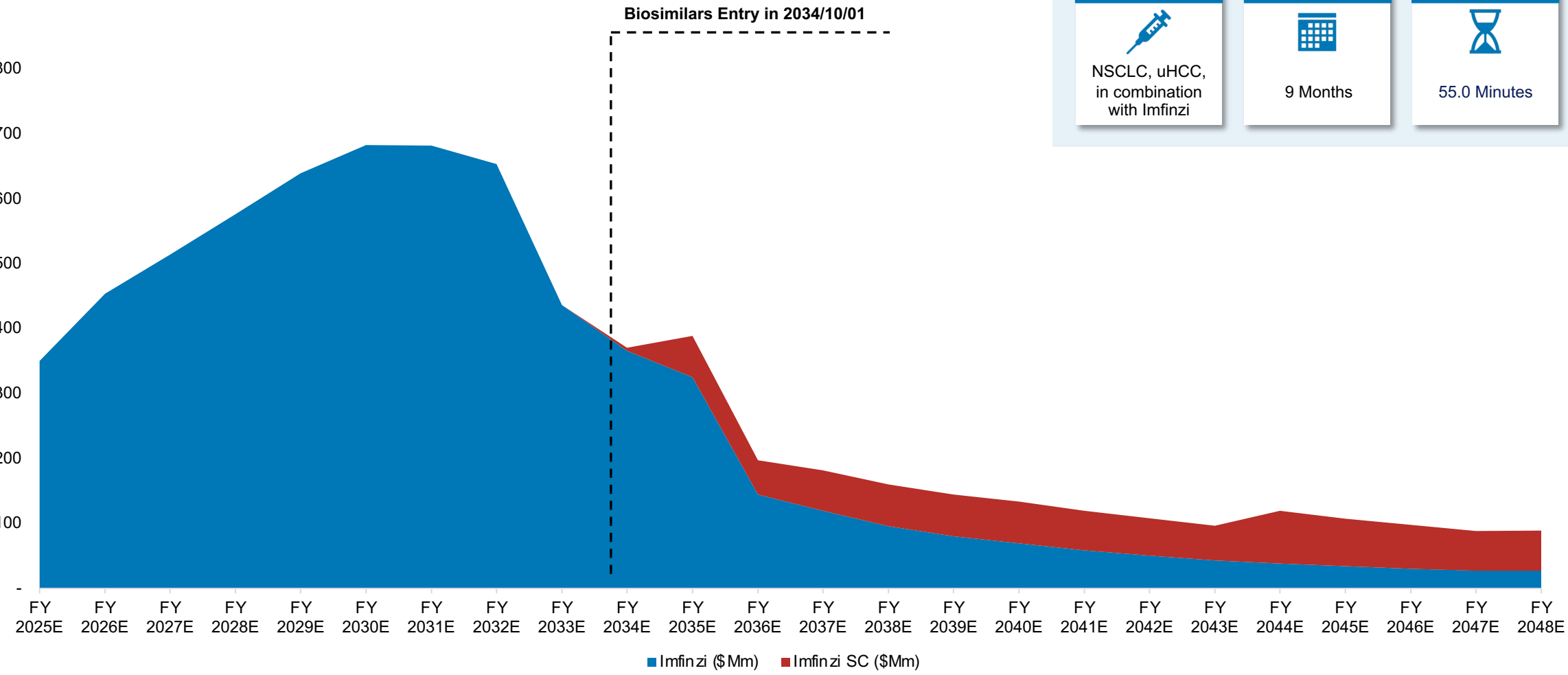
Entyvio		
Runway:	**Oncology**	**IV-SC Mins**
60 Months	*No*	*29.8*



Imjudo SC Modeling

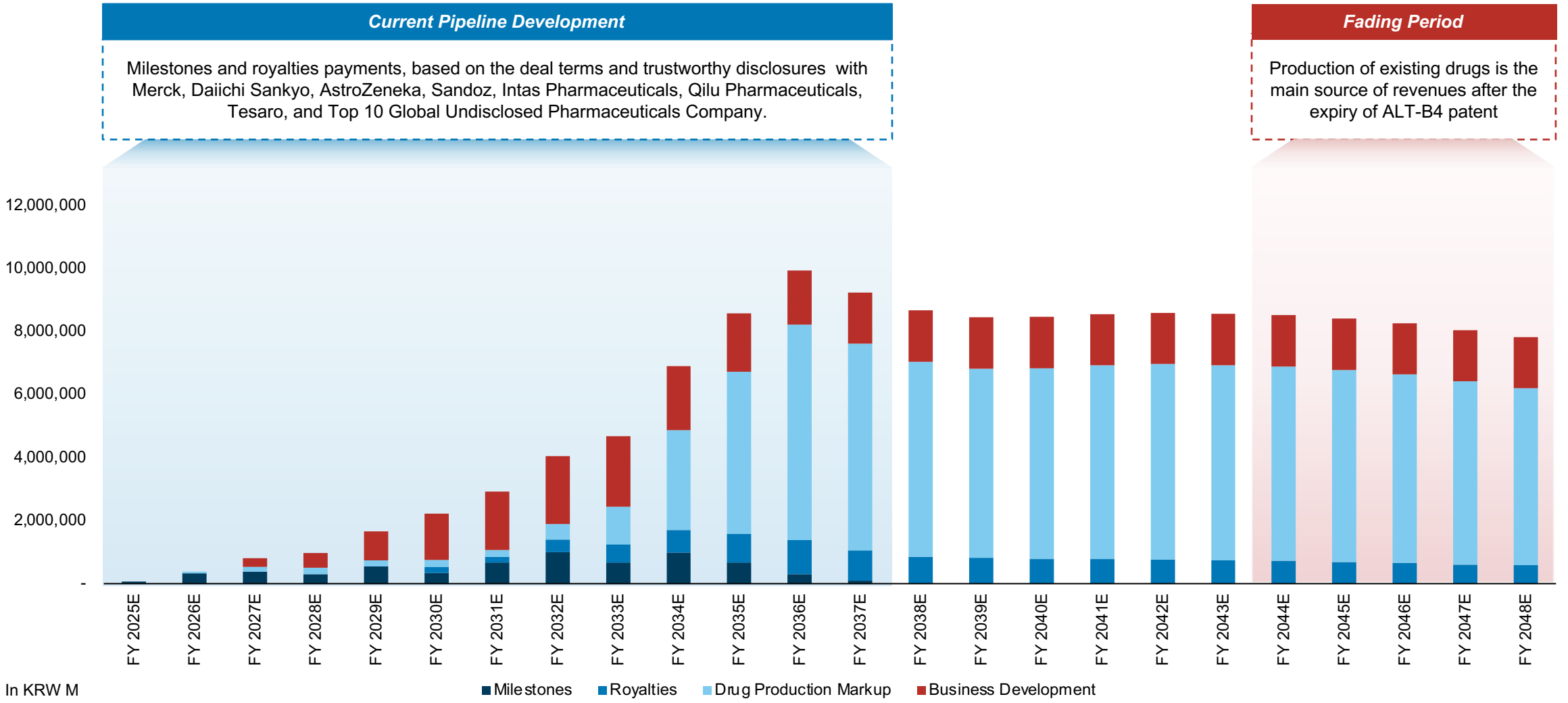
IV-to-SC Conversion Curves Forecast

Treatment Area	Runway	Time Saved
NSCLC, uHCC, in combination with Imfinzi	9 Months	55.0 Minutes



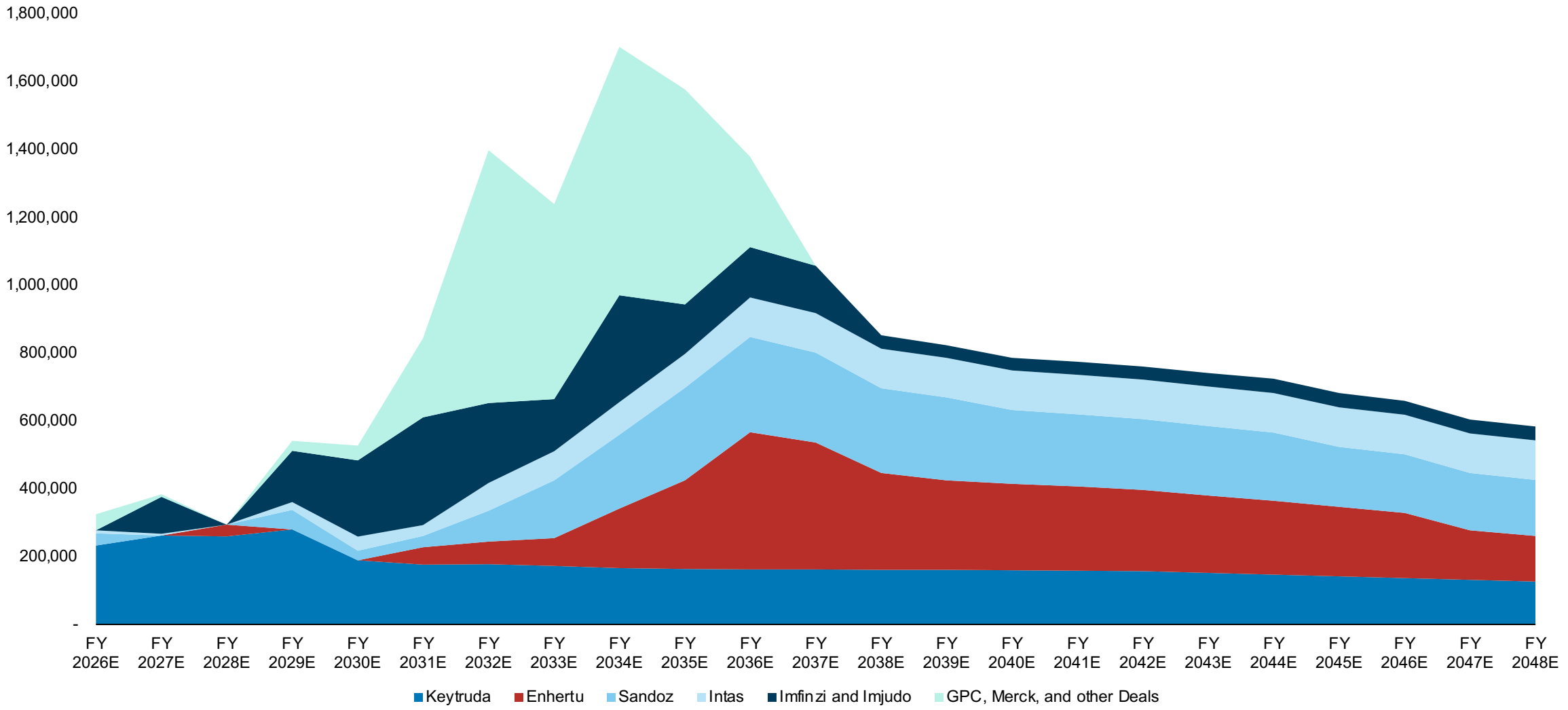
Alteogen Revenue Mix

Markup from drug production accounts for the largest revenue source



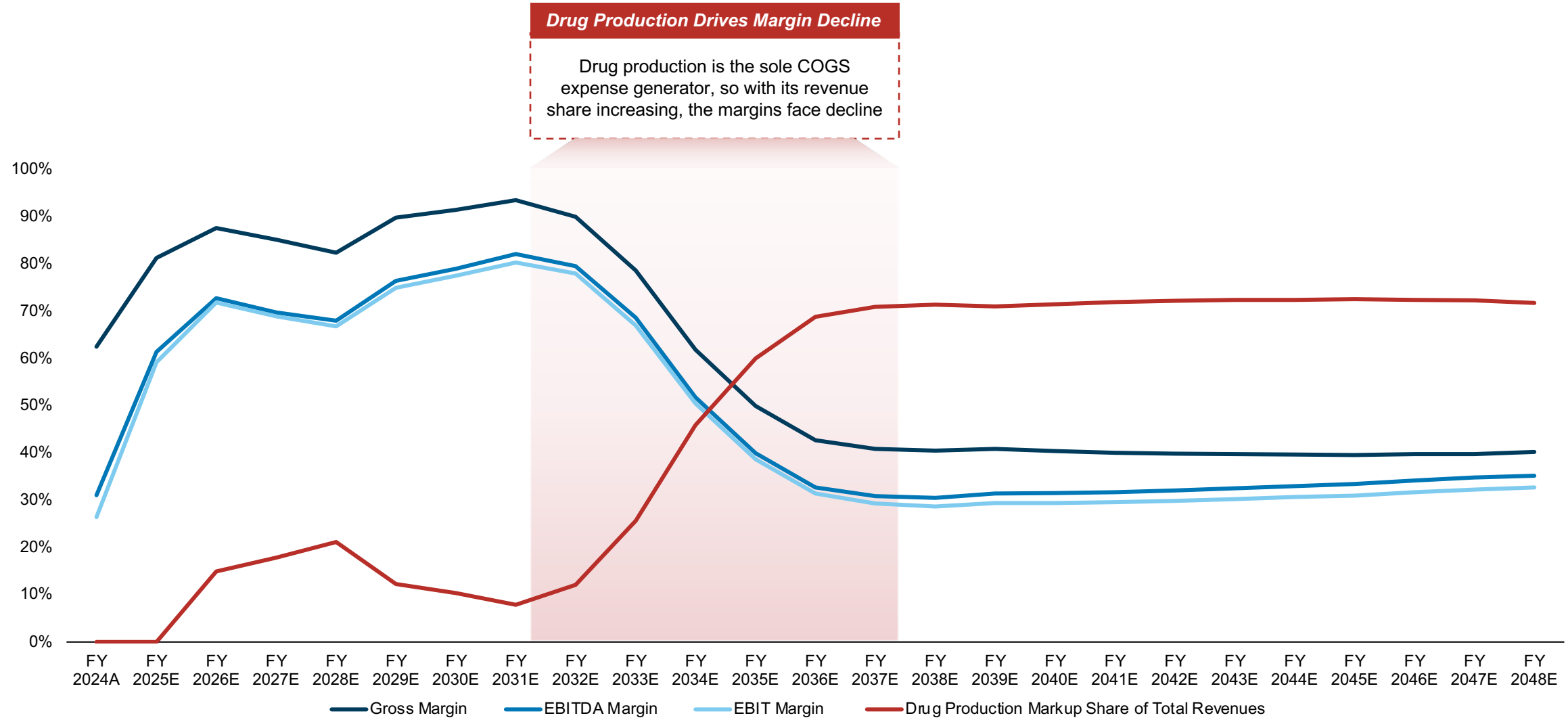
Alteogen Revenue Mix

Revenues from milestone achievements and royalties



Margin Development

Alteogen key operating margins forecast

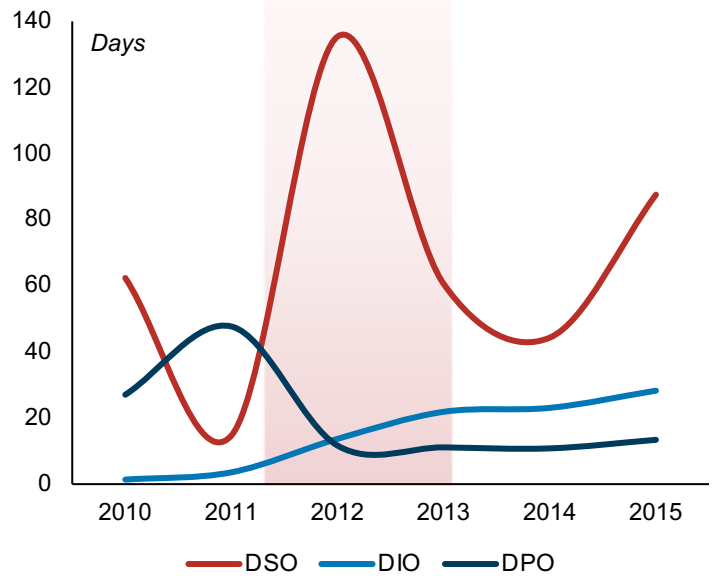


Alteogen mirrors Halozyme's Pre-Launch Working Capital Setup

Pre-launch inventory + milestone AR drive DIO/DSO spikes before cash receipts

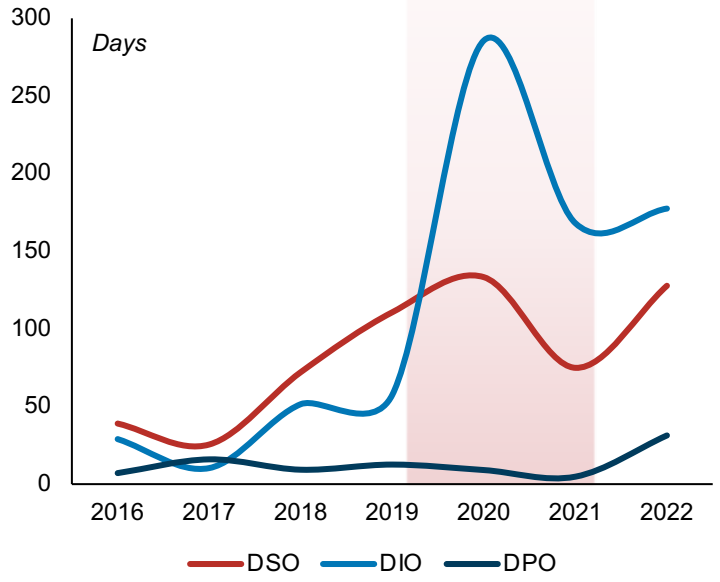
Halozyme 2011-2013 – Herceptin SC & Mabthera SC

rHuPH20 **inventory built** ahead of first **SC launches**;
WC swings largely reflect stock-build (DIO) and timing,
not demand weakness



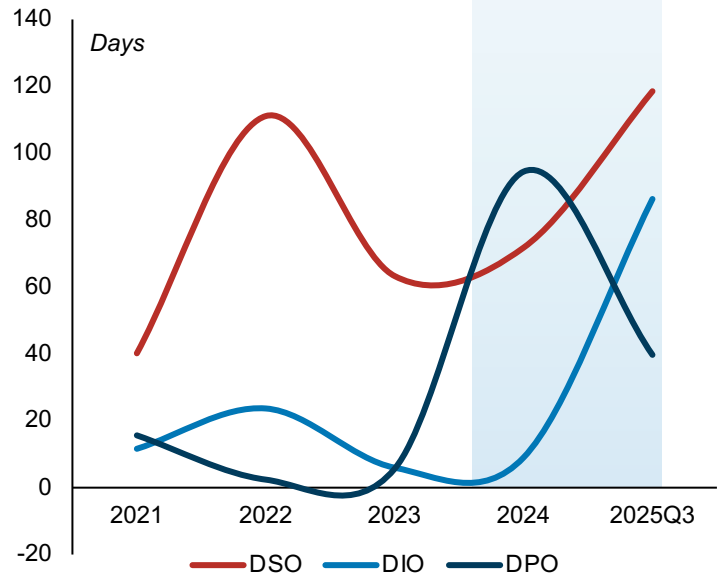
Halozyme, 2018-2020 – Phesgo SC & Herceptin SC

Milestone receivables booked on credit **lift DSO**;
repeated **rHuPH20 stock-build lifts DIO**;
cash converts only after payments land



Alteogen 2024-2025M9 – Keytruda SC

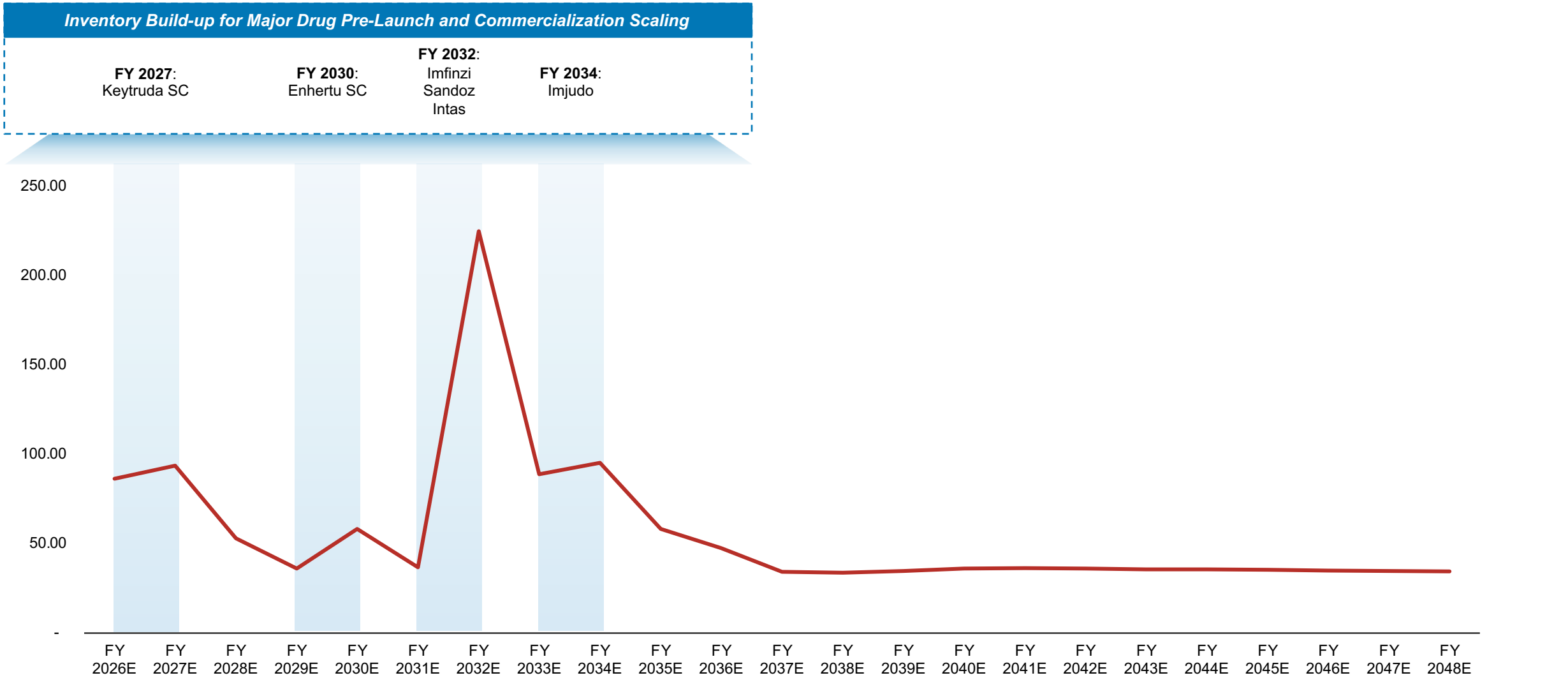
DIO rise signals **pre-launch stocking**;
DSO volatility suggests **accounts receivables increase**
due to the approval milestones being secured



Alteogen mirrors Halozyme pre-launch – expect near-term FCF drag (AR & Inventory) until milestones collect and DIO normalizes

Operational Modeling

Days Inventory Outstanding reflects the enzyme stock connected to the drug launch and commercialisation scaling



Patent Lawsuit over Keytruda Qlex

Halozyme to claim royalties on patent infringement

Litigation Risks for both Sides

Structural Trigger

As legacy SC delivery patents underlying the **Enhanze platform** approached **expiry** in **2027** *(EU 2029)*

Halozyme expanded its **MDASE portfolio** to over **100 patents** to cover over **7000 variations** and preserve exclusivity and the royalty tail

Patent Claim

Halozyme initiated **litigation against Merck & Co.**, claiming **infringement** of their MDASE **patents**

In the case of Halozyme prevailing, **Merck & Co**. would be obliged to **pay addition royalties** to Halozyme for infringement

Implications

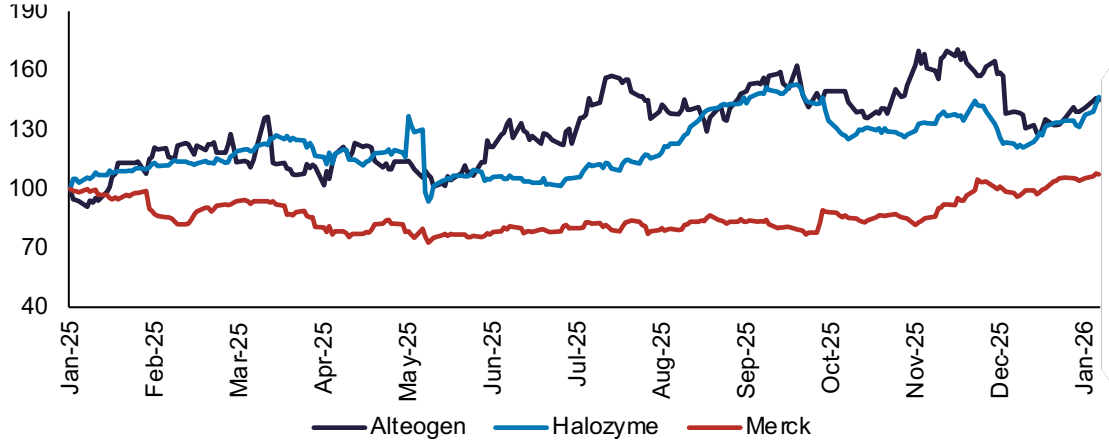
The dispute expanded into **US PTAB** patent challenges and European injunctions, **delaying European launch**

Temporary **legal overhang** on Keytruda Qlex launch delays **commercial rollout,** threatening constrained franchise **conversion**

What drives the Litigation

MERCK	Halozyme
Time pressure from litigation and EU delays compresses the SC **migration window**	Aims to **capture royalty streams** from former and future partners
Highlights that **SC switching** does not necessarily remove **royalty exposure**	Seeks to **weaken ALT-B4**'s market positioning through legal and perception risk
Invalidating Halozyme's **broad patents** would mitigate **royalty exposure**	Litigation serves as a **deterrent signal** to protect **platform economics**

Alteogen vs. Halozyme vs. Merck (Rebased) – Backdrop Snapshot



Conclusion

For Halozyme, the litigation challenge could lead to the invalidation of their overly broad patents

For Alteogen, an adverse ruling could reduce ALT-B4's appeal as a lifecycle management tool due to residual royalty risk

For Merck, the litigation could disrupt Merck's planned SC transition for Keytruda

Halozyme, Inc. v. Merck Sharp & Dohme Corp., USPTO PTAB, Halozyme Press Release

Market Pricing of the Drug Launches

Korea's pharma-bio market still relies excessively on the "total contract amount" when valuing new drugs

Out-licensing deals contract amount structure at signing

Actual Cash Inflow

Upfront Fee
- Deal Signing

+

Future Conditional Payments

Clinical Milestones
- Phase 1
- Phase 3
- Additional Trials

+

Approval Milestones
- US FDA
- EMA
- RoW

+

Sales Milestones
- 1st Threshold
- 2nd Threshold

+

Royalties
- Tied to sales

By nature, milestones are "conditional value." If a program fails to clear late-stage trials or the approval threshold, they are not paid, and there are many cases in which technology is returned due to a partner's strategy shifts or reprioritization.
Yet, total contract amount is often interpreted as the present value of a new drug as soon as the contract is signed and reflected in the share price.

TiumBio Case Study, in KRW

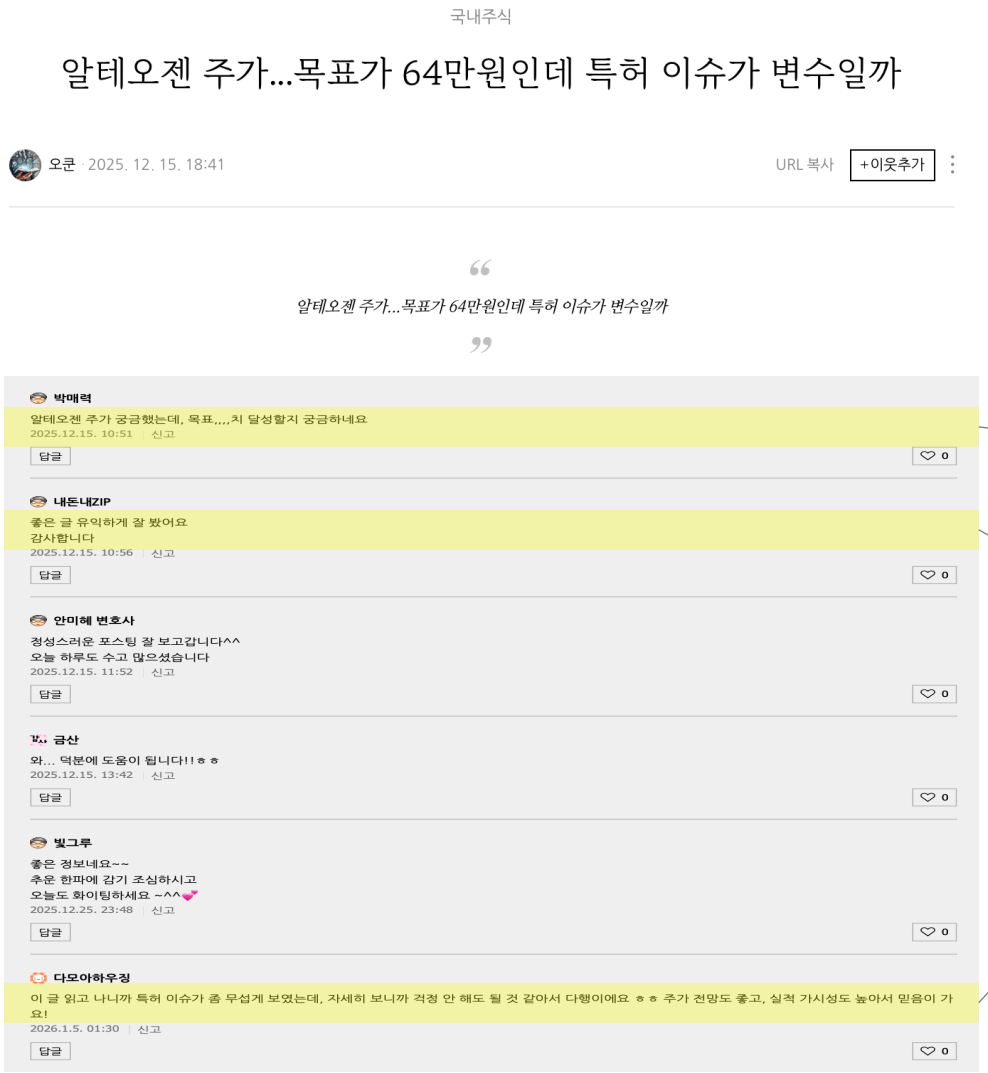
Jan 2019	Mar 2025
Partners with Chiesi to develop small molecules targeting TGF-beta	Partnership is terminated due to the failed development of viable candidate
Total Contract Value **109.9bn**	Amount Received **2.1bn** *(1.9%)*

Alteogen's selected current active programs structures, in $

Keytruda	Enhertu	AstraZeneca	Sandoz	Intas
Total Contract Value **789m**	Total Contract Value **300m**	Total Contract Value **1,350m**	Total Contract Value **143m**	Total Contract Value **115m**
Received **58m** *(7.9%)*	Received **20m** *(6.6%)*	Received **45m** *(3.3%)*	Received **8m** *(5.6%)*	Received **6m** *(5.2%)*

Retail Forum Sentiment signals late-stage Hype

Anchor to bullish narratives over fundamentals



Online Hype Signals from Investor Forums

알테오젠 주가...목표가 64만원인데 특허 이슈가 변수일까 - “Alteogen share price – price target at KRW 640,000; is the patent issue really a risk factor?”

- Naver blog posts referencing Hana Securities’ price target frame the KRW 640,000 valuation as credible, while comment sections remain notably calm and growth-oriented, downplaying patent-related risks and reinforcing a narrative that legal uncertainties are immaterial to the long-term upside.

- 리포트 믿고 그냥 들고 가면 되는 종목 같습니다 - “This seems like a stock you can simply **hold, based on the research reports**.”

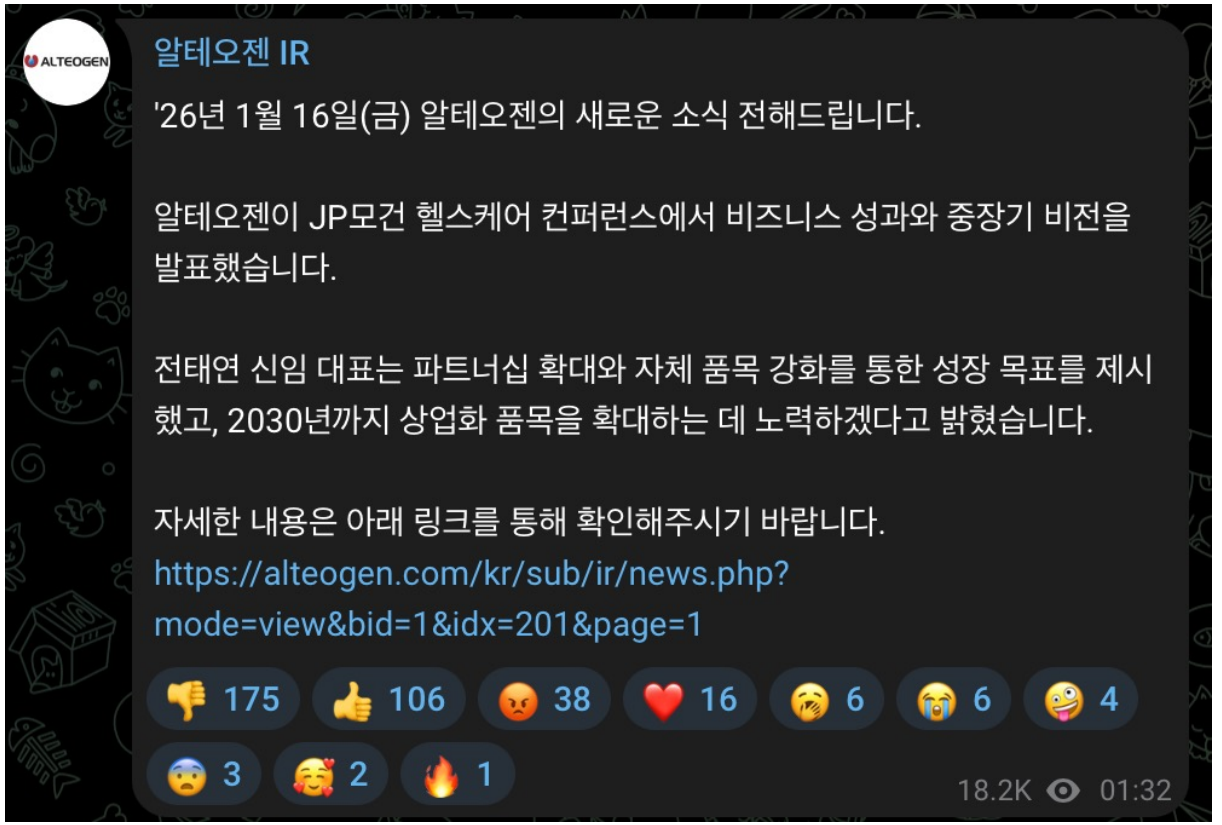
- 특허 이슈는 이미 다 반영된 것 같고, 장기적으로는 성장만 보면 될 듯합니다. - “The patent issue seems to be fully priced in already; over the long term, growth is what really matters.”

- 하나증권 목표가면 충분히 갈 수 있다고 봅니다. 괜히 흔들릴 필요 없어요 - “**Based on Hana Securities’ price target, the stock still has enough upside**. There’s no need to be shaken by short-term noise.”

Naver Finance

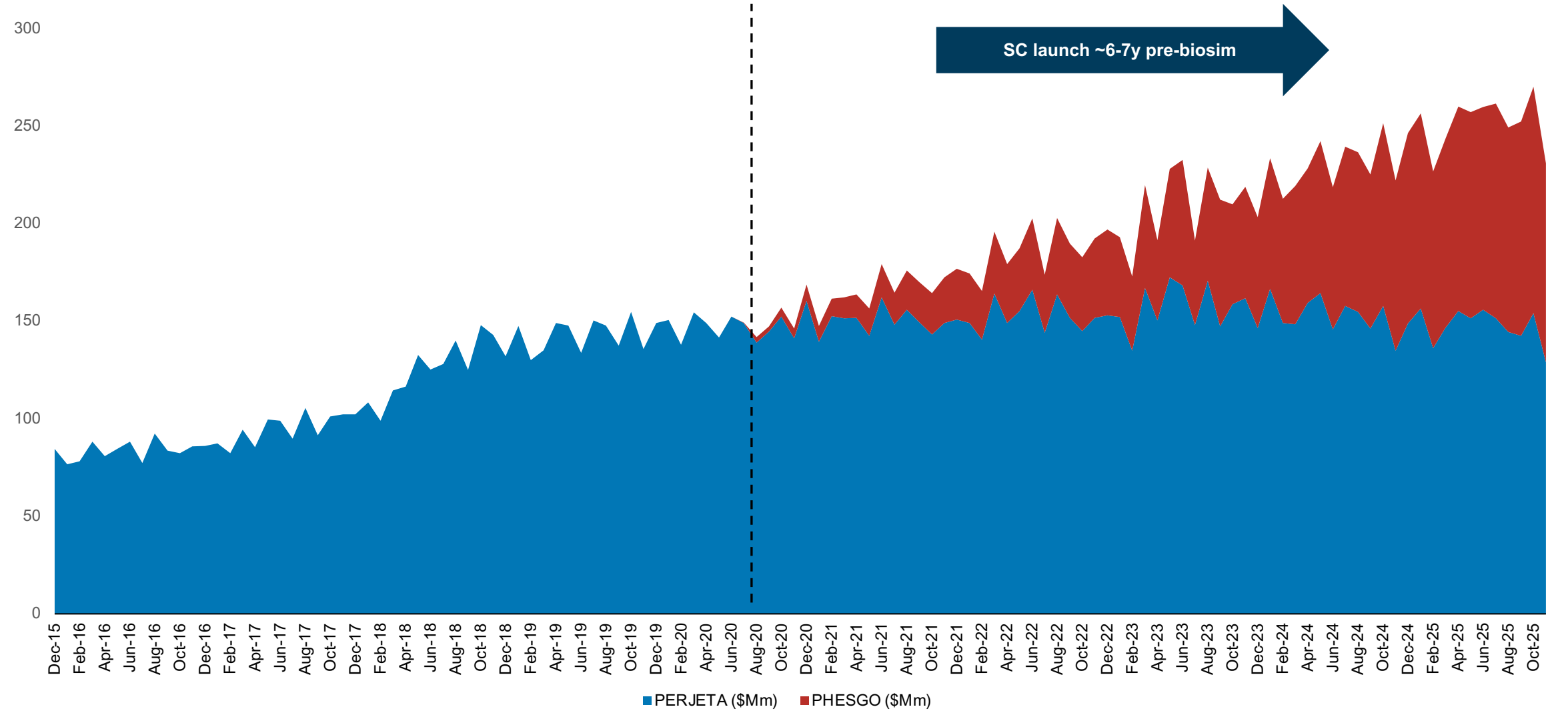
Agenda Spreaded via Alteogen IR Channels

Retail sentiment anchors to broker targets, not fundamentals



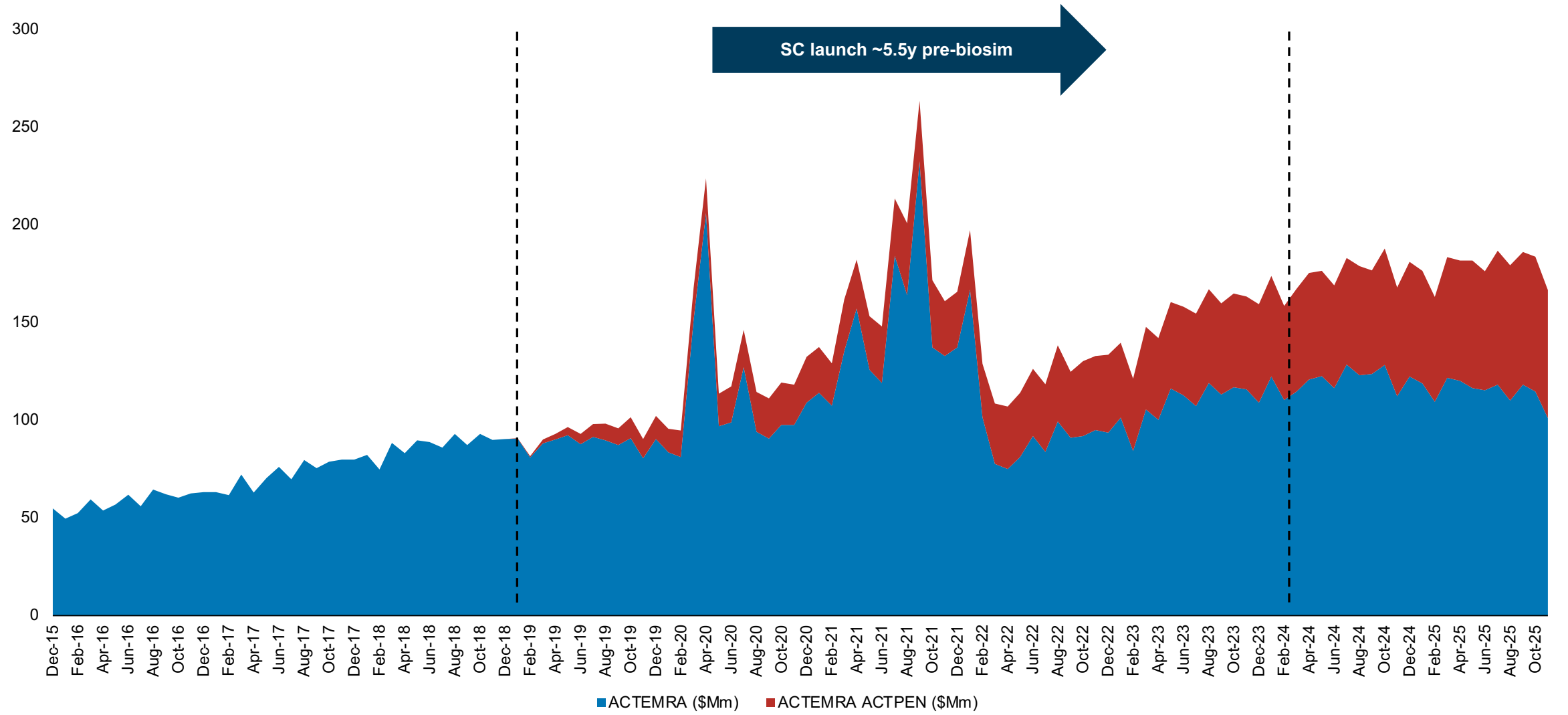
SC Lifecycle Outcomes by IV biosimilar Runway

PERJETA / PHESGO



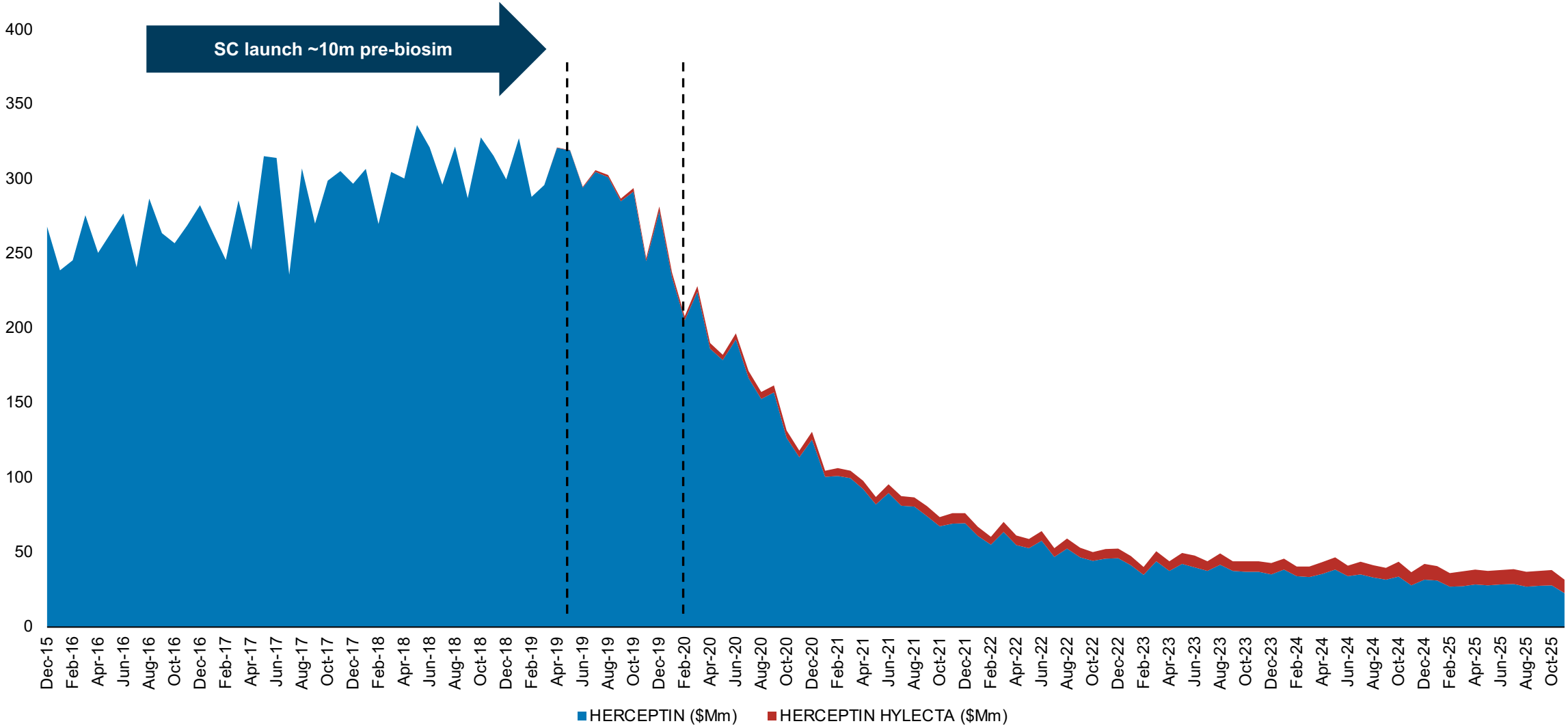
SC Lifecycle Outcomes by IV biosimilar Runway

ACTEMRA / ACTEMRA ACTPEN



SC Lifecycle Outcomes by IV biosimilar Runway

HERCEPTIN / HERCEPTIN HYLECTA



Share Price Shock on 21. January 2026

Severe share price decline after Merck Q-10 filing spotlighted lower then expected royalties for Keytruda SC

Merck Q-10 filing for the Q3 2025 results

In February 2024, Merck and Alteogen Inc. (Alteogen) converted their existing non-exclusive license agreement into an exclusive license for the use of Alteogen's proprietary berahyaluronidase alfa for the formulation of subcutaneous pembrolizumab. Pursuant to the amended agreement, Alteogen is eligible to receive regulatory approval milestone payments of up to $51 million, as well as annual and cumulative sales-based milestone payments of up to $1.0 billion in the aggregate. After the achievement of all sales-based milestones, a 2% royalty on net sales is payable to Alteogen. In September 2025, the U.S. Food and Drug Administration (FDA) approved Keytruda Qlex (pembrolizumab and berahyaluronidase alfa-pmph) injection, which triggered regulatory milestone payments of $25 million in the aggregate from Merck to Alteogen. Additionally, following FDA approval, the Company determined that it was probable that sales of Keytruda Qlex in the future would trigger $680 million of sales-based milestone payments from Merck to Alteogen. Accordingly, in the third quarter of 2025, Merck recorded a $705 million liability for these regulatory and sales-based milestone payments and a corresponding intangible asset related to Keytruda Qlex included in Other Intangibles, Net. The intangible asset will be amortized over its estimated useful life through December 2030. The $25 million of regulatory milestone payments were made in October 2025; the future sales-based milestone payments will be paid upon achievement of the corresponding milestone

Analyst reports Alteogen posted on its website

Shihan:

Base case - 키트루다SC 로열티 5%, 앤허투SC 로열티 7% 가정

	마일스톤	로열티	파이프라인 가치(억원)	총 영업 가치(억원)	적정 주가(원)
키트루다SC	7%	5%	174,432	431,695	835,469
앤허투SC	9%	7%	163,045		

자료: Evaluate Pharma, 신한투자증권 추정

Bear case - 키트루다SC 로열티 3%, 앤허투SC 로열티 5% 가정

	마일스톤	로열티	파이프라인 가치(억원)	총 영업 가치(억원)	적정 주가(원)
키트루다SC	5%	3%	109,479	321,625	622,581
앤허투SC	7%	5%	117,928		

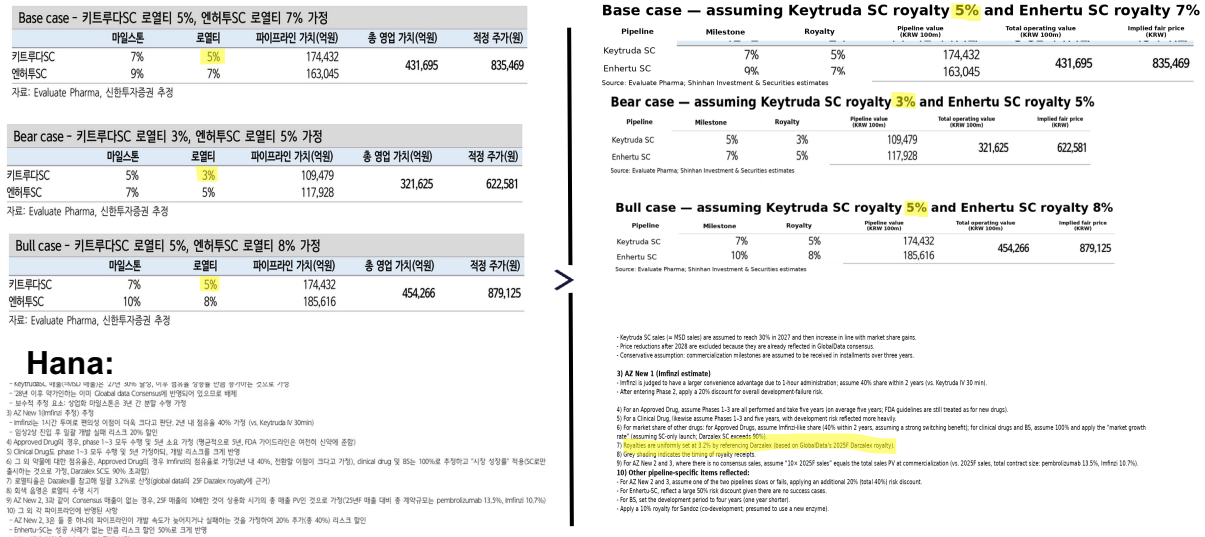
자료: Evaluate Pharma, 신한투자증권 추정

Bull case - 키트루다SC 로열티 5%, 앤허투SC 로열티 8% 가정

	마일스톤	로열티	파이프라인 가치(억원)	총 영업 가치(억원)	적정 주가(원)
키트루다SC	7%	5%	174,432	454,266	879,125
앤허투SC	10%	8%	185,616		

자료: Evaluate Pharma, 신한투자증권 추정

Hana:



Base case — assuming Keytruda SC royalty 5% and Enhertu SC royalty 7%

Pipeline	Milestone	Royalty	Pipeline value (KRW 100m)	Total operating value (KRW 100m)	Implied fair price (KRW)
Keytruda SC	7%	5%	174,432	431,695	835,469
Enhertu SC	9%	7%	163,045		

Source: Evaluate Pharma; Shinhan Investment & Securities estimates

Bear case — assuming Keytruda SC royalty 3% and Enhertu SC royalty 5%

Pipeline	Milestone	Royalty	Pipeline value (KRW 100m)	Total operating value (KRW 100m)	Implied fair price (KRW)
Keytruda SC	5%	3%	109,479	321,625	622,581
Enhertu SC	7%	5%	117,928		

Source: Evaluate Pharma; Shinhan Investment & Securities estimates

Bull case — assuming Keytruda SC royalty 5% and Enhertu SC royalty 8%

Pipeline	Milestone	Royalty	Pipeline value (KRW 100m)	Total operating value (KRW 100m)	Implied fair price (KRW)
Keytruda SC	7%	5%	174,432	454,266	879,125
Enhertu SC	10%	8%	185,616		

Source: Evaluate Pharma; Shinhan Investment & Securities estimates

Merck's disclosure **directly conflicted** with the market's 4-5% Keytruda SC royalty expectation, an assumption reinforced by analyst **reports reposted on Alteogen's website**. As the information spread, it triggered an heavy selloff, that pushed Alteogen share **down more than 20%** on 21 January 2026

What remains unclear, is why exactly the share price was affected on this particular date, as the **Merk Q-10 form** for its Q32025 reports was **published already on the 5. November 2025**

After there was no actual impact on Alteogen's share price on the release date of Merck's Q-10 our **expectation** was that the **shock will materialize** when **Alteogen's Q4 2025 results** would be published, confirming lower then expected Keytruda revenues, making investors **more sensibl**e regarding Keytruda royalties and Merck's disclosure to them

Financial Model

Discounted Cash Flow Valuation (1/2)

DCF Valuation	FY 2023A	FY 2024A	2025Q4	FY 2026E	FY 2027E	FY 2028E	FY 2029E	FY 2030E	FY 2031E	FY 2032E	FY 2033E	FY 2034E	FY 2035E	FY 2036E	FY 2037E	FY 2038E	FY 2039E	FY 2040E
Valuation Date: Jan 21, 2026	Dec 31, 2023	Dec 31, 2024	Dec 31, 2025	Dec 31, 2026	Dec 31, 2027	Dec 31, 2028	Dec 31, 2029	Dec 31, 2030	Dec 31, 2031	Dec 31, 2032	Dec 31, 2033	Dec 31, 2034	Dec 31, 2035	Dec 31, 2036	Dec 31, 2037	Dec 31, 2038	Dec 31, 2039	Dec 31, 2040
in## millions																		
Total Sales	**96,523**	**102,855**	**70,188**	**382,165**	**810,447**	**974,873**	**1,657,703**	**2,224,725**	**2,928,692**	**4,043,717**	**4,683,850**	**6,900,595**	**8,582,380**	**9,939,249**	**9,240,936**	**8,670,576**	**8,452,407**	**8,462,795**
Growth YoY (%)	*n.a.*	*0*	*-32%*	*72%*	*112%*	*20%*	*70%*	*34%*	*32%*	*38%*	*16%*	*47%*	*24%*	*16%*	*-7%*	*-6%*	*-3%*	*0%*
COGS	(64,673)	(38,554)	(13,124)	(47,594)	(120,395)	(172,103)	(168,858)	(191,667)	(191,002)	(407,445)	(1,001,343)	(2,636,589)	(4,294,600)	(5,696,686)	(5,463,181)	(5,159,565)	(5,001,851)	(5,042,027)
Gross Profit	**31,850**	**64,301**	**57,064**	**334,572**	**690,052**	**802,771**	**1,488,845**	**2,033,058**	**2,737,690**	**3,636,272**	**3,682,507**	**4,264,006**	**4,287,780**	**4,242,563**	**3,777,756**	**3,511,011**	**3,450,556**	**3,420,768**
Gross Profit Margin (%)	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*											
SG&A and other	(38,565)	(36,448)	(16,597)	(56,560)	(124,809)	(140,382)	(222,132)	(275,866)	(333,871)	(420,547)	(468,385)	(690,059)	(858,238)	(993,925)	(924,094)	(867,058)	(798,283)	(752,248)
EBITDA	**(5,201)**	**31,892**	**40,467**	**278,011**	**565,243**	**662,389**	**1,266,713**	**1,757,192**	**2,403,819**	**3,215,726**	**3,214,122**	**3,573,946**	**3,429,542**	**3,248,638**	**2,853,662**	**2,643,953**	**2,652,273**	**2,668,520**
EBITDA Margin (%)	*-5.4%*	*31.0%*	*57.7%*	*72.7%*	*69.7%*	*67.9%*	*76.4%*	*79.0%*	*82.1%*	*79.5%*	*68.6%*	*51.8%*	*40.0%*	*32.7%*	*30.9%*	*30.5%*	*31.4%*	*31.5%*
D&A	(5,879)	(4,707)	(618)	(3,613)	(6,742)	(11,141)	(24,956)	(32,422)	(52,573)	(63,207)	(77,572)	(92,348)	(113,919)	(126,848)	(146,693)	(160,871)	(170,837)	(176,875)
EBIT	(11,080)	27,185	**39,849**	**274,398**	**558,501**	**651,248**	**1,241,757**	**1,724,770**	**2,351,246**	**3,152,519**	**3,136,550**	**3,481,599**	**3,315,624**	**3,121,790**	**2,706,969**	**2,483,083**	**2,481,436**	**2,491,645**
EBIT Margin (%)	*-11.5%*	*26.4%*	*56.8%*	*71.8%*	*68.9%*	*66.8%*	*74.9%*	*77.5%*	*80.3%*	*78.0%*	*67.0%*	*50.5%*	*38.6%*	*31.4%*	*29.3%*	*28.6%*	*29.4%*	*29.4%*
- Taxes	3,047	(7,476)	10,958	75,460	153,588	179,093	341,483	474,312	646,593	866,943	862,551	957,440	911,797	858,492	744,417	682,848	682,395	685,202
Tax rate (%)	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*
NOPLAT	**(8,033)**	**19,709**	**28,890**	**198,939**	**404,913**	**472,155**	**900,274**	**1,250,458**	**1,704,653**	**2,285,576**	**2,273,998**	**2,524,159**	**2,403,827**	**2,263,298**	**1,962,553**	**1,800,235**	**1,799,041**	**1,806,442**
+ Depreciation & Amort.			618	3,613	6,742	11,141	24,956	32,422	52,573	63,207	77,572	92,348	113,919	126,848	146,693	160,871	170,837	176,875
- Change in NWC			(25,910)	(17,642)	(101,095)	(33,974)	(174,389)	(126,349)	(254,537)	(205,968)	(232,826)	(475,529)	(316,461)	(98,213)	193,518	139,711	57,859	(6,575)
- Capital Expenditures			(7,778)	(8,539)	(17,359)	(20,843)	(56,502)	(47,154)	(178,576)	(85,427)	(116,577)	(145,503)	(180,867)	(209,279)	(194,559)	(182,530)	(177,900)	(178,072)
Unlevered FCF	**(8,033)**	**19,709**	**(4,180)**	**176,370**	**293,201**	**428,479**	**694,339**	**1,109,377**	**1,324,113**	**2,057,388**	**2,002,168**	**1,995,475**	**2,020,418**	**2,082,655**	**2,108,205**	**1,918,287**	**1,849,838**	**1,798,671**
in % of Net Sales	*-8%*	*19%*	*-6%*	*46%*	*36%*	*44%*	*42%*	*50%*	*45%*	*51%*	*43%*	*29%*	*24%*	*21%*	*23%*	*22%*	*22%*	*21%*
Reinvestment Rate, % NOPLAT	*0%*	*0%*	*114%*	*11%*	*28%*	*9%*	*23%*	*11%*	*22%*	*10%*	*12%*	*21%*	*16%*	*8%*	*-7%*	*-7%*	*-3%*	*0%*
Partial Period Adjustment			*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Adjusted UFCFs			**(4,180)**	**176,370**	**293,201**	**428,479**	**694,339**	**1,109,377**	**1,324,113**	**2,057,388**	**2,002,168**	**1,995,475**	**2,020,418**	**2,082,655**	**2,108,205**	**1,918,287**	**1,849,838**	**1,798,671**
WACC (%)			*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*
Periods for Discounting			*0.250*	*1.250*	*2.250*	*3.250*	*4.250*	*5.250*	*6.250*	*7.250*	*8.250*	*9.250*	*10.250*	*11.250*	*12.250*	*13.250*	*14.250*	*15.250*
Discount Factor			*0.98*	*0.91*	*0.84*	*0.77*	*0.72*	*0.66*	*0.61*	*0.56*	*0.52*	*0.48*	*0.45*	*0.41*	*0.38*	*0.35*	*0.33*	*0.30*
PV of Adjusted UFCFs			**(4,098)**	**159,825**	**245,560**	**331,662**	**496,721**	**733,489**	**809,122**	**1,161,928**	**1,045,051**	**962,626**	**900,796**	**858,177**	**802,873**	**675,183**	**601,750**	**540,765**

Financial Model

Discounted Cash Flow Valuation (2/2)

						Fading Period					
DCF Valuation	**039E**	**FY 2040E**	**FY 2041E**	**FY 2042E**	**FY 2043E**	**FY 2044E**	**FY 2045E**	**FY 2046E**	**FY 2047E**	**FY 2048E**	**TV**
Valuation Date: Jan 21, 2026	, 2039	Dec 31, 2040	Dec 31, 2041	Dec 31, 2042	Dec 31, 2043	Dec 31, 2044	Dec 31, 2045	Dec 31, 2046	Dec 31, 2047	Dec 31, 2048	Dec 31, 2029
in€ millions											
Total Sales	**407**	**8,462,795**	**8,553,921**	**8,594,948**	**8,088,878**	**7,606,766**	**7,090,795**	**6,585,141**	**6,059,372**	**5,566,769**	
Growth YoY (%)	*-3%*	*0%*	*1%*	*0%*	*-6%*	*-6%*	*-7%*	*-7%*	*-8%*	*-8%*	
COGS	851)	(5,042,027)	(5,127,261)	(5,173,093)	(4,876,498)	(4,590,143)	(4,286,149)	(3,969,305)	(3,649,468)	(3,328,219)	
Gross Profit	**556**	**3,420,768**	**3,426,660**	**3,421,855**	**3,212,380**	**3,016,623**	**2,804,646**	**2,615,836**	**2,409,904**	**2,238,550**	
Gross Profit Margin (%)											
SG&A and other	283)	(752,248)	(712,827)	(668,496)	(584,197)	(507,118)	(433,326)	(365,841)	(302,969)	(278,338)	
EBITDA	**273**	**2,668,520**	**2,713,833**	**2,753,359**	**2,628,183**	**2,509,505**	**2,371,320**	**2,249,995**	**2,106,935**	**1,960,212**	
EBITDA Margin (%)	*31.4%*	*31.5%*	*31.7%*	*32.0%*	*32.5%*	*33.0%*	*33.4%*	*34.2%*	*34.8%*	*35.2%*	
D&A	837)	(176,875)	(180,554)	(186,000)	(192,617)	(199,579)	(206,163)	(203,804)	(201,117)	(198,118)	
EBIT	**436**	**2,491,645**	**2,533,279**	**2,567,359**	**2,435,566**	**2,309,926**	**2,165,157**	**2,046,191**	**1,905,818**	**1,762,094**	
EBIT Margin (%)	*28.4%*	*29.4%*	*29.6%*	*29.9%*	*30.1%*	*30.4%*	*30.5%*	*31.1%*	*31.5%*	*31.7%*	
- Taxes	395	685,202	696,652	706,024	669,781	635,230	595,418	562,702	524,100	484,576	
Tax rate (%)	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	
NOPLAT	**041**	**1,806,442**	**1,836,627**	**1,861,335**	**1,765,786**	**1,674,696**	**1,569,739**	**1,483,488**	**1,381,718**	**1,277,518**	
+ Depreciation & Amort.	837	176,875	180,554	186,000	192,617	199,579	206,163	203,804	201,117	198,118	
- Change in NWC	859	(6,575)	(14,759)	(2,732)	7,582	12,141	27,222	32,510	47,374	36,886	
- Capital Expenditures	900)	(178,072)	(179,943)	(180,766)	(180,027)	(179,158)	(176,737)	(173,701)	(169,152)	(164,464)	
											g = 3.0%
Unlevered FCF	**838**	**1,798,671**	**1,822,480**	**1,863,838**	**1,785,957**	**1,707,259**	**1,626,387**	**1,546,103**	**1,461,058**	**1,348,058**	**13,754,220**
in % of Net Sales	*22%*	*21%*	*21%*	*22%*	*22%*	*22%*	*23%*	*23%*	*24%*	*24%*	
Reinvestment Rate, % NOPLAT	*-3%*	*0%*	*1%*	*0%*	*-1%*	*-2%*	*-4%*	*-4%*	*-6%*	*-6%*	
Partial Period Adjustment	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	
Adjusted UFCFs	**838**	**1,798,671**	**1,822,480**	**1,863,838**	**1,785,957**	**1,707,259**	**1,626,387**	**1,546,103**	**1,461,058**	**1,348,058**	**13,754,220**
WACC (%)	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*	*8.20%*
Periods for Discounting	*14.250*	*15.250*	*16.250*	*17.250*	*18.250*	*19.250*	*20.250*	*21.250*	*22.250*	*23.250*	*23.250*
Discount Factor	*0.33*	*0.30*	*0.28*	*0.26*	*0.24*	*0.22*	*0.20*	*0.18*	*0.17*	*0.16*	*0.16*
PV of Adjusted UFCFs	**750**	**540,765**	**506,400**	**478,644**	**423,887**	**374,501**	**329,725**	**289,694**	**253,013**	**215,754**	**2,201,334**

PV Sum of Adjusted UFCFs	*85.7%*	13,193,046.6
PV of Terminal Value	*14.3%*	2,201,334.4
Enterprise Value (EV)	*100.0%*	**15,394,381.0**
- Total Debt (incl. Leases)		5,000.0
+ Cash & ST Investments		379,768.2
= (Net Debt)		**374,768.2**
- Preferred Shares		121,712.7
- Non-controlling Interests		4,204.2
- Long-Term Provisions		
Implied Equity Value		**15,643,232.2**
/ Shares Outstanding		53.5
Implied Price per Share		**292,397**

Sensitivity

Share Price

	TV g				
WACC	*2.0%*	*2.5%*	***3.0%***	*3.5%*	*4.0%*
7.20%	329,240.01	334,892.67	341,891.20	350,781.23	362,449.39
7.70%	305,881.98	310,084.50	315,181.18	321,491.36	329,506.99
8.20%	285,424.91	288,605.08	**292,396.86**	296,995.47	302,689.08
8.70%	267,270.94	269,712.20	272,581.76	276,003.15	280,152.49
9.20%	251,051.33	252,949.46	255,153.75	257,744.75	260,834.02

Financial Model

Operating Model – Income Statement (1/2)

Income Statement	FY 2023A	FY 2024A	FY 2025E	FY 2026E	FY 2027E	FY 2028E	FY 2029E	FY 2030E	FY 2031E	FY 2032E	FY 2033E	FY 2034E	FY 2035E	FY 2036E	FY 2037E
	31 Dec 2023	31 Dec 2024	31 Dec 2025	31 Dec 2026	31 Dec 2027	31 Dec 2028	31 Dec 2029	31 Dec 2030	31 Dec 2031	31 Dec 2032	31 Dec 2033	31 Dec 2034	31 Dec 2035	31 Dec 2036	31 Dec 2037
Revenues from Pharma Deals				325,053.1	384,300.0	294,469.9	541,959.4	527,665.4	843,429.8	1,399,066.0	1,240,061.4	1,702,991.0	1,578,251.1	1,379,692.1	1,058,012.2
Total Keytruda Revenue				233,321.6	262,594.8	259,826.4	280,228.7	188,760.7	176,162.4	177,793.7	172,338.5	166,538.6	163,473.4	162,723.5	161,977.1
Total Enhertu Revenue				0.0	0.0	34,643.5	0.0	0.0	50,883.5	66,072.0	82,756.0	175,673.5	261,391.8	404,036.0	373,910.1
Total Sandoz Revenue				34,998.2	0.0	0.0	57,482.8	28,563.4	33,922.3	91,193.1	169,491.1	217,331.0	272,830.2	281,064.6	265,418.5
Total Intas Revenue				9,332.9	4,642.6	0.0	22,993.1	41,702.6	32,226.2	82,383.7	86,200.5	95,778.3	100,567.2	116,446.2	116,446.2
Total Imjudo and Imfinzi Revenue				0.0	108,810.0	0.0	150,892.4	224,936.8	318,021.8	235,008.0	153,236.9	315,098.9	145,430.5	148,265.2	140,260.2
Total Sanofi Revenue				0.0	0.0	0.0	0.0	43,702.0	174,784.8	311,229.0	178,104.4	311,229.0	178,104.4	267,156.6	0.0
Total Merck Revenue				47,400.4	8,252.6	0.0	30,362.5	0.0	57,429.0	435,386.5	397,933.9	421,341.8	456,453.6	0.0	0.0
Revenues from Drug Production				57,112.4	144,474.1	206,523.2	202,629.4	230,000.9	229,202.7	488,963.1	1,201,668.9	3,163,935.6	5,153,490.8	6,836,023.2	6,555,989.4
Future Business Development				0.0	281,672.8	473,880.0	913,114.3	1,467,059.1	1,856,059.7	2,155,688.4	2,242,119.3	2,033,668.3	1,850,638.2	1,723,533.9	1,626,934.6
Net Sales	**96,522.9**	**102,854.6**	**221,539.9**	**382,165.4**	**810,446.9**	**974,873.2**	**1,657,703.1**	**2,224,725.4**	**2,928,692.3**	**4,043,717.5**	**4,683,849.6**	**6,900,595.0**	**8,582,380.1**	**9,939,249.1**	**9,240,936.2**
Growth YoY (%)	*235.1%*	*6.6%*													
- Cost of Goods Sold	(64,672.7)	(38,553.7)	(41,423.3)	(47,593.6)	(120,395.0)	(172,102.7)	(168,857.8)	(191,667.4)	(191,002.2)	(407,445.2)	(1,001,342.8)	(2,636,589.0)	(4,294,599.7)	(5,696,686.0)	(5,463,180.5)
Gross Profit	**31,850.2**	**64,300.9**	**180,116.6**	**334,571.8**	**690,051.8**	**802,770.5**	**1,488,845.3**	**2,033,058.0**	**2,737,690.0**	**3,636,272.3**	**3,682,506.8**	**4,264,005.9**	**4,287,780.4**	**4,242,563.1**	**3,777,755.7**
Gross Profit Margin (%)	*33.0%*	*62.5%*	*81.3%*	*87.5%*	*85.1%*	*82.3%*	*89.8%*	*91.4%*	*93.5%*	*89.9%*	*78.6%*	*61.8%*	*50.0%*	*42.7%*	*40.9%*
- SG&A and other	(38,565.2)	(36,447.8)	(50,039.6)	(56,560.5)	(124,808.8)	(140,381.7)	(222,132.2)	(275,865.9)	(333,870.9)	(420,546.6)	(468,385.0)	(690,059.5)	(858,238.0)	(993,924.9)	(924,093.6)
EBITDA	**(5,201.0)**	**31,892.1**	**136,007.7**	**278,011.3**	**565,243.0**	**662,388.8**	**1,266,713.1**	**1,757,192.0**	**2,403,819.1**	**3,215,725.7**	**3,214,121.9**	**3,573,946.4**	**3,429,542.4**	**3,248,638.2**	**2,853,662.1**
EBITDA Margin (%)	*(5.4%)*	*31.0%*	*61.4%*	*72.7%*	*69.7%*	*67.9%*	*76.4%*	*79.0%*	*82.1%*	*79.5%*	*68.6%*	*51.8%*	*40.0%*	*32.7%*	*30.9%*
- Depreciation & Amortization	(5,879.3)	(4,706.7)	(4,838.0)	(3,612.8)	(6,742.1)	(11,140.9)	(24,956.0)	(32,422.4)	(52,573.1)	(63,206.8)	(77,572.3)	(92,347.9)	(113,918.7)	(126,848.2)	(146,692.8)
EBIT	**(11,080.3)**	**27,185.4**	**131,169.7**	**274,398.5**	**558,500.9**	**651,247.8**	**1,241,757.0**	**1,724,769.6**	**2,351,246.0**	**3,152,518.9**	**3,136,549.6**	**3,481,598.5**	**3,315,623.7**	**3,121,790.1**	**2,706,969.3**
EBIT Margin (%)	*(11.5%)*	*26.4%*													
Interest Income	5,375.0	7,869.9	7,869.3	11,996.2	6,306.9	3,027.6	631.1	7,690.6	10,652.0	29,532.2	34,882.9	40,844.5	43,718.4	43,883.0	51,650.8
Interest Expense	(716.6)	(700.9)	(7,574.8)	(7,522.7)	(7,503.3)	(7,483.9)	(7,464.6)	(7,445.2)	(7,425.8)	(7,406.5)	(7,387.1)	(7,367.7)	(7,348.3)	(7,329.0)	(7,309.6)
EBT	**(6,421.9)**	**34,354.3**	**131,464.3**	**278,872.0**	**557,304.5**	**646,791.5**	**1,234,923.5**	**1,725,015.0**	**2,354,472.2**	**3,174,644.6**	**3,164,045.5**	**3,515,075.3**	**3,351,993.8**	**3,158,344.1**	**2,751,310.5**
- Adjustments	0.0	0.0													
- Income Taxes	(17.8)	24,078.4	(36,152.7)	(76,689.8)	(153,258.7)	(177,867.7)	(339,604.0)	(474,379.1)	(647,479.9)	(873,027.3)	(870,112.5)	(966,645.7)	(921,798.3)	(868,544.6)	(756,610.4)
Taxes	**(17.8)**	**24,078.4**	**(36,152.7)**	**(76,689.8)**	**(153,258.7)**	**(177,867.7)**	**(339,604.0)**	**(474,379.1)**	**(647,479.9)**	**(873,027.3)**	**(870,112.5)**	**(966,645.7)**	**(921,798.3)**	**(868,544.6)**	**(756,610.4)**
Tax Rate (%)	*(0.3%)*	*(70.1%)*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*
Net Income	**(6,439.7)**	**58,432.7**	**95,311.6**	**202,182.2**	**404,045.8**	**468,923.8**	**895,319.5**	**1,250,635.9**	**1,706,992.4**	**2,301,617.3**	**2,293,933.0**	**2,548,429.6**	**2,430,195.5**	**2,289,799.5**	**1,994,700.1**

Financial Model

Operating Model – Income Statement (2/2)

Income Statement	FY 2033E	FY 2034E	FY 2035E	FY 2036E	FY 2037E	FY 2038E	FY 2039E	FY 2040E	FY 2041E	FY 2042E	FY 2043E	FY 2044E	FY 2045E	FY 2046E	FY 2047E	FY 2048E
	31 Dec 2033	31 Dec 2034	31 Dec 2035	31 Dec 2036	31 Dec 2037	31 Dec 2038	31 Dec 2039	31 Dec 2040	31 Dec 2041	31 Dec 2042	31 Dec 2043	31 Dec 2044	31 Dec 2045	31 Dec 2046	31 Dec 2047	31 Dec 2048
Revenues from Pharma Deals	1,240,061.4	1,702,991.0	1,578,251.1	1,379,692.1	1,058,012.2	852,192.0	823,251.1	785,514.5	774,330.5	760,186.8	740,767.2	724,085.6	682,109.4	659,511.3	604,452.6	584,262.0
Total Keytruda Revenue	172,338.5	166,538.6	163,473.4	162,723.5	161,977.1	161,234.3	160,495.0	159,759.3	159,027.1	157,060.9	152,028.4	146,880.7	141,696.6	136,531.4	131,424.3	126,403.2
Total Enhertu Revenue	82,756.0	175,673.5	261,391.8	404,036.0	373,910.1	285,096.0	263,836.9	254,373.3	247,678.1	239,230.0	228,395.1	217,587.4	205,409.7	192,178.1	145,778.9	133,904.2
Total Sandoz Revenue	169,491.1	217,331.0	272,830.2	281,064.6	265,418.5	250,643.4	245,630.5	217,792.4	213,436.5	209,167.8	204,984.5	200,884.8	176,144.2	172,621.3	169,168.9	165,785.5
Total Intas Revenue	86,200.5	95,778.3	100,567.2	116,446.2	116,446.2	116,446.2	116,446.2	116,446.2	116,446.2	116,446.2	116,446.2	116,446.2	116,446.2	116,446.2	116,446.2	116,446.2
Total Imjudo and Imfinzi Revenue	153,236.9	315,098.9	145,430.5	148,265.2	140,260.2	38,772.1	36,842.5	37,143.2	37,742.5	38,281.9	38,913.0	42,286.5	42,412.6	41,734.2	41,634.3	41,722.8
Total Sanofi Revenue	178,104.4	311,229.0	178,104.4	267,156.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Merck Revenue	397,933.9	421,341.8	456,453.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Revenues from Drug Production	1,201,668.9	3,163,935.6	5,153,490.8	6,836,023.2	6,555,989.4	6,191,449.6	6,002,220.9	6,050,345.6	6,152,656.0	6,207,826.8	6,193,687.2	6,170,399.9	6,098,378.1	5,977,529.2	5,816,974.0	5,614,789.3
Future Business Development	2,242,119.3	2,033,668.3	1,850,638.2	1,723,533.9	1,626,934.6	1,626,934.6	1,626,934.6	1,626,934.6	1,626,934.6	1,626,934.6	1,626,934.6	1,626,934.6	1,626,934.6	1,626,934.6	1,626,934.6	1,626,934.6
Net Sales	**4,683,849.6**	**6,900,595.0**	**8,582,380.1**	**9,939,249.1**	**9,240,936.2**	**8,670,576.2**	**8,452,406.7**	**8,462,794.7**	**8,553,921.2**	**8,594,948.2**	**8,561,389.0**	**8,521,420.1**	**8,407,422.2**	**8,263,975.2**	**8,048,361.3**	**7,825,985.9**
Growth YoY (%)																
- Cost of Goods Sold	(1,001,342.8)	(2,636,589.0)	(4,294,599.7)	(5,696,686.0)	(5,463,180.5)	(5,159,565.3)	(5,001,850.8)	(5,042,026.7)	(5,127,261.4)	(5,173,092.9)	(5,161,358.0)	(5,142,071.9)	(5,082,005.8)	(4,981,250.3)	(4,847,406.4)	(4,678,943.0)
Gross Profit	**3,682,506.8**	**4,264,005.9**	**4,287,780.4**	**4,242,563.1**	**3,777,755.7**	**3,511,010.9**	**3,450,555.9**	**3,420,768.0**	**3,426,659.8**	**3,421,855.3**	**3,400,031.1**	**3,379,348.2**	**3,325,416.4**	**3,282,724.8**	**3,200,955.0**	**3,147,042.9**
Gross Profit Margin (%)	*78.6%*	*61.8%*	*50.0%*	*42.7%*	*40.9%*	*40.5%*	*40.8%*	*40.4%*	*40.1%*	*39.8%*	*39.7%*	*39.7%*	*39.6%*	*39.7%*	*39.8%*	*40.2%*
- SG&A and other	(468,385.0)	(690,059.5)	(858,238.0)	(993,924.9)	(924,093.6)	(867,057.6)	(798,282.9)	(752,248.4)	(712,826.8)	(668,496.0)	(618,322.5)	(568,094.7)	(513,786.9)	(459,109.7)	(402,418.1)	(391,299.3)
EBITDA	**3,214,121.9**	**3,573,946.4**	**3,429,542.4**	**3,248,638.2**	**2,853,662.1**	**2,643,953.3**	**2,652,273.1**	**2,668,519.6**	**2,713,833.1**	**2,753,359.3**	**2,781,708.5**	**2,811,253.5**	**2,811,629.5**	**2,823,615.1**	**2,798,536.9**	**2,755,743.6**
EBITDA Margin (%)	*68.6%*	*51.8%*	*40.0%*	*32.7%*	*30.9%*	*30.5%*	*31.4%*	*31.5%*	*31.7%*	*32.0%*	*32.5%*	*33.0%*	*33.4%*	*34.2%*	*34.8%*	*35.2%*
- Depreciation & Amortization	(77,572.3)	(92,347.9)	(113,918.7)	(126,848.2)	(146,692.8)	(160,870.6)	(170,836.8)	(176,875.0)	(180,554.4)	(186,000.2)	(192,617.0)	(199,579.1)	(206,162.8)	(203,804.4)	(201,117.3)	(198,118.0)
EBIT	**3,136,549.6**	**3,481,598.5**	**3,315,623.7**	**3,121,790.1**	**2,706,969.3**	**2,483,082.6**	**2,481,436.2**	**2,491,644.7**	**2,533,278.6**	**2,567,359.1**	**2,589,091.6**	**2,611,674.4**	**2,605,466.7**	**2,619,810.7**	**2,597,419.6**	**2,557,625.6**
EBIT Margin (%)																
Interest Income	34,882.9	40,844.5	43,718.4	43,883.0	51,650.8	57,980.1	63,206.3	66,986.0	70,760.3	75,193.5	80,407.3	86,302.4	93,089.5	100,614.4	108,972.6	117,419.9
Interest Expense	(7,387.1)	(7,367.7)	(7,348.3)	(7,329.0)	(7,309.6)	(7,290.2)	(7,280.4)	(7,280.4)	(7,280.4)	(7,280.4)	(7,280.4)	(7,280.4)	(7,280.4)	(7,280.4)	(7,280.4)	(7,280.4)
EBT	**3,164,045.5**	**3,515,075.3**	**3,351,993.8**	**3,158,344.1**	**2,751,310.5**	**2,533,772.5**	**2,537,362.2**	**2,551,350.3**	**2,596,758.5**	**2,635,272.3**	**2,662,218.5**	**2,690,696.4**	**2,691,275.9**	**2,713,144.8**	**2,699,111.9**	**2,667,765.1**
- Adjustments																
- Income Taxes	(870,112.5)	(966,645.7)	(921,798.3)	(868,544.6)	(756,610.4)	(696,787.5)	(697,774.6)	(701,621.3)	(714,108.6)	(724,699.9)	(732,110.1)	(739,941.5)	(740,100.9)	(746,114.8)	(742,255.8)	(733,635.4)
Taxes	**(870,112.5)**	**(966,645.7)**	**(921,798.3)**	**(868,544.6)**	**(756,610.4)**	**(696,787.5)**	**(697,774.6)**	**(701,621.3)**	**(714,108.6)**	**(724,699.9)**	**(732,110.1)**	**(739,941.5)**	**(740,100.9)**	**(746,114.8)**	**(742,255.8)**	**(733,635.4)**
Tax Rate (%)	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*	*27.5%*
Net Income	**2,293,933.0**	**2,548,429.6**	**2,430,195.5**	**2,289,799.5**	**1,994,700.1**	**1,836,985.1**	**1,839,587.6**	**1,849,729.0**	**1,882,649.9**	**1,910,572.4**	**1,930,108.4**	**1,950,754.9**	**1,951,175.0**	**1,967,029.9**	**1,956,856.1**	**1,934,129.7**

Financial Model

Operating Model – Balance Sheet (1/4)

Balance Sheet	FY 2023A	FY 2024A	FY 2025E	FY 2026E	FY 2027E	FY 2028E	FY 2029E	FY 2030E	FY 2031E	FY 2032E	FY 2033E	FY 2034E	FY 2035E	FY 2036E	FY 2037E	FY 2038E
in W millionz	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current Assets																
Cash & Cash Equivalents	30,199.5	18,993.9	47,534.9	166,847.4	242,685.5	335,159.2	531,985.9	1,118,586.6	1,719,370.2	2,975,253.0	3,511,344.4	3,861,925.8	4,091,019.0	4,277,375.7	4,679,517.3	5,017,771.9
ST Financial Assets	55,092.1	165,259.1	328,053.4	253,053.4	128,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4
Accounts Receivable	16,732.3	20,221.4	71,945.9	84,776.7	179,783.4	216,258.5	367,732.4	493,516.3	636,685.4	861,505.5	977,926.6	1,411,939.0	1,720,930.1	1,953,147.9	1,779,605.0	1,636,370.6
Inventories	1,068.4	956.9	9,795.7	12,230.9	17,499.5	16,990.1	27,014.3	19,350.8	117,689.5	99,315.0	261,587.4	421,032.9	558,494.3	535,618.3	505,834.4	490,385.8
Contract Assets	13,932.4	2,240.8	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0
Current Income Tax Assets	728.8	902.5	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6
Other Current Financial Assets	25,315.4	1,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Current Assets	1,006.8	2,210.2	5,169.0	7,038.4	14,926.1	17,954.4	30,530.2	40,973.1	53,938.2	74,473.7	86,263.1	127,089.3	158,063.0	183,052.6	170,191.7	159,687.3
Total Current Assets	**144,075.8**	**211,784.7**	**465,126.4**	**526,574.3**	**585,575.4**	**667,043.1**	**1,037,943.6**	**1,753,107.7**	**2,608,364.2**	**4,091,228.2**	**4,917,802.6**	**5,902,668.0**	**6,609,187.3**	**7,029,875.4**	**7,215,829.3**	**7,384,896.5**
Non-Current Assets																
Property, Plant, and Equipment	18,800.0	19,246.3	29,557.8	106,669.6	236,455.3	290,898.9	307,521.6	314,790.8	371,912.6	375,653.2	385,395.7	400,700.9	420,316.9	451,068.4	463,546.7	463,415.4
Plant				75,000.0	200,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0
Scheduled PP&E			29,557.8	31,669.6	36,455.3	40,898.9	57,521.6	64,790.8	121,912.6	125,653.2	135,395.7	150,700.9	170,316.9	201,068.4	213,546.7	213,415.4
Land	10,197.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5
Buildings	2,838.2	2,636.4	2,452.2	2,329.6	2,206.9	2,084.3	1,961.7	1,839.1	1,716.5	1,593.9	1,471.3	1,348.7	1,226.1	1,103.5	980.9	858.3
Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Machinery	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicles	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Office Equipment	246.1	294.0	315.6	368.6	414.8	439.6	440.9	418.5	458.6	502.5	550.6	603.3	661.1	669.2	641.8	592.9
Construction in Progress	347.1	1,232.7	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6
Lab Equipment	5,063.0	4,460.6	5,366.3	7,585.5	12,485.2	17,064.4	33,846.1	41,298.1	98,502.5	102,321.8	112,138.7	127,513.9	147,194.6	178,060.7	190,689.0	190,729.1
Pilot Plant Facilities	104.5	132.0	188.7	150.9	113.2	75.5	37.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right-of-Use Assets	488.5	372.1	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4
Goodwill	113.0	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intangible Assets other than Goodwill	89,217.9	112,025.5	123,125.7	144,920.3	286,109.0	530,027.7	858,116.1	1,138,077.0	1,590,899.0	1,966,272.1	2,448,946.9	3,008,838.2	3,779,946.3	4,723,686.2	5,599,340.7	6,410,941.7
LT Financial Instruments	0.0	0.0	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3
Deferred Tax Assets	0.0	61,190.6	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5
Other Non-Current Financial Assets	1,555.0	3,143.0	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5
Other Non-Current Assets	1,849.9	1,136.7	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5
Total Non-Current Assets	**112,024.2**	**197,227.3**	**204,865.7**	**303,772.2**	**574,746.5**	**873,108.8**	**1,217,819.9**	**1,505,049.9**	**2,014,993.8**	**2,394,107.6**	**2,886,524.8**	**3,461,721.3**	**4,252,445.4**	**5,226,936.8**	**6,115,069.6**	**6,926,539.3**
Total Assets	**256,100.0**	**409,012.0**	**669,992.2**	**830,346.5**	**1,160,321.9**	**1,540,151.9**	**2,255,763.5**	**3,258,157.7**	**4,623,358.0**	**6,485,335.8**	**7,804,327.3**	**9,364,389.4**	**10,861,632.7**	**12,256,812.3**	**13,330,898.9**	**14,311,435.8**

Financial Model

Operating Model – Balance Sheet (2/4)

Balance Sheet	FY 2034E	FY 2035E	FY 2036E	FY 2037E	FY 2038E	FY 2039E	FY 2040E	FY 2041E	FY 2042E	FY 2043E	FY 2044E	FY 2045E	FY 2046E	FY 2047E	FY 2048E
in W million	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current Assets															
Cash & Cash Equivalents	3,861,925.8	4,091,019.0	4,277,375.7	4,679,517.3	5,017,771.9	5,313,208.7	5,552,844.2	5,793,909.7	6,062,028.0	6,361,511.1	6,688,549.0	7,050,334.4	7,441,635.3	7,864,869.5	8,290,434.8
ST Financial Assets	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4	78,053.4
Accounts Receivable	1,411,939.0	1,720,930.1	1,953,147.9	1,779,605.0	1,636,370.6	1,563,292.2	1,565,213.5	1,582,067.6	1,589,655.6	1,583,448.8	1,576,056.4	1,554,972.3	1,528,441.4	1,488,563.1	1,447,434.3
Inventories	421,032.9	558,494.3	535,618.3	505,834.4	490,385.8	494,311.6	502,674.3	507,175.4	506,013.3	504,116.8	498,232.2	488,362.5	475,243.2	458,724.0	450,707.4
Contract Assets	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0	1,951.0
Current Income Tax Assets	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6	676.6
Other Current Financial Assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Current Assets	127,089.3	158,063.0	183,052.6	170,191.7	159,687.3	155,669.2	155,860.5	157,538.8	158,294.4	157,676.4	156,940.2	154,840.7	152,198.8	148,227.9	144,132.3
Total Current Assets	**5,902,668.0**	**6,609,187.3**	**7,029,875.4**	**7,215,829.3**	**7,384,896.5**	**7,607,162.7**	**7,857,273.5**	**8,121,372.4**	**8,396,672.3**	**8,687,433.9**	**9,000,458.8**	**9,329,190.8**	**9,678,199.7**	**10,041,065.5**	**10,413,389.7**
Non-Current Assets															
Property, Plant, and Equipment	400,700.9	420,316.9	451,068.4	463,546.7	463,415.4	457,729.2	452,408.5	450,956.9	451,296.3	451,516.6	451,176.3	449,759.1	447,570.5	444,269.1	440,179.9
Plant	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0	250,000.0
Scheduled PP&E	150,700.9	170,316.9	201,068.4	213,546.7	213,415.4	207,729.2	202,408.5	200,956.9	201,296.3	201,516.6	201,176.3	199,759.1	197,570.5	194,269.1	190,179.9
Land	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5	10,492.5
Buildings	1,348.7	1,226.1	1,103.5	980.9	858.3	735.6	613.0	490.4	367.8	245.2	122.6	(0.0)	0.0	0.0	0.0
Structures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Machinery	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Office Equipment	603.3	661.1	669.2	641.8	592.9	536.2	484.8	438.4	396.4	358.4	324.1	293.1	265.0	239.6	216.7
Construction in Progress	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6	10,742.6
Lab Equipment	127,513.9	147,194.6	178,060.7	190,689.0	190,729.1	185,222.3	180,075.6	178,793.0	179,297.0	179,677.9	179,494.5	178,230.9	176,070.5	172,794.4	168,728.1
Pilot Plant Facilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right-of-Use Assets	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4	721.4
Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intangible Assets other than Goodwill	3,008,838.2	3,779,946.3	4,723,686.2	5,599,340.7	6,410,941.7	7,190,656.0	7,967,117.3	8,748,202.3	9,527,827.3	10,297,265.7	11,055,624.0	11,795,624.1	12,520,888.6	13,224,601.1	13,903,782.5
LT Financial Instruments	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3	938.3
Deferred Tax Assets	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5	45,810.5
Other Non-Current Financial Assets	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5	2,547.5
Other Non-Current Assets	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5	2,164.5
Total Non-Current Assets	**3,461,721.3**	**4,252,445.4**	**5,226,936.8**	**6,115,069.6**	**6,926,539.3**	**7,700,567.5**	**8,471,708.0**	**9,251,341.4**	**10,031,305.8**	**10,800,964.5**	**11,558,982.5**	**12,297,565.4**	**13,020,641.3**	**13,721,052.4**	**14,396,144.6**
Total Assets	**9,364,389.4**	**10,861,632.7**	**12,256,812.3**	**13,330,898.9**	**14,311,435.8**	**15,307,730.1**	**16,328,981.5**	**17,372,713.8**	**18,427,978.1**	**19,488,398.5**	**20,559,441.3**	**21,626,756.2**	**22,698,841.0**	**23,762,117.9**	**24,809,534.3**

Financial Model

Operating Model – Balance Sheet (3/4)

Balance Sheet	FY 2023A	FY 2024A	FY 2025E	FY 2026E	FY 2027E	FY 2028E	FY 2029E	FY 2030E	FY 2031E	FY 2032E	FY 2033E	FY 2034E	FY 2035E	FY 2036E	FY 2037E
in₩ millions	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩
Current Liabilities															
Current borrowings	0.0	5,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Short-term purchase payables (단기매입채무)	1,013.4	10,041.3	4,506.5	4,117.8	10,416.5	14,890.2	14,603.5	16,582.9	16,525.4	35,251.9	86,635.5	228,115.9	371,565.9	432,873.4	472,670.7
Current contract liabilities	0.0	11,783.5	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6
Current lease liabilities	232.4	253.7	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3
Current portion of convertible bonds	0.0	1,414.0	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3
Current portion of convertible redeemable preferred share liabilities	4,044.1	2,615.4	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2
Current portion reclassified from non-current borrowings	0.0	0.0	555.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Convertible preferred share liabilities	78,020.0	87,180.6	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5
Current derivative liabilities	302.6	2,134.4	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1
Other current financial liabilities	15,807.9	8,391.2	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9
Other current financial liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Provision for aftercare/restoration/cleanup costs (current)	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other current liabilities	324.0	311.6	620.9	502.8	1,271.8	1,818.1	1,783.8	2,024.7	2,017.7	4,304.2	10,578.0	27,852.3	45,367.1	60,178.5	57,711.8
Current income tax liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current income tax liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Current Liabilites	**100,415.3**	**129,185.7**	**258,014.7**	**256,352.3**	**264,020.1**	**269,040.1**	**268,725.0**	**270,339.5**	**270,874.9**	**291,887.8**	**349,545.3**	**508,300.0**	**693,264.8**	**805,383.7**	**782,714.2**
Non-Current Liabilities															
Non-current contract liabilities	4,701.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long-term borrowings	0.0	5,000.0	4,444.4	4,115.4	3,786.4	3,457.4	3,128.4	2,799.4	2,470.4	2,141.4	1,812.4	1,483.4	1,154.4	825.4	496.4
Non-current lease liabilities	163.3	30.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9
Convertible bonds, total	1,249.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other non-current financial liabilities	1,164.7	633.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2
Non-current derivative liabilities	564.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-current trade payables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Provision for aftercare / restoration / purification costs (non-current)	0.0	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
Total Non-Current Liabilities	**7,842.9**	**5,735.2**	**5,164.6**	**4,835.6**	**4,506.6**	**4,177.6**	**3,848.6**	**3,519.6**	**3,190.6**	**2,861.6**	**2,532.6**	**2,203.6**	**1,874.6**	**1,545.6**	**1,216.6**
Shareholders' Equity															
Common Stock	26,505.9	26,653.4	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9
Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stock options	98,799.6	106,747.5	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9
Treasury shares	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8
Other capital items	3,952.4	57,936.5	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6
Treasury shares	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)
Stock options	5,011.9	6,153.1	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3
Retained earnings (accumulated deficit)	14,619.6	76,872.0	178,190.1	339,935.9	663,172.5	1,038,311.6	1,754,567.2	2,755,075.9	4,120,669.8	5,961,963.7	7,223,626.8	8,625,263.1	9,961,870.6	11,221,260.3	12,318,345.4
Non-controlling interests	(272.5)	437.8	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2
Total Shareholders' Equity	**147,841.7**	**274,031.1**	**406,812.8**	**568,558.6**	**891,795.2**	**1,266,934.3**	**1,983,189.9**	**2,983,698.6**	**4,349,292.5**	**6,190,586.4**	**7,452,249.5**	**8,853,885.7**	**10,190,493.3**	**11,449,883.0**	**12,546,968.1**
Total Liabilities and Equity	**256,100.0**	**409,012.0**	**669,992.2**	**830,346.5**	**1,160,321.9**	**1,540,151.9**	**2,255,763.5**	**3,258,157.7**	**4,623,358.0**	**6,485,335.8**	**7,804,327.3**	**9,364,389.4**	**10,861,632.7**	**12,256,812.3**	**13,330,898.9**

Financial Model

Operating Model – Balance Sheet (4/4)

Balance Sheet	FY 2033E	FY 2034E	FY 2035E	FY 2036E	FY 2037E	FY 2038E	FY 2039E	FY 2040E	FY 2041E	FY 2042E	FY 2043E	FY 2044E	FY 2045E	FY 2046E	FY 2047E	FY 2048E
in₩ million	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩
Current Liabilities																
Current borrowings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Short-term purchase payables (단기매입채무)	86,635.5	228,115.9	371,565.9	492,873.4	472,670.7	446,402.1	432,756.7	436,232.7	443,607.2	447,572.5	446,557.2	444,888.6	439,691.7	430,974.4	419,394.3	404,819.0
Current contract liabilities	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6	11,351.6
Current lease liabilities	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3	420.3
Current portion of convertible bonds	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3	1,504.3
Current portion of convertible redeemable preferred share liabilities	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2	44,324.2
Current portion reclassified from non-current borrowings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Convertible preferred share liabilities	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5	77,388.5
Current derivative liabilities	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1	106,870.1
Other current financial liabilities	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9	10,472.9
Other current financial liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Provision for aftercare/restoration/cleanup costs (current)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other current liabilities	10,578.0	27,852.3	45,367.1	60,178.5	57,711.8	54,504.4	52,838.4	53,262.8	54,163.2	54,647.3	54,523.4	54,313.6	53,685.1	52,620.8	51,206.9	49,427.3
Current income tax liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current income tax liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Current Liabilites	**343,545.3**	**508,300.0**	**669,264.8**	**805,383.7**	**782,714.2**	**753,238.3**	**737,926.9**	**741,827.3**	**750,102.2**	**754,551.6**	**753,412.4**	**751,540.0**	**745,708.6**	**735,927.0**	**722,933.0**	**706,578.0**
Non-Current Liabilities																
Non-current contract liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long-term borrowings	1,812.4	1,483.4	1,154.4	825.4	496.4	167.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-current lease liabilities	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9	250.9
Convertible bonds, total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other non-current financial liabilities	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2	458.2
Non-current derivative liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-current trade payables	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Provision for aftercare / restoration / purification costs (non-current)	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
Total Non-Current Liabilities	**2,532.6**	**2,203.6**	**1,874.6**	**1,545.6**	**1,216.6**	**887.6**	**720.2**	**720.2**	**720.2**	**720.2**	**720.2**	**720.2**	**720.2**	**720.2**	**720.2**	**720.2**
Shareholders' Equity																
Common Stock	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9	26,752.9
Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stock options	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9	116,753.9
Treasury shares	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8	575.8
Other capital items	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6	74,431.6
Treasury shares	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)	(1,351.0)
Stock options	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3	7,255.3
Retained earnings (accumulated deficit)	7,223,626.8	8,625,263.1	9,961,870.6	11,221,260.3	12,318,345.4	13,328,687.2	14,340,460.3	15,357,811.3	16,393,268.7	17,444,083.6	18,505,643.2	19,578,558.4	20,651,704.7	21,733,571.1	22,809,842.0	23,873,613.3
Non-controlling interests	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2	4,204.2
Total Shareholders' Equity	**7,452,249.5**	**8,853,885.7**	**10,190,493.3**	**11,449,883.0**	**12,546,968.1**	**13,557,309.9**	**14,569,083.0**	**15,586,434.0**	**16,621,891.4**	**17,672,706.2**	**18,734,265.9**	**19,807,181.1**	**20,880,327.3**	**21,962,193.8**	**23,038,464.7**	**24,102,236.0**
Total Liabilities and Equity	**7,804,327.3**	**9,364,389.4**	**10,861,632.7**	**12,256,812.3**	**13,330,898.9**	**14,311,435.8**	**15,307,730.1**	**16,328,981.5**	**17,372,713.8**	**18,427,978.1**	**19,488,398.5**	**20,559,441.3**	**21,626,756.2**	**22,698,841.0**	**23,762,117.9**	**24,809,534.3**

Financial Model

Oncology Portfolio Revenue Summary

ONCOLOGY PORTFOLIO REVENUE SUMMARY

Sum of Keytruda + Enhertu + Imfinzi + Imjudo ($M)

Year	FY 2025E	FY 2026E	FY 2027E	FY 2028E	FY 2029E	FY 2030E	FY 2031E	FY 2032E	FY 2033E	FY 2034E	FY 2035E	FY 2036E	FY 2037E	FY 2038E	FY 2039E	FY 2040E	FY 2041E	FY 2042E	FY 2043E	FY 2044E	FY 2045E	FY 2046E	FY 2047E	FY 2048E
BASE CASE																								
Keytruda	31,267	32,423	33,227	30,660	25,328	20,377	14,341	10,596	7,759	5,510	4,576	4,370	4,174	3,986	3,807	3,636	3,473	3,317	3,168	3,026	2,890	2,760	2,637	2,518
Enhertu	3,641	4,554	6,559	9,123	10,550	11,686	10,836	11,485	11,731	11,253	10,397	10,632	7,821	6,010	4,906	4,268	3,807	3,406	3,038	2,723	2,433	2,167	1,922	1,697
Imfinzi	4,718	5,974	6,918	7,711	8,063	8,267	8,427	7,186	5,621	3,826	3,042	2,453	1,131	862	725	660	616	577	547	522	497	474	452	431
Imjudo	350	454	514	576	639	683	682	654	436	366	326	145	119	96	81	70	59	51	43	39	34	30	27	27
BASE TOTAL	**39,976**	**43,405**	**47,218**	**48,070**	**45,180**	**41,613**	**34,286**	**29,921**	**25,547**	**20,955**	**18,940**	**17,599**	**13,245**	**10,954**	**9,519**	**8,634**	**7,954**	**7,351**	**6,797**	**6,309**	**5,855**	**5,432**	**5,038**	**4,674**
BULL CASE																								
Keytruda	35,357	37,287	38,211	35,259	30,713	25,286	17,767	13,441	9,742	6,675	5,270	5,033	8,140	7,353	7,175	7,605	7,443	7,287	7,139	6,997	6,862	6,733	6,610	6,492
Enhertu	4,187	5,237	7,543	10,492	12,173	13,484	12,519	13,269	13,570	13,015	13,819	13,825	10,880	7,835	5,945	4,817	4,171	3,732	3,328	2,983	2,665	2,373	2,104	1,858
Imfinzi	5,661	7,168	8,302	9,254	9,676	9,921	10,323	10,419	10,721	9,121	10,086	11,186	3,912	1,035	870	792	739	693	657	626	597	569	543	517
Imjudo	451	605	711	786	869	890	865	744	492	405	344	71	43	30	21	15	16	16	17	18	18	19	20	20
BULL TOTAL	**46,257**	**50,297**	**54,767**	**55,790**	**53,430**	**49,581**	**41,473**	**37,872**	**34,524**	**29,216**	**29,519**	**30,114**	**22,975**	**16,853**	**14,611**	**13,229**	**12,368**	**11,728**	**11,141**	**10,624**	**10,142**	**9,694**	**9,277**	**8,887**
BEAR CASE																								
Keytruda	25,014	25,939	26,582	23,511	20,126	15,882	11,069	8,217	6,201	4,402	3,655	3,491	5,602	5,472	5,348	5,230	5,117	5,009	4,906	4,807	4,713	4,623	4,537	4,455
Enhertu	3,095	3,871	5,575	7,755	8,938	9,900	9,169	9,717	9,914	8,662	8,004	7,020	5,334	4,335	3,772	3,372	3,006	2,690	2,399	2,143	1,920	1,710	1,516	1,339
Imfinzi	4,010	5,078	5,880	6,555	6,589	6,443	5,019	3,242	1,841	920	822	333	445	733	616	561	523	491	465	443	423	403	384	367
Imjudo	287	351	361	359	355	357	281	121	48	20	10	4	2	1	1	1	1	1	1	1	1	1	1	1
BEAR TOTAL	**32,406**	**35,238**	**38,398**	**38,179**	**36,008**	**32,581**	**25,538**	**21,298**	**18,003**	**14,003**	**12,490**	**11,447**	**11,383**	**10,540**	**9,737**	**9,163**	**8,647**	**8,190**	**7,770**	**7,401**	**7,057**	**6,737**	**6,439**	**6,161**

Financial Model

Alteogen Cost of Drug Production per Drug (1/3) – Keytruda, Enhertu, and Imfinzi

A. SC COST STRUCTURE ASSUMPTIONS

Parameter	Unit	Value	Source / Notes
Product Specifications			
Drug Substance Dose per Vial	mg	395	FDA label (Sep 2025); Q3W dose
Hyaluronidase (ALT-B4) per Vial	Units	4800	FDA label: 4,800 U per 2.4mL vial
Vial Fill Volume	mL	2.4	FDA label: 2.4mL (Q3W formulation)
Manufacturing Parameters			
Process Yield - Drug Substance	%	75.00%	Industry avg for mAb DS (BioPlan 2024)
Process Yield - Fill/Finish	%	95.00%	Industry std sterile fill (ISPE)
Batch Size	vials	50000	Commercial scale assumption
QC Release Rate	%	98.00%	Industry benchmark (BioPlan)

B. COGS PER VIAL BREAKDOWN

Cost Component	Unit	Cost ($)	Notes
1. Drug Substance (mAb)			
Bulk mAb Cost	$/g	150	WHO est. $95-200/g; mid-range
Gross Drug Required (yield adj)	mg	526.67	Dose / Process Yield
Drug Substance Cost per Vial	$	$79.00	Calculated
2. Hyaluronidase (ALT-B4 Enzyme)			
Enzyme Specific Activity	U/mg	100000	rHuPH20 typical potency (Halozyme)
Bulk Enzyme Cost	$/g	50000	Alteogen platform; proprietary
Enzyme Cost per Vial	$	$2.40	Calculated from enzyme content
3. Fill/Finish Manufacturing			
Sterile Fill Operations	$	15	CDMO benchmark $15-40/vial
Visual Inspection	$	2	100% AVI required per GMP
Fill/Finish Subtotal	$	$17.00	
4. Primary Packaging Materials			
Glass Vial + Stopper + Cap	$	2.25	Type I borosilicate, coated elastomer
5. Secondary Packaging & Labeling	$	1.05	Carton, labels, insert
6. Quality Control & Testing			
Release Testing (per batch)	$	75000	Sterility, potency, endotoxin (ICH Q6B)
QC Cost per Vial	$	$1.53	Batch cost / effective yield
7. Cold Chain & Logistics	$	2	2-8°C storage + distribution
8. Manufacturing Overhead			
Facility Overhead Rate	%	15.00%	Industry avg 10-20% (Deloitte)
Overhead Allocation per Vial	$	$14.76	Applied to direct mfg costs
TOTAL COGS PER VIAL	**$**	**119.99**	

A. SC COST STRUCTURE ASSUMPTIONS (ADC)

Parameter	Unit	Value	Source / Notes
Product Specifications (ADC)			
mAb (Trastuzumab) Dose per Vial	mg	100	FDA label; weight-based dosing
Drug-to-Antibody Ratio (DAR)	ratio	8	Deruxtecan payload; DAR ~8
Vial Fill Volume	mL	5	FDA label; lyophilized reconstitution
Avg Vials per Dose	#	4	5.4mg/kg × 70kg ÷ 100mg = ~4 vials
Manufacturing Parameters (ADC)			
Process Yield - mAb Production	%	75.00%	Industry avg for mAb (BioPlan 2024)
Process Yield - Conjugation	%	85.00%	ADC conjugation yield
Process Yield - Fill/Finish	%	95.00%	Lyophilization process
Batch Size	vials	30000	ADC batch size (smaller than mAb)
QC Release Rate	%	98.00%	Industry benchmark

B. COGS PER VIAL BREAKDOWN

Cost Component	Unit	Cost ($)	Notes
1. mAb Substrate (Trastuzumab)			
Bulk mAb Cost	$/g	150	WHO est. biosimilar trastuzumab
Gross mAb Required (yield adj)	mg	156.86	Dose / Combined Yield
mAb Cost per Vial	$	23.53	
2. Payload (Deruxtecan/DXd)			
Payload Cost	$/mg	500	Complex cytotoxic synthesis
Payload per Vial (calc)	mg	2.9	Based on DAR and molecular weights
Payload Cost per Vial	$	1450	
3. Hyaluronidase (SC Enzyme)			
Enzyme Cost per Vial	$	2.4	Similar to Keytruda SC formulation
4. Fill/Finish & Lyophilization			
Sterile Fill + Lyo	$	25	Lyophilization adds cost
Visual Inspection	$	2	
Fill/Finish Subtotal	$	27	
5. Packaging Materials	$	3.3	Primary + Secondary
6. Quality Control			
Release Testing (per batch)	$	100000	ADC requires additional testing
QC Cost per Vial	$	3.4	
7. Cold Chain & Logistics	$	3	2-8°C + specialized handling
8. Manufacturing Overhead			
Overhead Rate	%	18.00%	ADC higher complexity
Overhead Allocation	$	270.1	
TOTAL COGS PER VIAL	**$**	**1782.73**	

A. SC COST STRUCTURE ASSUMPTIONS

Parameter	Unit	Value	Source / Notes
Product Specifications			
Drug Substance Dose per Vial	mg	500	FDA label; 500mg/10mL
Vial Fill Volume	mL	10	FDA label
Avg Vials per Dose	#	3	1500mg dose = 3 × 500mg vials
Manufacturing Parameters			
Process Yield - Drug Substance	%	76.00%	Industry avg for mAb
Process Yield - Fill/Finish	%	95.00%	Industry std sterile fill
Batch Size	vials	40000	
QC Release Rate	%	98.00%	

B. COGS PER VIAL BREAKDOWN

Cost Component	Unit	Cost ($)	Notes
1. Drug Substance (Durvalumab)			
Bulk mAb Cost	$/g	140	mAb production cost
Gross Drug Required	mg	657.89	
Drug Substance Cost per Vial	$	92.1	
2. Hyaluronidase (SC Enzyme)			
Enzyme Cost per Vial	$	2.4	
3. Fill/Finish Manufacturing			
Sterile Fill + QC	$	17	
4. Packaging Materials	$	3.3	
5. QC Testing (per vial)	$	1.91	
6. Cold Chain & Logistics	$	2	
7. Manufacturing Overhead			
Overhead Rate	%	15.00%	
Overhead Allocation	$	16.37	
TOTAL COGS PER VIAL	**$**	**135.08**	

Financial Model

Alteogen Cost of Drug Production per Drug (2/3) – Imjudo, and Darzalex Biosimilar

A. SC COST STRUCTURE ASSUMPTIONS

Parameter	Unit	Value	Source / Notes
Product Specifications			
Drug Substance per Vial	mg	300	FDA label: 300mg/15mL (HCC)
Vial Fill Volume	mL	15	FDA label
Weighted Avg Vials per Patient	#	2.5	Blended STRIDE + POSEIDON
Manufacturing Parameters			
Process Yield - Drug Substance	%	76.00%	
Process Yield - Fill/Finish	%	95.00%	
Batch Size	vials	35000	
QC Release Rate	%	98.00%	

B. COGS PER VIAL BREAKDOWN

Cost Component	Unit	Cost ($)	Notes
1. Drug Substance (Tremelimumab)			
Bulk mAb Cost	$/g	145	
Gross Drug Required	mg	394.74	
Drug Substance Cost per Vial	$	57.24	
2. Hyaluronidase (SC Enzyme)	$	2.4	
3. Fill/Finish Manufacturing	$	18	
4. Packaging Materials	$	3.3	
5. QC Testing (per vial)	$	2.04	
6. Cold Chain & Logistics	$	2	
7. Manufacturing Overhead			
Overhead Rate	%	15.00%	
Overhead Allocation	$	11.29	
TOTAL COGS PER VIAL	**$**	**96.27**	

A. DARZALEX FASPRO excipients (per 15 mL vial) — label quantities + commodity cost assumptions

Excipient	mg/vial	$/kg (assump.)	Cost per vial ($)	Source / Notes
L-histidine	4.90	150.00	0.00	FDA label: excipient amount per vial; $/kg is modeling assumption.
L-histidine HCl monohydrate	18.40	120.00	0.00	FDA label: excipient amount per vial; $/kg is modeling assumption.
L-methionine	13.50	20.00	0.00	FDA label: excipient amount per vial; $/kg is modeling assumption.
Polysorbate 20	6.00	25.00	0.00	FDA label: excipient amount per vial; $/kg is modeling assumption.
Sorbitol	735.10	3.00	0.00	FDA label: excipient amount per vial; $/kg is modeling assumption.
		Total excipient cost ($/vial)	0.01	Used by Darzalex_SC_COGS!C9 via Excipients!D9

B. SC COST STRUCTURE ASSUMPTIONS

Parameter	Unit	Value	Source / Notes
Daratumumab dose per vial	mg	1,800.00	FDA label / DailyMed: 1,800 mg per 15 mL vial.
Hyaluronidase (ALT-B4 proxy) per vial	Units	30,000.00	FDA label / DailyMed: 30,000 units per 15 mL vial.
Vial fill volume	mL	15.00	DailyMed: 15 mL single-dose vial; 120 mg/mL and 2,000 U/mL.
Daratumumab concentration (calc)	mg/mL	120.00	Calculated: dose / volume.
Hyaluronidase concentration (calc)	U/mL	2,000.00	Calculated: units / volume.
Excipient cost per vial (calc)	$/vial	0.01	Calculated from label excipients in Excipients sheet.
US cash price reference (Drugs.com)	$/vial	10,334.50	Reference retail/cash price for 1800 mg-30,000 U / 15 mL; varies.
Price per mg (calc)	$/mg	5.74	Calculated: price / mg.
Process yield — Drug substance (mAb)	%	0.75	Benchmark assumption; ~70–80% widely cited; 75% common.
Process yield — Fill/finish	%	0.95	Benchmark assumption (editable).
QC release rate	%	0.98	Benchmark assumption (editable).
Batch size (filled vials)	vials	50,000.00	Commercial scale assumption.
Facility overhead rate	%	0.15	Applied to direct manufacturing costs.
Bulk mAb production cost	$/g	150.00	Assumption within commonly cited $95–200/g range.
Hyaluronidase specific activity (proxy)	U/mg	100,000.00	rHuPH20 specific activity reported as >100,000 USP Units/mg.
Bulk hyaluronidase cost (ALT-B4)	$/g	50,000.00	
Sterile fill operations (Korea CDMO)	$/vial	15.00	
Visual inspection (100% AVI)	$/vial	2.00	
Formulation / compounding ops	$/vial	1.00	
Primary packaging (15 mL vial set)	$/vial	2.75	
Secondary packaging & labeling	$/vial	1.20	
QC release testing (per batch)	$/batch	75,000.00	
Cold chain & logistics (2–8°C)	$/vial	2.00	

C. COGS PER VIAL BREAKDOWN

Cost Component	Unit	Cost ($)	Notes
Combined yield (DS×F/F×QC) (calc)	%	0.70	Calculated combined yield.
Gross mAb required (yield adjusted)	mg	2,577.87	Dose / combined yield.
Drug substance cost per vial (mAb)	$	386.68	Bulk mAb cost × gross grams.
Hyaluronidase mass per vial (calc)	mg	0.30	Units per vial / (Units per mg).
Hyaluronidase cost per vial	$	15.00	Bulk enzyme cost × enzyme grams.
Excipients cost per vial	$	0.01	From Excipients sheet (label-based; commodity costs).
Fill/finish subtotal	$	18.00	Sterile fill + inspection + compounding.
Packaging subtotal	$	3.95	Primary + secondary packaging.
QC cost per vial (calc)	$	1.61	Batch QC cost / effective released vials.
Cold chain & logistics	$	2.00	Editable input.
Manufacturing overhead allocation (calc)	$	62.95	Overhead rate × direct mfg (DS + enzyme + excipients + fill/finish).
TOTAL COGS PER VIAL		**490.20**	**Blue cells are editable inputs. Model per 15 mL vial (1,800 mg + 30,000 U).**

Financial Model

Alteogen Cost of Drug Production per Drug (3/3) – Intas INTP778

A. SC COST STRUCTURE ASSUMPTIONS			
Parameter	**Unit**	**Value**	**Source / Notes**
Product Specifications			
Trastuzumab dose per vial	mg	600.00	FDA label / EMA EPAR (maintenance dose)
Pertuzumab dose per vial	mg	600.00	FDA label / EMA EPAR (maintenance dose)
Total mAb dose per vial	mg	1,200.00	Calculated
Hyaluronidase (ALT-B4 / rHuPH20) per vial	Units	20,000.00	:l / EMA EPAR: maintenance dose is 20,000 units per 10 mL (loading dose is 30,000 units per 15 mL)
Vial fill volume	mL	10.00	FDA label / EMA EPAR (maintenance formulation)
Manufacturing Parameters			
Process yield – Drug Substance (mAb)	%	0.75	Industry-average assumption (mAb DS yield)
Process yield – Fill/Finish	%	0.95	Industry-standard assumption for sterile fill
QC release rate	%	0.98	Industry benchmark assumption (pass rate)
Batch size	vials	50,000.00	Commercial scale assumption
Cost Assumptions			
Bulk mAb cost	$/g	150.00	User input (benchmark used in prior models)
Enzyme specific activity	U/mg	100,000.00	Literature benchmark for rHuPH20: >100,000 units/mg
Bulk enzyme cost	$/g	50,000.00	Benchmark assumption (platform / proprietary enzyme)
Sterile fill operations (Korea)	$/vial	15.00	CDMO benchmark assumption for SC vial fill/finish
Visual inspection	$/vial	2.00	100% automated/visual inspection required for GMP
Glass vial + stopper + cap	$/vial	2.25	Type I borosilicate vial + coated elastomer
Secondary packaging & labeling	$/vial	1.05	Carton, labels, insert
Release testing (per batch)	$	75,000.00	Sterility, potency, endotoxin (ICH Q6B) – benchmark assumption
Cold chain & logistics	$/vial	2.00	2–8°C storage + distribution – benchmark assumption
Facility overhead rate	%	0.15	Benchmark assumption (applied to direct manufacturing costs)

B. COGS PER VIAL BREAKDOWN			
Cost Component	**Unit**	**Cost ($)**	**Notes**
1. Drug Substance (mAb)			
Bulk mAb cost	$/g	150.00	Benchmark input (linked from assumptions)
Gross mAb required (yield adjusted)	mg	1,600.00	Total dose / DS yield
Drug substance cost per vial	$	240.00	Calculated from gross mAb and bulk cost
2. Hyaluronidase (ALT-B4 / rHuPH20 enzyme)			
Enzyme specific activity	U/mg	100,000.00	Benchmark (linked from assumptions)
Bulk enzyme cost	$/g	50,000.00	Benchmark (linked from assumptions)
Enzyme mass required	mg	0.20	Units per vial / specific activity
Enzyme cost per vial	$	10.00	Calculated from enzyme mass and bulk cost
3. Fill/Finish Manufacturing			
Sterile fill operations	$	15.00	Linked from assumptions
Visual inspection	$	2.00	Linked from assumptions
Fill/Finish subtotal	$	17.00	Calculated
4. Primary Packaging Materials			
Glass vial + stopper + cap	$	2.25	Linked from assumptions
5. Secondary Packaging & Labeling			
Carton, labels, insert	$	1.05	Linked from assumptions
6. Quality Control & Testing			
Release testing (per batch)	$	75,000.00	Linked from assumptions
QC cost per vial	$	1.47	Batch cost / effective released vials
7. Cold Chain & Logistics			
2–8°C storage + distribution	$	2.00	Linked from assumptions
8. Manufacturing Overhead			
Facility overhead rate	%	0.15	Linked from assumptions
Direct manufacturing cost base	$	273.77	Sum of direct COGS items (before overhead)
Overhead allocation per vial	$	41.07	Direct base × overhead rate
TOTAL COGS PER VIAL		**314.84**	**ted unit production cost (COGS) per vial; excludes SG&A, royalties, and profit**

How Asian Equity Research Reports Inflate the Valuation

Keytruda Qlex royalties are higher than agreed in deal terms

Royalty-rate inflation (Keytruda SC) – Shinhan valuation sensitivity (Case used for TP highlighted)

COMPANY REPORT | 알테오젠

Valuation

알테오젠 SOTP Valuation

분류	환산가치 (억원)	비고
1. 영업가치	376,568	
MSD 키트루다SC	141,869	키트루다 특허 미국 2029, 유럽 2031 만료 기준
다이이찌산쿄 엔허투SC	140,481	엔허투SC 2029년 유방암 1차 치료제 승인 가정
MSD 5개 SC 후속 제품	19,960	후속 물질 개발 가정, 50% 할인
산도즈 바이오시밀러SC 다품목	66,393	다잘렉스SC, 티센트릭SC 2제품만 적용
피부시술, 통증 완화 테르가제	5,802	'24년 상반기 식약처 허가 및 하반기 판매 개시
인타스 허셉틴SC BS (추정)	1,391	허셉틴SC 시밀러, '24년 2H 허가 신청, '25년 판매
세레스, 알토스	672	'23년 장부가액 반영
2. 순부채	(268)	
3. 발행주식수(천주)	51,703	
4. 적정주가(원)	728,847	
5. 목표주가(원)	730,000	
6. 현재주가 (원)	472,500	25년 9월 19일 종가 기준
7. 상승여력	54.5%	

자료: 신한투자증권 추정

키트루다SC 로열티 비율별 적정 가치(엔허투SC 로열티 6%, 마일스톤 8% 가정)

	마일스톤	로열티	키트루다SC 가치(억원)	총 영업 가치(억원)	적정 주가(원)
매출에 따른 수익 인식	4%	2%	93,461	328,159	635,219
	5%	3%	109,479	344,178	666,200
	6%	4%	141,869	376,568	728,847
	7%	5%	174,432	409,131	791,829

자료: 신한투자증권 추정

엔허투SC 로열티 비율별 적정 가치(키트루다SC 로열티 4%, 마일스톤 6% 가정)

	마일스톤	로열티	엔허투SC 가치(억원)	총 영업 가치(억원)	적정 주가(원)
매출에 따른 수익 인식	10%	8%	185,616	421,702	816,143
	9%	7%	163,045	399,131	772,487
	8%	6%	140,481	376,568	728,847
	7%	5%	117,928	354,015	685,227

자료: 신한투자증권 추정

신한 Premier 리서치 3 | 신한투자증권

EN: Table: Shinhan SOTP sensitivity for Keytruda SC under assumed milestone (%) and royalty (%) rates.

- Enhertu SC is held at Milestone 8% and Royalty 6%; Keytruda SC assumptions vary.
- Highlighted base case for Keytruda SC uses Milestone 6% and Royalty 4%.

Royalty-rate inflation (Keytruda SC) – Merck filing (Keytruda QLEX economics / milestones / royalty)

Notes to Condensed Consolidated Financial Statements (unaudited) (continued)

The estimated fair values of assets acquired and liabilities assumed from the Elanco aqua business (inclusive of measurement period adjustments) are as follows:

($ in millions)	July 9, 2024
Inventories	$ 65
Property, plant and equipment	66
Product rights - *Clynav* (useful life 15 years) [1]	340
Other product rights (useful lives 15 years) [1]	291
Deferred tax asset	106
Other assets and liabilities, net	23
Total identifiable net assets	891
Goodwill [2]	412
Consideration transferred	$ 1,303

[1] *The estimated fair values of Clynav and other product rights were determined using an income approach, specifically the multi-period excess earnings method. The future probability-weighted net cash flows were discounted to present value utilizing a discount rate of 8.5%. Actual cash flows are likely to be different than those assumed.*

[2] *The goodwill recognized is largely attributable to anticipated synergies expected to arise after the acquisition and was allocated to the Animal Health segment. This amount is expected to be deductible for tax purposes.*

Also in July 2024, Merck acquired Eyebiotech Limited (EyeBio), a privately held ophthalmology-focused biotechnology company for $1.2 billion (including payments to settle share-based equity awards) and also incurred $207 million of transaction costs. The acquisition agreement also provides for former EyeBio shareholders to receive contingent developmental milestone payments of up to $1.0 billion (of which $200 million has since been paid associated with the achievement of milestones as noted below), regulatory milestone payments of up to $200 million and sales-based milestone payments of up to $500 million. EyeBio's development work focused on candidates for the prevention and treatment of vision loss associated with retinal vascular leakage, a known risk factor for retinal diseases. EyeBio's lead candidate, MK-3000 (formerly EYE103), is an investigational, potentially first-in-class tetravalent, tri-specific antibody that acts as an agonist of the Wingless-related integration site signaling pathway, which is in clinical development for the treatment of diabetic macular edema and neovascular age-related macular degeneration. The transaction was accounted for as an asset acquisition since MK-3000 accounted for substantially all of the fair value of the gross assets acquired (excluding cash and deferred income taxes). Merck recorded net assets of $21 million, as well as a charge of $1.35 billion to *Research and development* expenses in the third quarter and first nine months of 2024 related to the acquisition. Additionally, a $100 million developmental milestone was recorded as a charge to *Research and development* expenses in the third quarter and first nine months of 2024 and an additional $100 million developmental milestone was charged to *Research and development* expenses in the first nine months of 2025.

In March 2024, Merck acquired Harpoon Therapeutics, Inc. (Harpoon), a clinical-stage immunotherapy company developing a novel class of T-cell engagers designed to harness the power of the body's immune system to treat patients suffering from cancer and other diseases, for $765 million and also incurred $56 million of transaction costs. Harpoon's lead candidate, gocatamig (MK-6070, formerly HPN328), is a T-cell engager targeting delta-like ligand 3 (DLL3), an inhibitory canonical Notch ligand that is expressed at high levels in small cell lung cancer and neuroendocrine tumors. The transaction was accounted for as an asset acquisition since gocatamig represented substantially all of the fair value of the gross assets acquired (excluding cash and deferred income taxes). Merck recorded net assets of $165 million, as well as a charge of $656 million to *Research and development* expenses in the first nine months of 2024 related to the transaction. There are no future contingent payments associated with the acquisition. In August 2024, Merck and Daiichi Sankyo expanded their existing global co-development and co-commercialization agreement to include gocatamig. See Note 3 for more information on Merck's collaboration with Daiichi Sankyo.

In February 2024, Merck and Alteogen Inc. (Alteogen) converted their existing non-exclusive license agreement into an exclusive license for the use of Alteogen's proprietary berahyaluronidase alfa for the formulation of subcutaneous pembrolizumab. Pursuant to the amended agreement, Alteogen is eligible to receive regulatory approval milestone payments of up to $51 million, as well as annual and cumulative sales-based milestone payments of up to $1.0 billion in the aggregate. After the achievement of all sales-based milestones, a 2% royalty on net sales is payable to Alteogen. In September 2025, the U.S. Food and Drug Administration (FDA) approved *Keytruda Qlex* (pembrolizumab and berahyaluronidase alfa-pmph) injection, which triggered regulatory milestone payments of $25 million in the aggregate from Merck to Alteogen. Additionally, following FDA approval, the Company determined that it was probable that sales of *Keytruda Qlex* in the future would trigger $680 million of sales-based milestone payments from Merck to Alteogen. Accordingly, in the third quarter of 2025, Merck recorded a $705 million liability for these regulatory and sales-based milestone payments and a corresponding intangible asset related to *Keytruda Qlex* included in *Other Intangibles, Net.* The intangible asset will be amortized over its estimated useful life through December 2030. The $25 million of regulatory milestone payments were made in October 2025; the future sales-based milestone payments will be paid upon achievement of the corresponding milestone.

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Merck 25Q3 (05.11.25): Alteogen eligible for regulatory approval milestones up to $51m and sales-based milestones up to $1.0bn (aggregate).

- After all sales-based milestones are achieved, Merck pays a 2% royalty on net sales.

How Asian Equity Research Reports Inflate the Valuation

First sales milestones from Keytruda to arrive in Q4 2025, yet only EU approval milestone was booked

Milestones "right away" – Shinhan: first sales milestone reflected in 4Q "right away"

Shinhan

알테오젠 (196170)

FDA 승인, 이제 전세계가 로열티 낸다

2025년 9월 22일

✓ 투자판단	매수 (유지)	✓ 목표주가	730,000 원 (유지)
✓ 상승여력	54.5%	✓ 현재주가 (9월 19일)	472,500 원

신한생각 전세계가 로열티 자불한다! 매출과 이익 성장폭 가장 클 기업

9월 20일 드디어 한국 바이오 역사상 최초로 국내 플랫폼이 전세계 매출 1위 블록버스터 의약품에 장착되어 FDA로부터 승인 획득. 당초 예정된 일정보다 3일 빠른 결정으로 출시도 10월 1일 아닌 9월 말. 유럽도 내년 상반기에서 반기 빨라진 4분기 승인 예정으로 전세계 승인도 마무리 수순

3주·6주 간격의 모든 용량 및 모든 적응증 승인으로 서프라이즈

머크/알테오젠 공동개발 제품명은 '키트루다 Qlex'로 출시. BMS/할로자임 옵디보SC 5분, 로슈/할로자임 티엔트릭 7분 대비 가장 빠른 1~2분 투여. 티엔트릭SC는 7분 걸림에도 영국 출시 9개월만에 32% SC*로 전환 성공

머크의 2년 내 30~40% 시장 SC 전환은 보수적 목표로 판단. IV*3주 제형과 6주 제형 동시 승인된 것 또한 서프라이즈. 투여 6주 간격은 SC 제형 중 유일. BMS 옵디보는 2~4주, 로슈 티엔트릭은 3주 간격만 SC 승인

19일 유럽 CHMP*승인 권고 발표하며 유럽도 4분기 승인 유력. 키트루다IV가 가진 모든 적응증에 대해 키트루다SC를 승인한 것은 서프라이즈. 빠른 SC 교체위해 중요했던 2가지 용량 및 모든 적응증 승인 완료

Valuation & Risk: 지금까지 이런 속도는 없었다. 머크는 목숨거는 중

21년 10월 임상 개시 후 부터 승인까지 만 4년이라는 유례없는 속도로 머크는 사활을 걸고 진행 중. 이번 3분기 중 FDA 승인에 따른 수백억원 단계별 마일스톤 인식 공시도 예상. 첫 판매 마일스톤은 동사 4분기 실적에 바로 인식. KOSPI 이전 위한 모든 조건 마련. 빅파마와 연내 1~2건 기술이전 목표 유지 중으로 이번 FDA 승인 여부가 계약 상대의 마지막 의사결정 요소여서 지금까지 발표 없었다고 본다면 곧 L/O 공시도 기대 가능

12월 결산	매출액 (십억원)	영업이익 (십억원)	지배순이익 (십억원)	PER (배)	ROE (%)	PBR (배)	EV/EBITDA (배)	DY (%)
2023	96.5	(9.7)	(3.4)	-	(2.3)	35.3	-	-
2024	102.9	25.4	62.3	264.2	29.5	60.3	581.2	-
2025F	220.7	110.4	25.0	1,014.8	8.7	85.1	222.4	-
2026F	593.2	445.0	566.0	44.9	97.3	29.4	55.0	-
2027F	784.8	605.2	805.0	31.6	63.5	15.2	39.2	-

자료: 회사 자료, 신한투자증권

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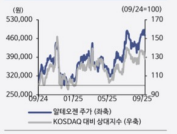
Revision	
실적추정치	유지
Valuation	유지

시가총액	25,262.2 십억원
발행주식수(유동비율)	53.5 백만주(79.6%)
52주 최고가/최저가	493,000 원/277,000 원
일평균 거래액 (60일)	161,994 백만원
외국인 지분율	14.0%
주요주주 (%)	
박순재 외 4 인	20.4
할인우 외 2 인	5.1

수익률 (%)	1M	3M	12M	YTD
절대	10.7	22.1	35.0	57.5
상대	1.0	10.7	15.7	25.3

주가



* SC: 피하주사 제형, 투여 시간이 짧고 환자 편의성이 높음
* IV: 정맥주사 제형, 혈관 직접 투여 방식으로 기존 항암제/면역항암제의 투여 방식
* CHMP: 유럽의약품청(EMA) 산하 인체용 의약품위원회, 신약 승인 여부 검토 및 권고 역할 수행

신한 Premier 리서치 | 기업분석부 — 신한투자증권

EN: Shinhan: the first sales milestone will be reflected in 4Q results "right away," sized as potentially "hundreds of KRW bn."

Milestones "right away" – Daol: milestone recognition expected to start from 4Q

In-Depth | 제약·바이오

알테오젠
(196170)
—
Not Rated

이지수 제약·바이오 | jslee@daolfn.com
임도영 연구원 | dy.lim@daolfn.com

	현재	직전	변동
투자의견	Not Rated		신규
적정주가			
Earnings			

SC 시대의 키 플레이어

Issue

피하주사 제형 전환 플랫폼 기업. 주요 파이프라인 및 2026년 모멘텀 점검

Pitch

히알루로니다제 기반 플랫폼으로 독점적 기술 확보. 항체, ADC, 이중항체, RNA 등 다양한 모달리티에 적용 가능. Keytruda Qlex 출시로 4Q25부터 마일스톤 발생 예상. 다수의 빅파마와 L/O 계약 체결해 임상 진행 중. 추가 L/O 가능성 유효. 2026년 코스피 이전상장 계획

Rationale

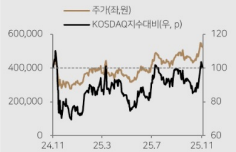
- 최근 피하주사(SC) 전환에 대한 니즈는 투약 편의성 개선, 바이오시밀러 방어 등의 이유로 늘어나는 중. 다잘렉스(다발성 골수종), 티엔트릭(고형암) 사례를 보면 SC 전환 후 M/S 70~90%까지 확대
- ALT-B4 기반 제형 전환 플랫폼으로 MSD, AstraZeneca, Daiichi Sankyo 등 대형 L/O 계약 체결 완료. 항체 뿐만 아니라 ADC, 이중항체, RNA 등 다양한 모달리티에 적용 가능해 추가 기술이전 가능성 유효
- Keytruda Qlex는 10월 미국 출시, 4Q25부터 판매 마일스톤 발생. 2026년 유럽, 일본 품목 허가 획득 시 추가 마일스톤 발생. 일정 수준 매출 달성 이후 로열티 유입 기대

Stock Information	
현재가 (11/11)	510,000원
예상 주가상승률	n/a
시가총액	272,880억원
비중(KOSDAQ내)	5.86%
발행주식수	53,506천주
52주 최저가 / 최고가	277,000 - 549,000원
3개월 일평균거래대금	1,876억원
외국인 지분율	15.2%
주요주주지분율(%)	
박순재 (외 5인)	20.4
할인우 (외 3인)	5.1
자사주 (외 1인)	0.0

Valuation wide	2022	2023	2024
PER(배)	n/a	n/a	265.1
PBR(배)	19.8	88.8	102.2
EV/EBITDA(배)	n/a	n/a	581.2
배당수익률(%)	0.0	0.0	0.0

Performance	1M	6M	12M	YTD
주가상승률(%)	10.6	47.8	14.5	64.8
KOSDAQ 대비 상대수익률(%)	7.7	25.4	(6.8)	34.4

Price Trend



Earnings Forecasts (단위:십억원,%)

	2020	2021	2022	2023	2024
매출액	42.4	38.7	28.8	96.5	102.9
영업이익	(0.1)	(15.2)	(29.4)	(9.7)	25.4
EBITDA	1.8	(13.0)	(26.7)	(6.4)	28.3
지배주주순이익	(15.8)	(6.3)	(8.1)	(3.4)	62.3
순차입금	(42.9)	(85.8)	(39.4)	(20.3)	(80.1)
매출증가율	47.3	(8.7)	(25.7)	235.1	6.6
영업이익률	(0.1)	(39.2)	(102.0)	(10.1)	24.7
지배순이익률	(37.3)	(16.2)	(28.3)	(3.5)	60.5
EPS증가율	적지	적지	적지	적지	흑전
ROE	(27.9)	(11.8)	(7.1)	(2.4)	28.8

Note: K-IFRS 연결 기준 / Source: 다올투자증권

DAOL 다올투자증권

DAOL Investment & Securities | 102

EN: Daol: milestone inflows are expected to start from 4Q following the SC Keytruda approval / launch timeline.

Milestones "right away" – Merck filing: approval-triggered milestone vs later sales milestones

Notes to Condensed Consolidated Financial Statements (unaudited) (continued)

The estimated fair values of assets acquired and liabilities assumed from the Elanco aqua business (inclusive of measurement period adjustments) are as follows:

($ in millions)	July 9, 2024
Inventories	$ 65
Property, plant and equipment	66
Product rights - *Clynav* (useful life 15 years) (1)	340
Other product rights (useful lives 15 years) (1)	291
Deferred tax asset	106
Other assets and liabilities, net	23
Total identifiable net assets	891
Goodwill (2)	412
Consideration transferred	$ 1,303

(1) *The estimated fair values of Clynav and other product rights were determined using an income approach, specifically the multi-period excess earnings method. The future probability-weighted net cash flows were discounted to present value utilizing a discount rate of 8.5%. Actual cash flows are likely to be different than those assumed.*

(2) *The goodwill recognized is largely attributable to anticipated synergies expected to arise after the acquisition and was allocated to the Animal Health segment. This amount is expected to be deductible for tax purposes.*

Also in July 2024, Merck acquired Eyebiotech Limited (EyeBio), a privately held ophthalmology-focused biotechnology company for $1.2 billion (including payments to settle share-based equity awards) and also incurred $207 million of transaction costs. The acquisition agreement also provides for former EyeBio shareholders to receive contingent developmental milestone payments of up to $1.0 billion (of which $200 million has since been paid associated with the achievement of milestones as noted below), regulatory milestone payments of up to $200 million and sales-based milestone payments of up to $500 million. EyeBio's development work focused on candidates for the prevention and treatment of vision loss associated with retinal vascular leakage, a known risk factor for retinal diseases. EyeBio's lead candidate, MK-3000 (formerly EYE103), is an investigational, potentially first-in-class tetravalent, tri-specific antibody that acts as an agonist of the Wingless-related integration site signaling pathway, which is in clinical development for the treatment of diabetic macular edema and neovascular age-related macular degeneration. The transaction was accounted for as an asset acquisition since MK-3000 accounted for substantially all of the fair value of the gross assets acquired (excluding cash and deferred income taxes). Merck recorded net assets of $21 million, as well as a charge of $1.35 billion to *Research and development* expenses in the third quarter and first nine months of 2024 related to the acquisition. Additionally, a $100 million developmental milestone was recorded as a charge to *Research and development* expenses in the third quarter and first nine months of 2024 and an additional $100 million developmental milestone was charged to *Research and development* expenses in the first nine months of 2025.

In March 2024, Merck acquired Harpoon Therapeutics, Inc. (Harpoon), a clinical-stage immunotherapy company developing a novel class of T-cell engagers designed to harness the power of the body's immune system to treat patients suffering from cancer and other diseases, for $765 million and also incurred $56 million of transaction costs. Harpoon's lead candidate, gocatamig (MK-6070, formerly HPN328), is a T-cell engager targeting delta-like ligand 3 (DLL3), an inhibitory canonical Notch ligand that is expressed at high levels in small cell lung cancer and neuroendocrine tumors. The transaction was accounted for as an asset acquisition since gocatamig represented substantially all of the fair value of the gross assets acquired (excluding cash and deferred income taxes). Merck recorded net assets of $165 million, as well as a charge of $656 million to *Research and development* expenses in the first nine months of 2024 related to the transaction. There are no future contingent payments associated with the acquisition. In August 2024, Merck and Daiichi Sankyo expanded their existing global co-development and co-commercialization agreement to include gocatamig. See Note 3 for more information on Merck's collaboration with Daiichi Sankyo.

In February 2024, Merck and Alteogen Inc. (Alteogen) converted their existing non-exclusive license agreement into an exclusive license for the use of Alteogen's proprietary berahyaluronidase alfa for the formulation of subcutaneous pembrolizumab. Pursuant to the amended agreement, Alteogen is eligible to receive regulatory approval milestone payments of up to $51 million, as well as annual and cumulative sales-based milestone payments of up to $1.0 billion in the aggregate. After the achievement of all sales-based milestones, a 2% royalty on net sales is payable to Alteogen. In September 2025, the U.S. Food and Drug Administration (FDA) approved *Keytruda Qlex* (pembrolizumab and berahyaluronidase alfa-pmph) injection, which triggered regulatory milestone payments of $25 million in the aggregate from Merck to Alteogen. Additionally, following FDA approval, the Company determined that it was probable that sales of *Keytruda Qlex* in the future would trigger $680 million of sales-based milestone payments from Merck to Alteogen. Accordingly, in the third quarter of 2025, Merck recorded a $705 million liability for these regulatory and sales-based milestone payments and a corresponding intangible asset related to *Keytruda Qlex* included in *Other Intangibles, Net*. The intangible asset will be amortized over its estimated useful life through December 2030. The $25 million of regulatory milestone payments were made in October 2025; the future sales-based milestone payments will be paid upon achievement of the corresponding milestone.

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Merck: FDA approval of Keytruda QLEX triggered a $25m regulatory milestone payment (aggregate) to Alteogen.
- Sales-based milestone payments are paid upon achievement of the corresponding sales milestone.

How Asian Equity Research Reports Inflate the Valuation

Keytruda patent expiry timeframe misalignment

Patent cliff timing – Shinhan: valuation assumes Keytruda U.S. 2029 / EU 2031

COMPANY REPORT | 알테오젠

Valuation

알테오젠 SOTP Valuation

분류	환산가치 (억원)	비고
1. 영업가치	376,568	
MSD 키트루다SC	141,869	키트루다 특허 미국 2029, 유럽 2031 만료 기준
다이이찌산쿄 엔허투SC	140,481	엔허투SC 2029년 유방암 1차 치료제 승인 가정
MSD 5개 SC 후속 제품	19,960	후속 물질 개발 가정, 50% 할인
산도즈 바이오시밀러SC 다품목	66,393	다잘렉스SC, 티센트릭SC 2제품만 적용
피부시술, 통증 완화 테르기제	5,802	'24년 상반기 식약처 허가 및 하반기 판매 개시
인타스 허셉틴SC BS (추정)	1,391	허셉틴SC 시밀러, '24년 2H 허가 신청, '25년 판매
세레스, 알토스	672	'23년 장부가액 반영
2. 순부채	(268)	
3. 발행주식수(천주)	51,703	
4. 적정주가(원)	728,847	
5. 목표주가(원)	730,000	
6. 현재주가 (원)	472,500	25년 9월 19일 종가 기준
7. 상승여력	54.5%	

자료: 신한투자증권 추정

키트루다SC 로열티 비율별 적정 가치(엔허투SC 로열티 6%, 마일스톤 8% 가정)

	마일스톤	로열티	키트루다SC 가치(억원)	총 영업 가치(억원)	적정 주가(원)
매출에 따른 수익 인식	4%	2%	93,461	328,159	635,219
	5%	3%	109,479	344,178	666,200
	6%	**4%**	**141,869**	**376,568**	**728,847**
	7%	5%	174,432	409,131	791,829

자료: 신한투자증권 추정

엔허투SC 로열티 비율별 적정 가치(키트루다SC 로열티 4%, 마일스톤 6% 가정)

	마일스톤	로열티	엔허투SC 가치(억원)	총 영업 가치(억원)	적정 주가(원)
매출에 따른 수익 인식	10%	8%	185,616	421,702	816,143
	9%	7%	163,045	399,131	772,487
	8%	**6%**	**140,481**	**376,568**	**728,847**
	7%	5%	117,928	354,015	685,227

자료: 신한투자증권 추정

신한 Premier 리서치 3 | 신한투자증권

EN: Shinhan valuation notes assume Keytruda patent expiry: U.S. 2029; Europe 2031.

Patent cliff timing – Merck risk disclosure: U.S. pricing pressure starts 2028; U.S. compound patent expires Dec 2028

Risks Related to the Company's Business

The Company is dependent on its patent rights, and if its patent rights are invalidated or circumvented, its business could be materially adversely affected.

Patent protection is considered, in the aggregate, to be of material importance to the Company's marketing of human health and animal health products in the U.S. and in most major foreign markets. Patents covering products that it has introduced normally provide market exclusivity, which is important for the successful marketing and sale of its products. The Company seeks patents covering each of its products in each of the markets where it intends to sell the products and where meaningful patent protection is available.

Even if the Company succeeds in obtaining patents covering its products, third parties or government authorities may challenge or seek to invalidate or circumvent its patents and patent applications. It is important for the Company's business to successfully assert and defend the patent rights that provide market exclusivity for its products. The Company is often involved in patent disputes relating to challenges to its patents or claims by third parties of infringement against the Company. The Company asserts and defends its patents both within and outside the U.S., including by filing claims of infringement against other parties. See Item 8. "Financial Statements and Supplementary Data," Note 10. "Contingencies and Environmental Liabilities" below. In particular, manufacturers of generic or biosimilar pharmaceutical products from time to time file abbreviated NDAs or BLAs with the FDA seeking to market generic/biosimilar forms of the Company's products prior to the expiration of relevant patents owned or licensed by the Company. The Company normally responds by asserting one or more of its patents with a lawsuit alleging patent infringement. Patent litigation and other challenges to the Company's patents are costly and unpredictable and may deprive the Company of market exclusivity for a patented product or, in some cases, third-party patents may prevent the Company from marketing and selling a product in a particular geographic area.

Additionally, certain foreign governments have indicated that compulsory licenses to patents may be granted in the case of national emergencies or in other circumstances, which could diminish or eliminate sales and profits from those regions and negatively affect the Company's results of operations. Further, court decisions relating to other companies' patents, potential legislation in both the U.S. and certain foreign markets relating to patents, as well as regulatory initiatives may result in a more general weakening of intellectual property protection.

If one or more important products lose patent protection in profitable markets, sales of those products are likely to decline significantly as a result of generic versions of those products becoming available. The Company's results of operations may be adversely affected by the lost sales unless and until the Company has launched commercially successful products that replace the lost sales. In addition, if products that were measured at fair value and capitalized in connection with acquisitions experience difficulties in the market that negatively affect product cash flows, the Company may recognize material non-cash impairment charges with respect to the value of those products.

A chart listing the key patent protection for certain of the Company's marketed products, and U.S. patent protection for candidates in Phase 3 clinical development is set forth above in Item 1. "Business — Patents, Trademarks and Licenses."

As the Company's products lose market exclusivity, the Company generally experiences a significant and rapid loss of sales from those products.

The Company depends upon patents to provide it with exclusive marketing rights for its products for some period of time. Loss of patent protection for one of the Company's products typically leads to a significant and rapid loss of sales for that product as lower priced generic versions of that drug become available. In the case of products that contribute significantly to the Company's sales, the loss of market exclusivity can have a material adverse effect on the Company's business, cash flows, results of operations, financial condition and prospects. The Company lost market exclusivity for *Bridion* in Europe and Japan in 2023 and 2024, respectively, and the Company has experienced a substantial decline in *Bridion* sales in those markets. *Bridion* will lose market exclusivity in the U.S. in 2026 (subject to patent litigation discussed below) and the Company expects that sales of *Bridion* in the U.S. will decline substantially thereafter. In addition, the Company expects U.S. sales of *Keytruda* to decline beginning in January 2028 upon implementation of government pricing under the IRA, and to further decline upon loss of market exclusivity following expiration of the U.S. compound patent in December 2028. The Company expects to lose market exclusivity in Europe for *Keytruda* in 2031 following compound patent expiration. There may, however, be attempts by one or more companies to challenge the patent or launch a biosimilar product despite the patent in some European jurisdictions following the expiration of data exclusivity in Europe in July 2026.

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Merck 25Q3 (05.11.25): expects U.S. Keytruda sales decline beginning Jan 2028 due to IRA-related pricing.

- Further decline upon loss of market exclusivity after U.S. compound patent expiration in Dec 2028.

How Asian Equity Research Reports Inflate the Valuation

Royalty rate disconnection

Kyobo forecast table includes 'Net interest income' line item

제약/바이오
믿음, 소망, 바이오
2025/10/15

알테오젠 196170

글로벌 기업으로 가는 길

Oct 15, 2025

Buy 신규

TP 620,000 원 신규

Company Data

현재가(10/14)	446,000 원
액면가(원)	500 원
52 주 최고가(보통주)	507,000 원
52 주 최저가(보통주)	277,000 원
KOSPI (10/14)	3,561.81p
KOSDAQ (10/14)	847.96p
자본금	267 억원
시가총액	238,636 억원
발행주식수(보통주)	5,351 만주
발행주식수(우선주)	43 만주
평균거래량(60 일)	39.3 만주
평균거래대금(60 일)	1,874 억원
외국인지분율(보통주)	13.33%
주요주주	
박순재 외 4 인	20.38%
황인무 외 2 인	5.09%

Price & Relative Performance

주가수익률(%)	1 개월	6 개월	12 개월
절대주가	-9.3	15.2	17.8
상대주가	-9.4	-3.6	7.0

ALT-B4의 확장은 어디까지인가

하알루로니다제 플랫폼을 활용해 빅파마 3곳 (머크, 아스트라제네카, 다이이치산쿄)와의 기술이전 계약을 체결하고 있는 바이오텍. 1) 투약 편의성 개선, 2) IRA 약가 협상 회피, 3) 바이오시밀러 진입 방어 전략의 강력한 당위성 및 특허 이점을 보유하고 있어 향후 지속적인 딜이 기대. 면역관문계제 및 자가면역질환 항체 치료제뿐 아니라 ADC까지 제형 전환을 필요로 하는 시장이 지속 확대되고 있는 점이 고무적. 기술시된 제품의 단순 제형 전환을 넘어서 1) 임상 중인 약물들이 딜에 포함되고 있는 점, 2) SC 제형으로 출시된 제품을 개발 중인 물질과 병용 요법으로 신규 임상 개시하는 등 플랫폼의 확장성 부각되는 시점

머크와의 키트루다 독점 계약 전환 후 기업 밸류 큰 폭으로 상승. 이후 머크-할로자임 특허 분쟁 및 IRA 약가 협상 대상 리스크 존재했으나 해당 내용 PGR 개시 및 최종 IRA 가이드라인을 통해 해소된 상황. 회사는 연내 추가 기술 이전에 대한 목표 유지. 2026년 코스피 이전 상장 요건 획득 가능할 것으로 추정. 머크 Keytruda Qlex 미국 내 출시 완료, 유럽 허가도 임박. 2028년 기준 알테오젠의 키트루다발 로열티 매출 약 1조 59억원으로 추정. 연내 기술이전 및 코스피 이전 모멘텀, 키트루다 SC 제형 출시에 따른 마일스톤 수취까지 예상되며 여전히 투자 매력도 높다고 판단

투자의견 매수 및 목표주가 620,000원으로 커버리지 개시

알테오젠을 투자의견 '매수' 및 목표주가 620,000원으로 커버리지 개시. 코스피 이전, 기술이전 모멘텀 유효하다고 판단. 리스크였던 특허 분쟁, IRA 약가 인하 회피 대상 제외 내용도 해결되어 가는 모습. 내년 상반기까지 예정되어 있는 이벤트로 바이오 섹터 전반의 투자 매력도를 아끌어갈 대장주

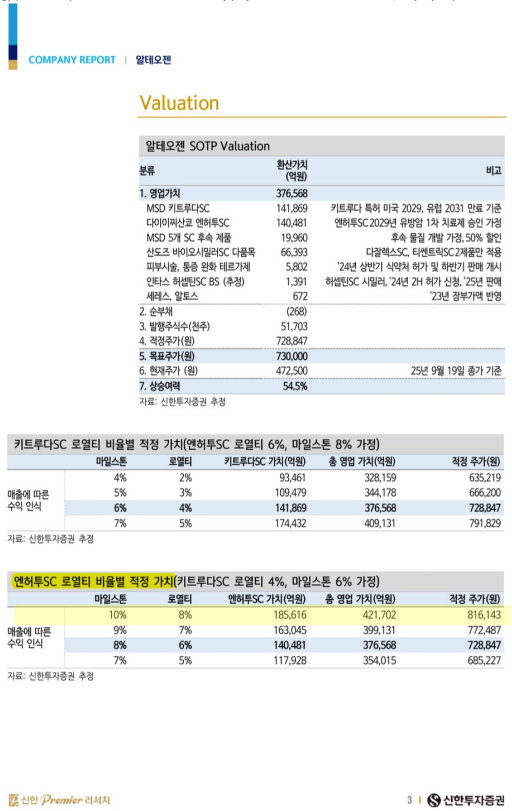
Forecast earnings & Valuation

12 월산 (십억원)	2023.12	2024.12	2025.12E	2026.12E	2027.12E
순이자이익	97	103	110	132	158
비이자부문이익	235.1	6.6	6.6	20.0	20.0
영업이익	-10	25	27	33	40
세전이익	-10.3	24.3	24.5	25.0	25.3
지배주주순이익	-4	61	60	74	92
증가율(%)	-65	1,171	1,149	1,427	1,762
ROA(%)	적지	흑전	-1.9	24.2	23.5
ROE(%)	-1,509.9	264.2	386.4	311.1	251.9
EPS(원)	-4,509.8	450.7	702.5	608.0	519.7
BPS(원)	35.3	60.3	71.4	58.2	47.3
PER(배)	-765.7	577.9	809.7	686.5	574.9
PBR(배)	-2.3	29.5	20.2	20.4	20.5

KYOBO Securities 25 Research Center

EN: Table: Kyobo forecast includes 'Net interest income', 'Non-interest income', 'ROA', 'PBV' as line items.

Deal-value numerology (Enhertu SC) – Shinhan: Enhertu SC sensitivity (Keytruda SC held at Milestone 6% / Royalty 4%)



COMPANY REPORT | 알테오젠

Valuation

알테오젠 SOTP Valuation

분류	환산가치 (억원)	비고
1. 영업가치	376,568	
MSD 키트루다SC	141,869	키트루다 특허 미국 2029, 유럽 2031 만료 기준
다이이찌산쿄 엔허투SC	140,481	엔허투SC 2029년 유방암 1차 치료제 승인 가정
MSD 5개 SC 후속 제품	19,960	후속 물질 개발 가정, 50% 할인
산도즈 바이오시밀러SC 다품목	66,393	다잘렉스SC, 타센트릭SC 2제품만 적용
피부시술, 통증 완화 테르기제	5,802	'24년 상반기 식약처 허가 및 하반기 판매 개시
인타스 허셉틴SC BS (추정)	1,391	허셉틴SC 시밀러, '24년 2H 허가 신청, '25년 판매
세레스, 알토스	672	'23년 장부가액 반영
2. 순부채	(268)	
3. 발행주식수(천주)	51,703	
4. 적정주가(원)	728,847	
5. 목표주가(원)	730,000	
6. 현재주가 (원)	472,500	25년 9월 19일 종가 기준
7. 상승여력	54.5%	

자료: 신한투자증권 추정

키트루다SC 로열티 비율별 적정 가치(엔허투SC 로열티 6%, 마일스톤 8% 가정)

	마일스톤	로열티	키트루다SC 가치(억원)	총 영업 가치(억원)	적정 주가(원)
매출에 따른 수익 인식	4%	2%	93,461	328,159	635,219
	5%	3%	109,479	344,178	666,200
	6%	4%	141,869	376,568	728,847
	7%	5%	174,432	409,131	791,829

자료: 신한투자증권 추정

엔허투SC 로열티 비율별 적정 가치(키트루다SC 로열티 4%, 마일스톤 6% 가정)

	마일스톤	로열티	엔허투SC 가치(억원)	총 영업 가치(억원)	적정 주가(원)
매출에 따른 수익 인식	10%	8%	185,616	421,702	816,143
	9%	7%	163,045	399,131	772,487
	8%	6%	140,481	376,568	728,847
	7%	5%	117,928	354,015	685,227

자료: 신한투자증권 추정

신한 Premier 리서치 3 | 신한투자증권

EN: Table: Enhertu SC valuation varies assumed Enhertu milestone/royalty rates, holding Keytruda SC at Milestone 6% and Royalty 4%. Table includes Enhertu assumptions up to Milestone 10% and Royalty 8%, Base Case – 8% and % respectively.

Deal-value numerology (Enhertu SC) – Halozyme disclosure: royalties described as tiered

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accordance with its terms, collaborations generally continue in effect until the last to expire royalty payment term, as determined on a product by product and country by country basis, with each royalty term starting on the first commercial sale of that product and ending the later of: (i) a specified period or term set forth in the agreement or (ii) expiration of the last to expire of the valid claims of our patents covering rHuPH20 or other specified patents developed under the collaboration which valid claim covers a product developed under the collaboration. In general, when there are no valid claims of a specified patent developed under the collaboration covering the product in a given country, the royalty rate is reduced for those sales in that country upon the expiration of our patents covering rHuPH20. Janssen's patents covering DARZALEX SC do not impact the timing for this royalty reduction. Partners may terminate the agreement prior to expiration for any reason in its entirety or on a target-by-target basis generally upon 90 days prior written notice to us. Upon any such termination, the license granted to partners (in total or with respect to the terminated target, as applicable) will terminate provided; however, that in the event of expiration of the agreement (as opposed to a termination), the on-going licenses granted may become perpetual, non-exclusive and fully paid. Sales-based milestones and royalties are recognized in the period the underlying sales or milestones occur. We do not receive final royalty reports from our ENHANZE partners until after we complete our financial statements for a prior quarter. Therefore, we recognize revenue based on estimates of the royalty earned, which are based on internal estimates and available preliminary reports provided by our partners. We will record adjustments in the following quarter, if necessary, when final royalty reports are received. To date, we have not recorded any material adjustments.

We also earn royalties in connection with several of our licenses granted under license and development arrangements with our device partners. These royalties are based upon a percentage of commercial sales of partnered products with rates ranging from mid-single digits to low double digits and are tiered based on levels of net sales. These sales-based royalties, for which the license was deemed the predominant element to which the royalties relate, are estimated and recognized in the period in which the partners' commercial sales occur. The royalties are generally reported and payable to us within 45 to 60 days after the end of the period in which the commercial sales are made. We base our estimates of royalties earned on actual sales information from our partners when available or estimated prescription sales from external sources and estimated net selling price. We will record adjustments in the following quarter, if necessary, when final royalty reports are received. To date, we have not recorded any material adjustments.

Revenue under ENHANZE and Device Collaborative Agreements

ENHANZE Collaboration and License Agreements

Under these agreements, we grant the collaboration partner a worldwide license to develop and commercialize products using our ENHANZE technology to combine our patented rHuPH20 enzyme with their proprietary biologics directed at up to a specified number of targets. Targets are usually licensed on an exclusive, global basis. Targets selected subsequent to inception of the arrangement generally require payment of an additional license fee. The collaboration partner is responsible for all development, manufacturing, clinical, regulatory, sales and marketing costs for any products developed under the agreement. We are responsible for supply of bulk rHuPH20 based on the collaboration partner's purchase orders, and may also be separately engaged to perform research and development services. While these collaboration agreements are similar in that they originate from the same framework, each one is the result of an arms-length negotiation and thus may vary from one to the other.

We generally collect an upfront license payment from collaboration partners, and are also entitled to receive event-based payments subject to collaboration partners' achievement of specified development, regulatory and sales-based milestones. In several agreements, collaboration partners pay us annual fees to maintain their exclusive license rights if they are unable to advance product development to specified stages. We earn separate fees for bulk rHuPH20 supplies and research and development services.

Although these agreements are in form identified as collaborative agreements, we concluded for accounting purposes they represent contracts with customers and are not subject to accounting literature on collaborative arrangements. This is because we grant to partners licenses to our intellectual property and provide supply of bulk rHuPH20 and research and development services which are all outputs of our ongoing activities, in exchange for respective consideration. Under these collaborative agreements, our partners lead development of assets, and we do not share in significant financial risks of their development or commercialization activities. Accordingly, we concluded our collaborative agreements are appropriately accounted for pursuant to U.S. GAAP.

Under all of our ENHANZE collaborative agreements, we have identified licenses to use functional intellectual property as the only performance obligation. The intellectual property underlying the license is our proprietary ENHANZE technology which represents application of rHuPH20 to facilitate delivery of drugs. Each of the licenses grants the partners rights to use our intellectual property as it exists and is identified on the effective date of the license, because there is no ongoing development of the ENHANZE technology required. Therefore, we recognize revenue from licenses at the point when the license becomes effective and the partner has received access to our intellectual property, usually at the inception of the agreement.

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Halozyme: partner royalties range from mid-single digits to low-double digits, tiered based on levels of net sales.

How Asian Equity Research Reports Inflate the Valuation

IRA-Price negotiations considerations

"IRA avoidance" / aggregation risk – Kyobo: ALT-B4 expansion includes "IRA price negotiation avoidance"

제약/바이오
믿음, 소망, 바이오 2025/10/15

알테오젠 196170

글로벌 기업으로 가는 길

Oct 15, 2025

Buy 신규

TP 620,000 원 신규

Company Data

현재가(10/14)	446,000 원
액면가(원)	500 원
52 주 최고가(보통주)	507,000 원
52 주 최저가(보통주)	277,000 원
KOSPI (10/14)	3,561.81p
KOSDAQ (10/14)	847.96p
자본금	267 억원
시가총액	238,636 억원
발행주식수(보통주)	5,351 만주
발행주식수(우선주)	43 만주
평균거래량(60 일)	39.3 만주
평균거래대금(60 일)	1,874 억원
외국인지분(보통주)	13.33%
주요주주	
박순재 외 4 인	20.38%
헬인우 외 2 인	5.09%

Price & Relative Performance

주가수익률(%)	1 개월	6 개월	12 개월
절대주가	-9.3	15.2	17.8
상대주가	-9.4	-3.6	7.0

ALT-B4의 확장은 어디까지인가

히알루로니다제 플랫폼을 활용해 빅파마 3곳 (머크, 아스트라제네카, 다이이치산쿄)와의 기술이전 계약을 체결하고 있는 바이오텍. 1) 투약 편의성 개선, 2) IRA 약가 협상 회피, 3) 바이오시밀러 진입 방어 전략의 강력한 당위성 및 특허 이점을 보유하고 있어 향후 지속적인 딜이 기대. 면역관문제제 및 자가면역질환 항체 치료제뿐 아니라 ADC까지 제형 전환을 필요로 하는 시장이 지속 확대되고 있는 점이 고무적. 기출시된 제품의 단순 제형 전환을 넘어서 1) 임상 중인 약물들이 딜에 포함되고 있는 점, 2) SC 제형으로 출시된 제품을 개발 중인 물질과 병용 요법으로 신규 임상 개시하는 등 플랫폼의 확장성 부각되는 시점

머크와의 키트루다 독점 계약 전환 후 기업 밸류 큰 폭으로 상승, 이후 머크-할로자임 특허 분쟁 및 IRA 약가 협상 대상 리스크 존재했으나 해당 내용 PGR 개시 및 최종 IRA 가이드라인을 통해 해소된 상황. 회사는 연내 추가 기술 이전에 대한 목표 유지. 2026년 코스피 이전 상장 요건 확득 가능할 것으로 추정. 머크 Keytruda Qlex 미국 내 출시 완료, 유럽 허가도 임박. 2028년 기준 알테오젠의 키트루다발 로열티 매출 약 1조 59억원으로 추정. 연내 기술이전 및 코스피 이전 모멘텀, 키트루다 SC 제형 출시에 따른 마일스톤 수취까지 예상되며 여전히 투자 매력도 높다고 판단

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KYOBO Securities 25 Research Center

EN: Kyobo: lists "IRA price negotiation avoidance" as a benefit tied to ALT-B4 expansion.
- Kyobo: states the patent dispute and IRA-negotiation selection risk were "resolved" via the final IRA guideline.

"IRA avoidance" / aggregation risk – CMS IPAY 2028: aggregation / fixed-combination policy (program integrity risk)

into the same potential qualifying single source drug for both drugs payable under Part B and/or covered under Part D. CMS agrees with the concerns cited by commenters that manufacturers may use CMS' existing fixed combination drug policy to avoid aggregation and therefore selection for negotiation by making minor changes to an existing drug. Due to the complexity and scope of this issue as noted above in stakeholder comments, CMS believes additional time would be necessary to develop objective policy criteria if CMS were to finalize such a policy, and thus will not make a change to the fixed combination drug policy in this final guidance. CMS intends to address this program integrity risk and is continuing to consider the appropriate policy to implement in rulemaking beginning in initial price applicability year 2029.

For initial price applicability year 2028, CMS will maintain its approach to fixed combination drugs which states that if a drug is a fixed combination drug [13] with two or more active moieties / active ingredients, the distinct combination of active moieties / active ingredients will be considered as one active moiety / active ingredient for the purpose of identifying potential qualifying single source drugs. A product containing only one (but not all) of the active moieties / active ingredients that is offered by the same NDA / BLA holder will not be aggregated with the formulations of the fixed combination drug and will be considered a separate potential qualifying single source drug. Section 30.1 of this final guidance details how CMS intends to treat fixed combination drugs and gives an example to illustrate the application.

Comment: One commenter asked CMS for clarification on the distinction between co-formulated drugs and co-packaged drugs. The commenter asked whether a drug with two active moieties would be considered a fixed combination drug for purposes of the Negotiation Program if the two active moieties are not co-formulated but rather are present in separate dosage forms that are sold in a single package. The commenter provided an example and asked whether the total expenditures for the co-packaged product would be calculated at the co-packaged level or at the level of the individual moieties contained within the co-packaged product.

Response: For purposes of the Negotiation Program in initial price applicability year 2028, if a drug (including a co-packaged drug) contains two or more active moieties / active ingredients, the distinct combination of active moieties / active ingredients will be considered as one active moiety / active ingredient for the purpose of identifying potential qualifying single source drugs, whether such drug is co-formulated or co-packaged. All formulations of this distinct combination offered by the same NDA / BLA holder will be considered as one potential qualifying single source drug. As noted above, CMS intends to address fixed combination drugs in rulemaking beginning in initial price applicability year 2029 and may address co-packaged drugs at that time.

Comment: Many commenters asserted that the distinct time periods for when a drug and a biological product will be eligible for negotiation are arbitrary and that CMS should implement the Negotiation Program so that, for any drug or biological product to qualify as a qualifying single source drug, the same number of years must have elapsed since the drug or biological product was approved or licensed, respectively. A few of these commenters specifically recommended increasing the time that must have elapsed between approval by the FDA and

[13] For purposes of the Negotiation Program, the term "fixed combination drug" has the meaning specified in 21 C.F.R. § 300.50.

CMS: warns that minor changes/new versions could be used to avoid aggregation (program-integrity risk) under fixed-combination policy.

How Asian Equity Research Reports Inflate the Valuation

Historical case study cherry-picking to support overoptimistic narrative

"Conservative conversion" claims – Shinhan: "Tecentriq SC 32% in UK in 9 months"; Merck 30-40% goal framed as conservative

알테오젠 (196170)

FDA 승인, 이제 전세계가 로열티 낸다

Shinhan

2025년 9월 22일

✓ 투자판단	매수 (유지)	✓ 목표주가	730,000 원 (유지)
✓ 상승여력	54.5%	✓ 현재주가 (9월 19일)	472,500 원

신한생각 전세계가 로열티 지불한다! 매출과 이익 성장폭 가장 클 기업

9월 20일 드디어 한국 바이오 역사상 최초로 국내 플랫폼이 전세계 매출 1위 블록버스터 의약품에 장착되어 FDA로부터 승인 획득. 당초 예정된 일정보다 3일 빠른 결정으로 출시도 10월 1일 아닌 9월 말. 유럽도 내년 상반기에서 반기 빨라진 4분기 승인 예정으로 전세계 승인도 마무리 수순

3주·6주 간격의 모든 용량 및 모든 적응증 승인으로 서프라이즈

머크/알테오젠 공동개발 제품명은 '키트루다 Qlex'로 출시. BMS/할로자임 옵디보SC 5분, 로슈/할로자임 티쎈트릭 7분 대비 가장 빠른 1~2분 투여. 티쎈트릭SC는 7분 걸림에도 영국 출시 9개월만에 32% SC:*로 전환 성공

머크의 2년 내 30~40% 시장 SC 전환은 보수적 목표로 판단. IV*3주 제형과 6주 제형 동시 승인된 것 또한 서프라이즈. 투여 6주 간격은 SC 제형 중 유일. BMS 옵디보는 2~4주, 로슈 티쎈트릭은 3주 간격만 SC 승인

19일 유럽 CHMP*승인 권고 발표하며 유럽도 4분기 승인 유력. 키트루다IV가 가진 모든 적응증에 대해 키트루다SC를 승인한 것은 서프라이즈. 빠른 SC 교체위해 중요했던 2가지 용량 및 모든 적응증 승인 완료

Valuation & Risk: 지금까지 이런 속도는 없었다. 머크는 목숨거는 중

21년 10월 임상 개시 후 부터 승인까지 만 4년이라는 유례없는 속도로 머크는 사활을 걸고 진행 중. 이번 3분기 중 FDA 승인에 따른 수백억원 단계별 마일스톤 인식 공시도 예상. 첫 판매 마일스톤은 동사 4분기 실적에 바로 인식. KOSPI 이전 위한 모든 조건 마련. 빅파마와 연내 1~2건 기술이전 목표 유지 중으로 이번 FDA 승인 여부가 계약 상대의 마지막 의사결정 요소여서 지금까지 발표 없었다고 본다면 곧 L/O 공시도 기대 가능

12월 결산	매출액 (십억원)	영업이익 (십억원)	지배순이익 (십억원)	PER (배)	ROE (%)	PBR (배)	EV/EBITDA (배)	DY (%)
2023	96.5	(9.7)	(3.4)	-	(2.3)	35.3	-	-
2024	102.9	25.4	62.3	264.2	29.5	60.3	581.2	-
2025F	220.7	110.4	25.0	1,014.8	8.7	85.1	222.4	-
2026F	593.2	445.0	566.0	44.9	97.3	29.4	55.0	-
2027F	784.8	605.2	805.0	31.6	63.5	15.2	39.2	-

자료: 회사 자료, 신한투자증권

[제약/바이오]

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Revision	
실적추정치	유지
Valuation	유지

시가총액	25,262.2 십억원
발행주식수(유동비율)	53.5 백만주(79.6%)
52주 최고가/최저가	493,000 원/277,000 원
일평균 거래액 (60 일)	161,994 백만원
외국인 지분율	14.0%
주요주주 (%)	
박순재 외 4 인	20.4
형인우 외 2 인	5.1

수익률 (%)	1M	3M	12M	YTD
절대	10.7	22.1	35.0	57.5
상대	1.0	10.7	15.7	25.3

주가

* SC: 피하주사 제형, 투여 시간이 짧고 환자 편의성이 높음

* IV: 정맥주사 제형, 혈관 직접 투여 방식으로 기존 항암제/면역항암제의 투여 방식

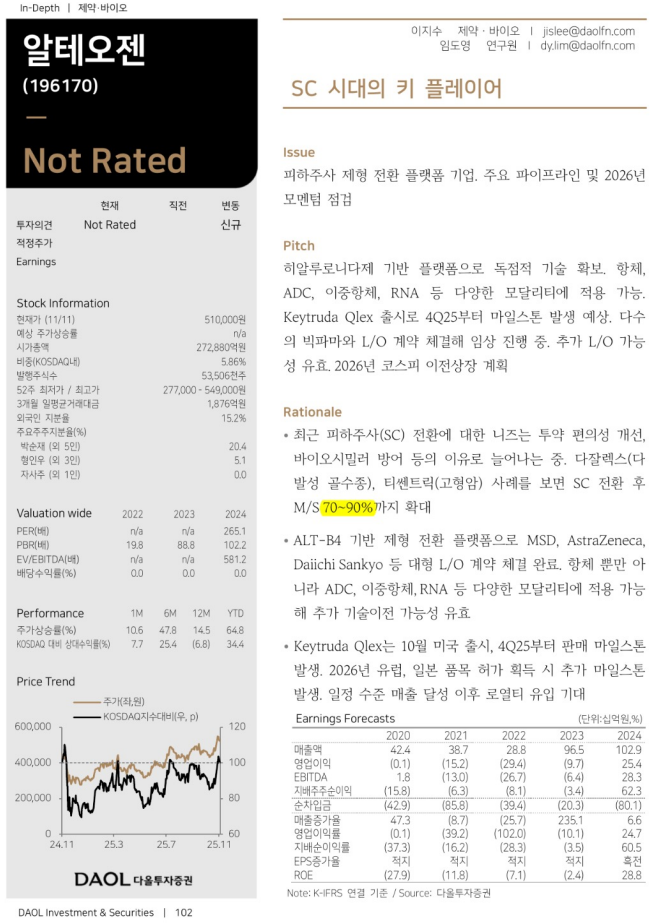
* CHMP: 유럽의약품청(EMA) 산하 인체용 의약품위원회, 신약 승인 여부 검토 및 권고 역할 수행

신한 Premier 리서치 | 기업분석부

신한투자증권

EN: Shinhan: cites "Tecentriq SC 32% conversion in the UK in 9 months" and calls Merck's 30-40% IV-to-SC goal within 2 years "conservative."

"Conservative conversion" claims – Daol: SC conversion examples imply market-share uplift to 70-90%



In-Depth | 제약·바이오

알테오젠
(196170)

Not Rated

	현재	직전	변동
투자의견	Not Rated		신규
적정주가			
Earnings			

Stock Information

현재가 (11/11)	510,000원
예상 주가상승률	n/a
시가총액	272,880억원
비중(KOSDAQ내)	5.86%
발행주식수	53,506천주
52주 최저가 / 최고가	277,000 - 549,000원
3개월 일평균거래대금	1,876억원
외국인 지분율	15.2%
주요주주지분율(%)	
박순재 (외 5인)	20.4
형인우 (외 3인)	5.1
자사주 (외 1인)	0.0

Valuation wide

	2022	2023	2024
PER(배)	n/a	n/a	265.1
PBR(배)	19.8	88.8	102.2
EV/EBITDA(배)	n/a	n/a	581.2
배당수익률(%)	0.0	0.0	0.0

Performance

	1M	6M	12M	YTD
주가상승률(%)	10.6	47.8	14.5	64.8
KOSDAQ 대비 상대수익률(%)	7.7	25.4	(6.8)	34.4

Price Trend

DAOL 다올투자증권

이지수 제약·바이오 | jslee@daolfn.com
임도영 연구원 | dy.lim@daolfn.com

SC 시대의 키 플레이어

Issue

피하주사 제형 전환 플랫폼 기업. 주요 파이프라인 및 2026년 모멘텀 점검

Pitch

히알루로니다제 기반 플랫폼으로 독점적 기술 확보. 항체, ADC, 이중항체, RNA 등 다양한 모달리티에 적용 가능. Keytruda Qlex 출시로 4Q25부터 마일스톤 발생 예상. 다수의 빅파마와 L/O 계약 체결해 임상 진행 중. 추가 L/O 가능성 유효. 2026년 코스피 이전상장 계획

Rationale

- 최근 피하주사(SC) 전환에 대한 니즈는 투약 편의성 개선, 바이오시밀러 방어 등의 이유로 늘어나는 중. 다잘렉스(다발성 골수종), 티쎈트릭(고형암) 사례를 보면 SC 전환 후 M/S 70~90%까지 확대
- ALT-B4 기반 제형 전환 플랫폼으로 MSD, AstraZeneca, Daiichi Sankyo 등 대형 L/O 계약 체결 완료. 항체 뿐만 아니라 ADC, 이중항체, RNA 등 다양한 모달리티에 적용 가능해 추가 기술이전 가능성 유효
- Keytruda Qlex는 10월 미국 출시, 4Q25부터 판매 마일스톤 발생. 2026년 유럽, 일본 품목 허가 획득 시 추가 마일스톤 발생. 일정 수준 매출 달성 이후 로열티 유입 기대

Earnings Forecasts (단위:십억원,%)

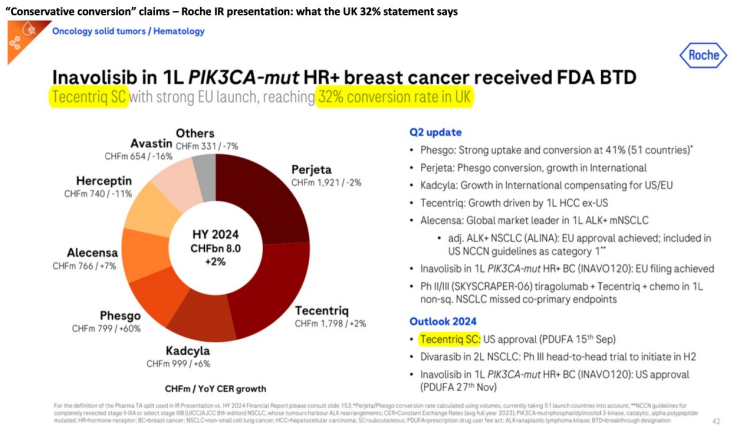
	2020	2021	2022	2023	2024
매출액	42.4	38.7	28.8	96.5	102.9
영업이익	(0.1)	(15.2)	(29.4)	(9.7)	25.4
EBITDA	1.8	(13.0)	(26.7)	(6.4)	28.3
지배주주순이익	(15.8)	(6.3)	(8.1)	(3.4)	62.3
순차입금	(42.9)	(85.8)	(39.4)	(20.3)	(80.1)
매출증가율	47.3	(8.7)	(25.7)	235.1	6.6
영업이익률	(0.1)	(39.2)	(102.0)	(10.1)	24.7
지배순이익률	(37.3)	(16.2)	(28.3)	(3.5)	60.5
EPS증가율	적지	적지	적지	적지	흑전
ROE	(27.9)	(11.8)	(7.1)	(2.4)	28.8

Note: K-IFRS 연결 기준 / Source: 다올투자증권

DAOL Investment & Securities | 102

EN: Daol: states market share can expand to 70-90% after switching to SC formulations (selected examples).

"Conservative conversion" claims – Roche IR presentation: what the UK 32% statement says



Oncology solid tumors / Hematology

Roche

Inavolisib in 1L *PIK3CA-mut* HR+ breast cancer received FDA BTD

Tecentriq SC with strong EU launch, reaching 32% conversion rate in UK

CHFm / YoY CER growth

Q2 update

- Phesgo: Strong uptake and conversion at 41% (51 countries)*
- Perjeta: Phesgo conversion, growth in International
- Kadcyla: Growth in International compensating for US/EU
- Tecentriq: Growth driven by 1L HCC ex-US
- Alecensa: Global market leader in 1L ALK+ mNSCLC
  - adj. ALK+ NSCLC (ALINA): EU approval achieved; included in US NCCN guidelines as category 1**
- Inavolisib in 1L *PIK3CA-mut* HR+ BC (INAVO120): EU filing achieved
- Ph II/III (SKYSCRAPER-06) tiragolumab + Tecentriq + chemo in 1L non-sq. NSCLC missed co-primary endpoints

Outlook 2024

- Tecentriq SC: US approval (PDUFA 15th Sep)
- Divarasib in 2L NSCLC: Ph III head-to-head trial to initiate in H2
- Inavolisib in 1L *PIK3CA-mut* HR+ BC (INAVO120): US approval (PDUFA 27th Nov)

For the definition of the Pharma TA split used in IR Presentation vs. HY 2024 Financial Report please consult slide 163.*Perjeta/Phesgo conversion rate calculated using volumes, currently taking 51 launch countries into account; **NCCN guidelines for completely resected stage II-IIIA or select stage IIIB (UCCIA,JCC 8th edition) NSCLC, whose tumours harbour ALK rearrangements; CER=Constant Exchange Rates (avg full year 2023); PIK3CA-mut=phosphatidylinositol 3-kinase, catalytic, alpha polypeptide mutated; HR=hormone receptor; BC=breast cancer; NSCLC=non-small cell lung cancer; HCC=hepatocellular carcinoma; SC=subcutaneous; PDUFA=prescription drug user fee act; ALK+=anaplastic lymphoma kinase; BTD=breakthrough designation

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Roche IR: "Tecentriq SC reaching a 32% conversion rate in the UK."

How Asian Equity Research Reports Inflate the Valuation

Misrepresentation of Halozyme patent lawsuit current status

"Risk resolved" via PGR – Kyobo: risk existed but was resolved via PGR initiation

제약/바이오
믿음, 소망, 바이오 2025/10/15

알테오젠 196170

글로벌 기업으로 가는 길 Oct 15, 2025

Buy 신규

TP 620,000 원 신규

Company Data

현재가(10/14)	446,000 원
액면가(원)	500 원
52 주 최고가(보통주)	507,000 원
52 주 최저가(보통주)	277,000 원
KOSPI (10/14)	3,561.81p
KOSDAQ (10/14)	847.96p
자본금	267 억원
시가총액	238,636 억원
발행주식수(보통주)	5,351 만주
발행주식수(우선주)	43 만주
평균거래량(60 일)	39.3 만주
평균거래대금(60 일)	1,874 억원
외국인지분율(보통주)	13.33%
주요주주	
박순재 외 4 인	20.38%
한민우 외 2 인	5.09%

Price & Relative Performance

주가수익률(%)	1 개월	6 개월	12 개월
절대주가	-9.3	15.2	17.8
상대주가	-9.4	-3.6	7.0

ALT-B4의 확장은 어디까지인가

히알루로니다제 플랫폼을 활용해 비피마 3곳 (머크, 아스트라제네카, 다이이치산쿄)와의 기술이전 계약을 체결하고 있는 바이오텍. 1) 투약 편의성 개선, 2) IRA 약가 협상 회피, 3) 바이오시밀러 진입 방어 전략의 강력한 당위성 및 특허 이점을 보유하고 있어 향후 지속적인 딜이 기대. 면역관문제제 및 자가면역질환 항체 치료제뿐 아니라 ADC까지 제형 전환을 필요로 하는 시장이 지속 확대되고 있는 점이 고무적. 기출시된 제품의 단순 제형 전환을 넘어서 1) 임상 중인 약물들이 덜에 포함되고 있는 점, 2) SC 제형으로 출시된 제품을 개발 중인 물질과 병용 요법으로 신규 임상 개시하는 등 플랫폼의 확장성 부각되는 시점

머크와의 키트루다 독점 계약 전환 후 기업 밸류 큰 폭으로 상승. 이후 머크-할로자임 특허 분쟁 및 IRA 약가 협상 대상 리스크 존재했으나 해당 내용 PGR 개시 및 최종 IRA 가이드라인을 통해 해소된 상황. 회사는 연내 추가 기술 이전에 대한 목표 유지. 2026년 코스피 이전 상장 요건 확득 가능할 것으로 추정. 머크 Keytruda Qlex 미국 내 출시 완료, 유럽 허가도 임박. 2028년 기준 알테오젠의 키트루다발 로열티 매출 약 1조 59억원으로 추정. 연내 기술이전 및 코스피 이전 모멘텀, 키트루다 SC 제형 출시에 따른 마일스톤 수취까지 예상되며 여전히 투자 매력도 높다고 판단

투자의견 매수 및 목표주가 620,000원으로 커버리지 개시

알테오젠을 투자의견 '매수' 및 목표주가 620,000원으로 커버리지 개시. 코스피 이전, 기술이전 모멘텀 유효하다고 판단. 리스크였던 특허 분쟁, IRA 약가 인하 회피 대상 제외 내용도 해결되어 가는 모습. 내년 상반기까지 예정되어 있는 이벤트로 바이오 섹터 전반의 투자 매력도를 이끌어갈 대장주

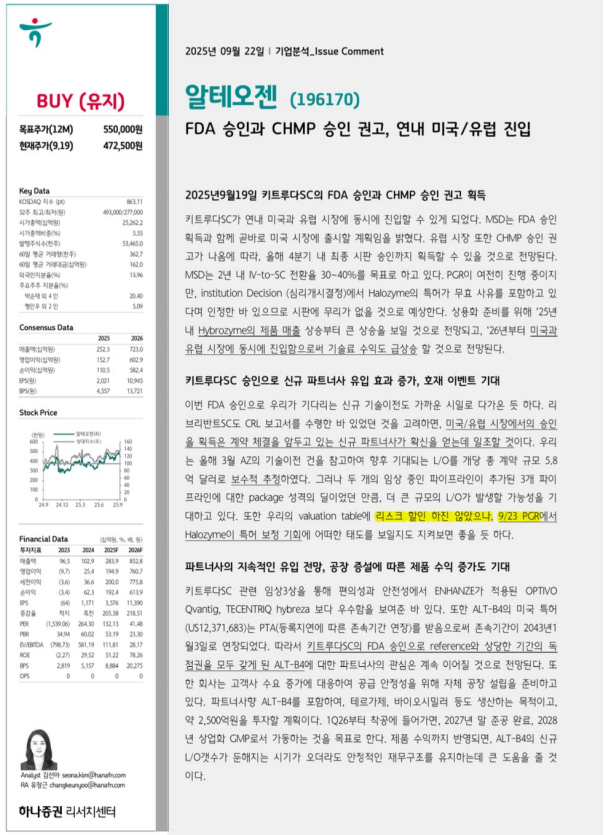
Forecast earnings & Valuation

12 월 산 (십억원)	2023.12	2024.12	2025.12E	2026.12E	2027.12E
순이자이익	97	103	110	132	158
비이자부문이익	235.1	6.6	6.6	20.0	20.0
영업이익	-10	25	27	33	40
세전이익	-10.3	24.3	24.5	25.0	25.3
지배주주순이익	-4	61	60	74	92
환기율(%)	-65	1,171	1,149	1,427	1,762
ROA(%)	적지	흑전	-1.9	24.2	23.5
ROE(%)	-1,509.9	264.2	386.4	311.1	251.9
EPS(원)	-4,509.8	450.7	702.5	608.0	519.7
BPS(원)	35.3	60.3	71.4	58.2	47.3
PER(배)	-785.7	577.9	809.7	686.5	574.9
PBR(배)	-2.3	29.5	20.2	20.4	20.5

KYOBO Securities 25 Research Center

EN: Kyobo: "There were risks related to the patent dispute and IRA price negotiation, but these have been alleviated as the PGR was initiated."

"Risk resolved" via PGR – Hana: risk not fully confirmed; watch Halozyme stance around 9/23 PGR



BUY (유지)

목표주가(12M) 550,000원
현재주가(9.19) 472,500원

Key Data

KOSDAQ 지수 (pt)	863.11
52주 최고/최저(원)	493,000/277,000
시가총액(십억원)	25,262.2
시가총액비중(%)	5.55
발행주식수(천주)	53,465.0
60일 평균 거래량(천주)	362.7
60일 평균 거래대금(십억원)	162.0
외국인지분율(%)	13.96
주요주주 지분율(%)	
박순재 외 4 인	20.40
한민우 외 2 인	5.09

Consensus Data

	2025	2026
매출액(십억원)	252.3	723.0
영업이익(십억원)	152.7	602.9
순이익(십억원)	110.5	582.4
EPS(원)	2,021	10,945
BPS(원)	4,557	13,721

Stock Price

Financial Data

투자지표	2023	2024	2025F	2026F
매출액	96.5	102.9	283.9	852.8
영업이익	(9.7)	25.4	194.9	760.7
세전이익	(3.6)	36.6	200.0	775.8
순이익	(3.4)	62.3	192.4	613.9
EPS	(64)	1,171	3,576	11,390
증감율	적지	흑전	205.38	218.51
PER	(1,539.06)	264.30	132.13	41.48
PBR	34.94	60.02	33.19	23.30
EV/EBITDA	(796.73)	581.19	111.81	28.17
ROE	(2.27)	29.52	51.22	78.26
BPS	2,819	5,157	8,884	20,275
DPS	0	0	0	0

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하나증권 리서치센터

2025년 09월 22일 | 기업분석_Issue Comment

알테오젠 (196170)

FDA 승인과 CHMP 승인 권고, 연내 미국/유럽 진입

2025년9월19일 키트루다SC의 FDA 승인과 CHMP 승인 권고 획득

키트루다SC가 연내 미국과 유럽 시장에 동시에 진입할 수 있게 되었다. MSD는 FDA 승인 획득과 함께 곧바로 미국 시장에 출시할 계획임을 밝혔다. 유럽 시장 또한 CHMP 승인 권고가 나옴에 따라, 올해 4분기 내 최종 시판 승인까지 획득할 수 있을 것으로 전망된다. MSD는 2년 내 IV-to-SC 전환을 30~40%를 목표로 하고 있다. PGR이 여전히 진행 중이지만, institution Decision (심리개시결정)에서 Halozyme의 특허가 무효 사유를 포함하고 있다며 인정한 바 있으므로 시판에 무리가 없을 것으로 예상한다. 상용화 준비를 위해 '25년 내 Hybrozyme의 제품 매출 상승부터 큰 상승을 보일 것으로 전망되고, '26년부터 미국과 유럽 시장에 동시에 진입함으로써 기술료 수익도 급상승 할 것으로 전망된다.

키트루다SC 승인으로 신규 파트너사 유입 효과 증가, 호재 이벤트 기대

이번 FDA 승인으로 우리가 기다리는 신규 기술이전도 가까운 시일로 다가온 듯 하다. 리브리반트SC도 CRL 보고서를 수령한 바 있었던 것을 고려하면, 미국/유럽 시장에서의 승인을 확득은 계약 체결을 앞두고 있는 신규 파트너사가 확신을 얻는데 일조할 것이다. 우리는 올해 3월 AZ의 기술이전 건을 참고하여 향후 기대되는 L/O를 개당 총 계약 규모 5.8억 달러로 보수적 추정하였다. 그러나 두 개의 임상 중인 파이프라인이 추가된 3개 파이프라인에 대한 package 성격의 딜이었던 만큼, 더 큰 규모의 L/O가 발생할 가능성을 기대하고 있다. 또한 우리의 valuation table에 리스크 할인 하진 않았으나, 9/23 PGR에서 Halozyme이 특허 보정 기회에 어떠한 태도를 보일지도 지켜보면 좋을 듯 하다.

파트너사의 지속적인 유입 전망, 공장 증설에 따른 제품 수익 증가도 기대

키트루다SC 관련 임상3상을 통해 편의성과 안전성에서 ENHANZE가 적용된 OPTIVO Qvantig, TECENTRIQ hybreza 보다 우수함을 보여준 바 있다. 또한 ALT-B4의 미국 특허(US12,371,683)는 PTA(등록지연에 따른 존속기간 연장)를 받음으로써 존속기간이 2043년1월3일로 연장되었다. 따라서 키트루다SC의 FDA 승인으로 reference와 상당한 기간의 독점권을 모두 갖게 된 ALT-B4에 대한 파트너사의 관심은 계속 이어질 것으로 전망된다. 또한 회사는 고객사 수요 증가에 대응하여 공급 안정성을 위해 자체 공장 설립을 준비하고 있다. 파트너사향 ALT-B4를 포함하여, 테르가제, 바이오시밀러 등도 생산하는 목적이고, 약 2,500억원을 투자할 계획이다. 1Q26부터 착공에 들어가면, 2027년 말 준공 완료, 2028년 상업화 GMP로서 가동하는 것을 목표로 한다. 제품 수익까지 반영되면, ALT-B4의 신규 L/O갯수가 둔해지는 시기가 오더라도 안정적인 재무구조를 유지하는데 큰 도움을 줄 것이다.

EN: Hana: writes the risk has not been fully confirmed; suggests watching Halozyme's stance around the 9/23 PGR event.

"Risk resolved" via PGR – Merck filing: 15 patents asserted; 12 in PGR; 3 outside PGR

Notes to Condensed Consolidated Financial Statements (unaudited) (continued)

the U.S. until May 2026 and *Janumet XR* will not lose market exclusivity in the U.S. until July 2026, although Zydus has received FDA approval for a non-automatically substitutable form of sitagliptin that differs from the form in the Company's sitagliptin products.

In March 2024, the Company received another Paragraph IV Certification Letter under the Hatch-Waxman Act from Azurity Pharmaceuticals, Inc. (Azurity) asserting that a different sitagliptin product subject to its ANDA does not infringe the salt/polymorph patent. In May 2024, Merck filed a civil action in the U.S. District Court of Delaware alleging infringement. The case was dismissed without prejudice in July 2024. Following the dismissal, the Company granted Azurity a covenant not to assert the salt/polymorph patent against the Azurity product that is the subject of such ANDA.

Supplementary Protection Certificates (SPCs) for *Janumet* expired in April 2023 for the majority of European countries. Prior to expiration, generic companies sought revocation of the *Janumet* SPCs in a number of European countries. In February 2022, a Finnish court referred certain questions to the Court of Justice of the European Union that could impact the validity of the *Janumet* SPCs in Europe. A decision rendered in December 2024 provides guidance on points of law and does not directly apply to the *Janumet* SPCs. Thus, additional proceedings in certain countries where generic companies were prevented from launching products during the SPC period may be necessary to determine whether the SPCs are valid and if not, whether damages are appropriate. Those countries include Belgium, Czech Republic, Finland, and France. If the *Janumet* SPCs are ultimately upheld, the Company has reserved its rights related to the pursuit of damages for those countries where a generic launched prior to expiry of the *Janumet* SPC.

In October 2023, the Company filed a patent infringement lawsuit against Sawai Pharmaceuticals Co., Ltd. and Medisa Shinyaku Co., Ltd (collectively, Defendants) in the Tokyo District Court seeking an injunction to stop the manufacture, sale and offer for sale of the Defendants' sitagliptin dihydrogen phosphate product, while the Company's patents and patent term extensions are in force. The lawsuit is in response to the Defendants' application for marketing authorization to sell a generic sitagliptin dihydrogen phosphate product, in the anhydrate form, which was approved in August 2023. Merck asserts that the Defendants' activity infringes a patent term extension associated with Merck's patent directed to the sitagliptin compound patent.

Keytruda — As previously disclosed, in November 2022, the Company filed a complaint against The Johns Hopkins University (JHU) in the U.S. District Court of Maryland. This action concerns a joint research collaboration between Merck and JHU regarding the use of *Keytruda* in certain indications. Merck and JHU partnered to design and conduct a clinical study administering *Keytruda* to cancer patients having tumors that had the genetic biomarker known as microsatellite instability-high (MSI-H) (the Joint Clinical Study). Subsequently JHU obtained a number of U.S. patents specifically relying on the Joint Clinical Study. Merck alleges that JHU breached the collaboration agreement by obtaining issuance of these patents without informing or involving Merck, which were licensed to others, and then trying to enforce these patents against Merck. Merck therefore brought an action for breach of contract, declaratory judgment of noninfringement, and promissory estoppel. JHU answered the complaint in April and May 2023, denying Merck's claims, and counterclaiming for willful infringement of nine issued U.S. patents, including a demand for damages. Between November 30, 2023, and March 13, 2024, the Company filed *inter partes* review petitions with the United States Patent Office's Patent Trial and Appeal Board (PTAB), challenging the patentability of all nine patents asserted in the district court. Between June 2024 and October 2024, the PTAB instituted a review of all nine challenged patents. In June 2024, the district court granted Merck's motion to stay the case in its entirety pending the outcome of the PTAB proceeding instituted in June 2024.

Between June and October of 2025, the PTAB issued Final Written Decisions finding all claims of the first six patents challenged unpatentable. JHU has filed notices of appeal to the Federal Circuit Court of Appeals for two of the patents invalidated by the PTAB. Director Review Requests and/or Appeals are still possible for the four additional patents invalidated by the PTAB. The remaining three patents are expected to have Final Written Decisions issued by the PTAB in mid to late November 2025. The district court's stay is expected to continue until at least the issuance of Final Written Decisions for the three remaining patents.

Subcutaneous Pembrolizumab — Halozyme, Inc. has publicly alleged that certain patents in its modified hyaluronidase (MDASE) portfolio cover an ingredient in the Company's subcutaneous pembrolizumab product. In November 2024, the Company began filing a series of post grant review (PGR) petitions before the PTAB alleging that certain patents in the MDASE portfolio are invalid. On June 2, 2025, the PTAB instituted the first petition filed by the Company. Since then, the PTAB also instituted ten additional petitions. Institution decisions on three additional patents in the MDASE portfolio are still pending.

On April 24, 2025, Halozyme, Inc. filed a complaint in the U.S. District Court for the District of New Jersey alleging that the Company's activities related to subcutaneous pembrolizumab infringe or will infringe 15 patents belonging to the MDASE portfolio, 12 of which are the subject of the Company's already filed PGR petitions. Although there are three patents that were not and cannot be challenged using the PGR process, the Company believes those patents are invalid and suffer from the same defects as the patents currently being challenged and those patents can be challenged in court proceedings if required.

Between August and September 2025, the Company filed revocation actions against EP Patent No. 2 797 622 (the '622 patent) owned by Halozyme, Inc. in the UK, France, Germany and The Netherlands. Halozyme, Inc. counterclaimed for an injunction in the UK under the '622 patent as well as an additional patent but have undertaken not to enforce any injunction there until the validity of both patents, which is in dispute, is finally determined. On October 2, 2025, the Company accepted service of a preliminary injunction filed by Halozyme, Inc. under the '622 patent in Germany. A preliminary injunction hearing is scheduled to occur on December 4, 2025.

Merck: Halozyme suit alleges infringement of 15 patents; 12 are subject to Merck's PGR petitions and 3 are outside PGR.

How Asian Equity Research Reports Inflate the Valuation

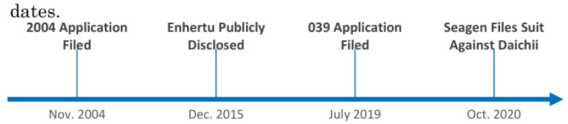
Assumptions are based on the data that has no connection to Alteogen's actual partnerships or contradicts with them

Footnote – CAFC: district court award of 8% running royalty (Enhertu case)

Case: 23-2424 Document: 72 Page: 8 Filed: 12/02/2025

8 SEAGEN INC. v. DAIICHI SANKYO COMPANY, LTD.

The below timeline illustrates the key events and dates.



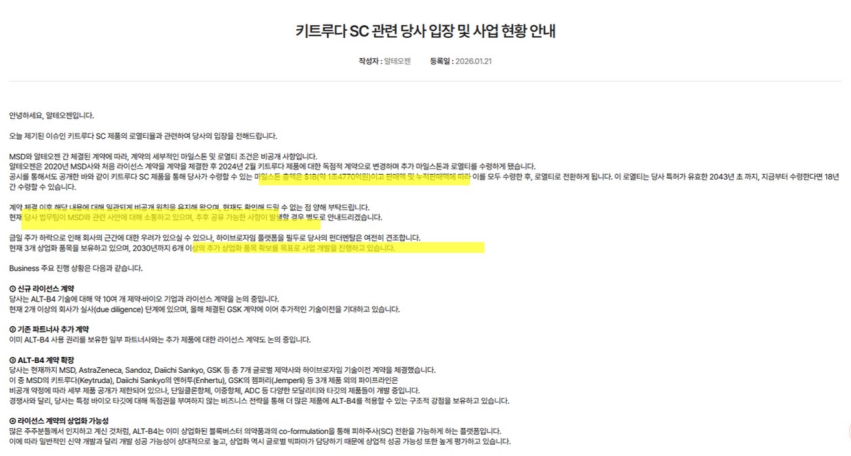
At the conclusion of a five-day trial, the jury reached a verdict in Seagen's favor, finding that (1) Daichii failed to prove any of the asserted claims were invalid, (2) Seagen proved Daichii's Enhertu infringed at least one of the asserted claims and that such infringement was willful, and (3) Seagen proved Daichii owed an upfront royalty of $41,820,000 (based on Daichii's net revenue during the period of infringement) and an 8% running royalty. J.A. 53–60. Daichii moved for JMOL, arguing, in relevant part, that (1) the claims were not supported by a sufficient written description, (2) the claims were not enabled, and (3) there was not a logical nexus between the licenses relied upon by Seagen's damages expert and the hypothetical negotiation between Seagen and Daichii in arriving at the 8% royalty rate. J.A. 2134–65, 2191–96. The district court denied Daichii's motion for JMOL, J.A. 32–49, and entered final judgment. J.A. 50–52.

Daichii timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

In January 2024, in the separate PGR proceeding, the Board issued a final written decision holding the claims asserted in the district court litigation unpatentable on the same grounds asserted by Daichii in the district court case. *Daiichi*, No. PGR2021-00030, Paper 57. Seagen has appealed the Board's decision to this court, which has been designated as a companion case to the instant appeal, and which we dismiss as moot in a separate decision. *See Seagen Inc. v Daichii Sankyo, Inc.* No. 24-1878, slip. op. at 3 (Fed. Cir. 2025).

CAFC: notes the district court awarded an 8% running royalty.

Alteogen press release: Keytruda SC royalties



키트루다 SC 관련 당사 입장 및 사업 현황 안내

작성자 : 알테오젠 등록일 : 2026.01.21

안녕하세요, 알테오젠입니다.

오늘 제기된 이슈인 키트루다 SC 제품의 로열티율과 관련하여 당사의 입장을 전해드립니다.

MSD와 알테오젠 간 체결된 계약에 따라, 계약의 세부적인 마일스톤 및 로열티 조건은 비공개 사항입니다.
알테오젠은 2020년 MSD사와 처음 라이선스 계약을 체결한 후 2024년 2월 키트루다 제품에 대한 독점적 계약으로 변경하며 추가 마일스톤과 로열티를 수령하게 됐습니다.
공시를 통해서도 공개한 바와 같이 키트루다 SC 제품을 통해 당사가 수령할 수 있는 마일스톤 총액은 1조 477억원이라고 판매액 및 누적판매액에 따라 이를 모두 수령한 후, 로열티로 전환하게 됩니다. 이 로열티는 당사 특허가 유효한 2043년 초 까지, 지금부터 수령한다면 18년 간 수령할 수 있습니다.

계약 체결 이후 해당 내용에 대해 일관되게 비공개 원칙을 요지해 왔으며, 현재도 확인해 드릴 수 없는 점 양해 부탁드립니다.
현재 당사 법무팀이 MSD와 관련 사안에 대해 소통하고 있으며, 추후 공유 가능한 사항이 발생할 경우 별도로 안내드리겠습니다.

금일 주가 하락으로 인해 회사의 근간에 대한 우려가 있으실 수 있으나, 하이브로자입 플랫폼을 필두로 당사의 펀더멘탈은 여전히 견조합니다.
현재 3개 상업화 품목을 보유하고 있으며, 2030년까지 6개 이상의 추가 상업화 품목 확보를 목표로 사업 개발을 진행하고 있습니다.

Business 주요 진행 상황은 다음과 같습니다.

⊙ 신규 라이선스 계약
당사는 ALT-B4 기술에 대해 약 10여 개 제약·바이오 기업과 라이선스 계약을 논의 중입니다.
현재 2개 이상의 회사가 실사(due diligence) 단계에 있으며, 올해 체결된 GSK 계약에 이어 추가적인 기술이전을 기대하고 있습니다.

⊙ 기존 파트너사 추가 계약
이미 ALT-B4 사용 권리를 보유한 일부 파트너사와는 추가 제품에 대한 라이선스 계약도 논의 중입니다.

⊙ ALT-B4 계약 확장
당사는 현재까지 MSD, AstraZeneca, Sandoz, Daiichi Sankyo, GSK 등 총 7개 글로벌 제약사와 하이브로자입 기술이전 계약을 체결했습니다.
이 중 MSD의 키트루다(Keytruda), Daiichi Sankyo의 엔허투(Enhertu), GSK의 젬퍼리(Jemperli) 등 3개 제품 외의 파이프라인은
비공개 약정에 따라 세부 제품 공개가 제한되어 있으나, 단일클론항체, 이중항체, ADC 등 다양한 모달리티와 타깃의 제품들이 개발 중입니다.
경쟁사와 달리, 당사는 특정 바이오 타깃에 대해 독점권을 부여하지 않는 비즈니스 전략을 통해 더 많은 제품에 ALT-B4를 적용할 수 있는 구조적 강점을 보유하고 있습니다.

⊙ 라이선스 계약의 상업화 가능성
많은 주주분들께서 인지하고 계신 것처럼, ALT-B4는 이미 상업화된 블록버스터 의약품과의 co-formulation을 통해 피하주사(SC) 전환을 가능하게 하는 플랫폼입니다.
이에 따라 일반적인 신약 개발과 달리 개발 성공 가능성이 상대적으로 높고, 상업화 역시 글로벌 빅파마가 담당하기 때문에 상업적 성공 가능성 또한 높게 평가하고 있습니다.

EN: Alteogen press release:

- Milestones: Total potential milestones from Keytruda SC are $1B (about KRW 1.477T), after which payments convert to royalties based on sales / cumulative sales.
- Confidentiality: The company has consistently maintained a policy of confidentiality on detailed milestone and royalty terms and cannot provide further confirmation at this time.
- Legal: The company's legal team is currently communicating with MSD regarding the matter.
- Commercialization: The company is currently targeting 6+ additional commercialized products by 2030.

of sales-based milestone payments from Merck to Alteogen. Accordingly, in the third quarter of 2025, Merck recorded a $705 million liability for these regulatory and sales-based milestone payments and a corresponding intangible asset related to *Keytruda Qlex* included in *Other Intangibles, Net.* The intangible asset will be amortized over its estimated useful life through December 2030. The $25 million of regulatory milestone payments were made in October 2025; the future sales-based milestone payments will be paid upon achievement of the corresponding milestone.

Merck 25Q3 (05.11.25): recorded $705m liability for milestones to Alteogen