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London, UK

InnoLAMP™: A Scalable Microsphere Platform for Next-Generation Long-Acting Injectables

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G2GBIO

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Therapeutic Drug Use & Non-Adherence

Over 50% of the world's population takes more than one medication per day.

"Global Medicines Use in 2020" by IMS Institute for Healthcare Informatics.

☑ CivicScience data show 70% of U.S. adults taking at least one prescription medication per day.

(56% in 2019) (70% in 2023)

Ref. *"A Growing Number of Americans Report Taking Prescription Medications Daily" by Andrew Gallant, Jan 11, 2023*

Medication Nonadherence Comes at a High Cost for both Patients & Health Systems

World Health Organization

"More health benefits worldwide would result from improving adherence to existing treatments than developing any new medical treatment"

50% of the 3.2 billion annual prescriptions dispensed in the US are not taken as prescribed.

- Approximately 125,000 deaths per year in the US are linked to medication nonadherence.

Europe

50% of patients don't take their medications properly.

- approximately 200,000 premature deaths in EU

30~50% of prescribed medications are not taken as recommended in UK.

- Research shows that £500 million a year is being lost due to patients not taking their medicines properly.

At least 33% of Germans repeatedly fail to follow their doctor's recommendations regarding pharmacological treatments and only 25% of Germans describe themselves as fully adherent.

20% of patients don't even by prescribed medications in France.

- approximately 8,000 deaths per year & 1.1 million hospital days are linked to medication nonadherence.
- total cost estimated to be €19 billion each year.

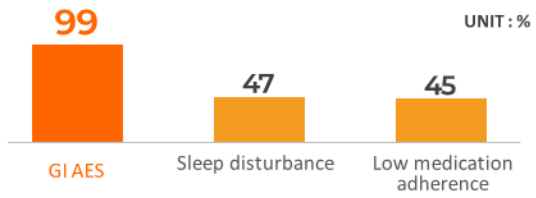
Ref. *"Medication nonadherence: Medicine's weakest link". Wolters Kluwer, Feb.2020*

Long-Acting Injectables (LAIs) = Improved Medication Adherence & Patient Convenience Compared to Existing Commercial Drugs

Relative to Existing Drugs Addressing Unmet Needs

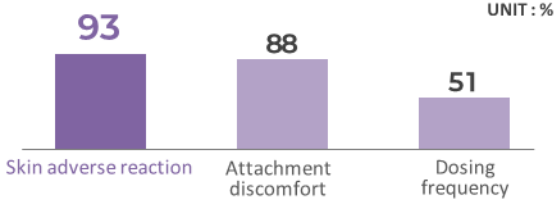
Oral

Unmet needs of donepezil tablet



Patch

Unmet needs of donepezil patch



LAIs'
Growing Demand

Relative to Existing Injectables Demanding High Medication Convenience

novo nordisk®

Executive Vice President, Development
(Martin Holst Lange)

"Once-monthly dosing is the most important factor in terms of convenience."

Lilly

Vice President
(Daniel M. Skovronsky)

"GLP-1 obesity treatments share the same mechanism of action. Therefore, I don't believe there will be further differentiation in terms of efficacy or weight loss."

"The key variable is half-life, and a longer half-life will be the most significant differentiator."

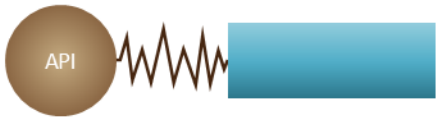
Sources : Korea Research, re-quoting media press release

Microsphere Technology = Long-Acting Technology, without Chemical Modification of API, Enabling Precise Drug Release Control and Fast Commercialization

Long-Acting Technology Comparison

Chemical Modification

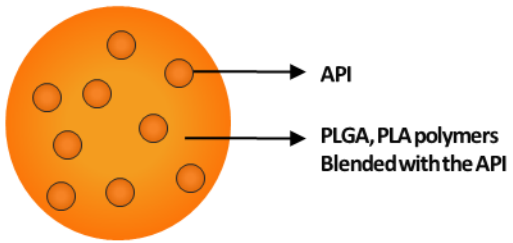
- New Drug
- Safety and Efficacy Proof Required
- Timeline and Cost Burden
- Limitations in Drug Release Rate and Duration Controls



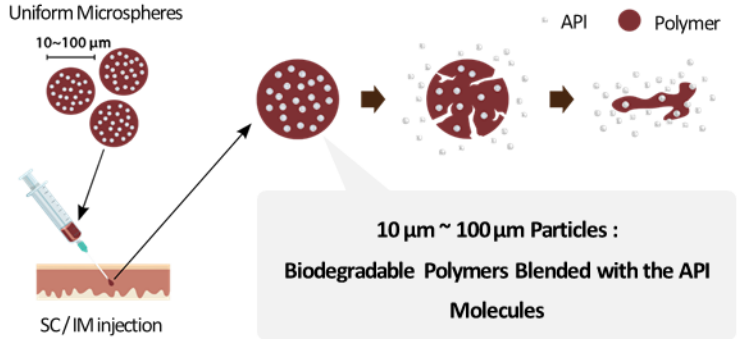
Lipid, PEG, Antibody, Fab, Fc, etc.
→ Conjugated to the API

No Chemical Modification

- Incrementally Modified Drug
- Safety/Efficacy Mostly Exempted
- Time and Cost Shortened
- Easy Control of Drug Release Rate and Duration



Microsphere Drug Release Mechanism



- Administered *via* Subcutaneous (SC) or Intramuscular (IM) Injections
- Drug Release Driven by Hydrolysis of Polymers

About G2GBIO

Good to Globe by Innovative Bio-therapeutics

Location
- HQ/R&D/GMP: Osong, S. Korea
- Clinical/BD: Seoul, S. Korea

Employees
- 52 (Dec 2025)

Patents
- Total 170
- 105 filed, 65 granted

Established: Mar 22, 2017
KOSDAQ listed (#456160): Aug 2025

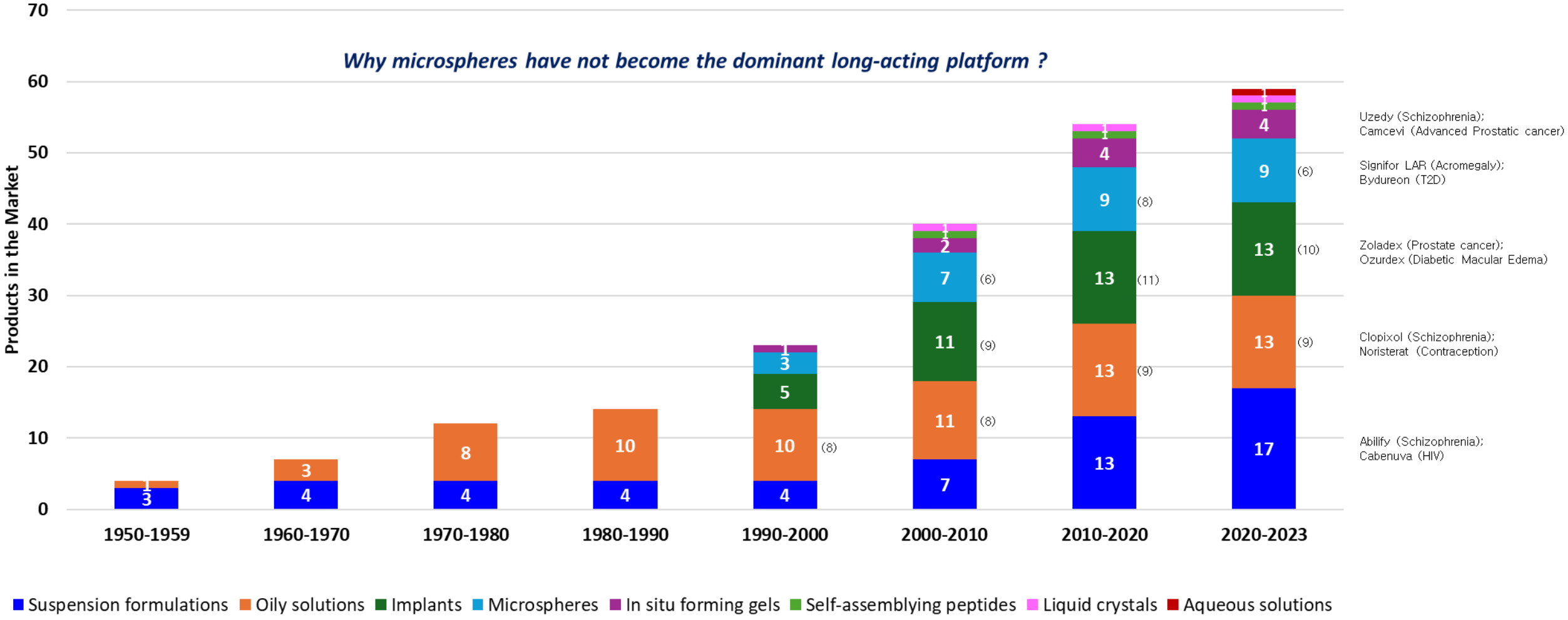
Key SR Injectable Experiences of Leadership Team

Commercialization
- Luphere Depot® (QM Leuprolide, Ultrasonic Spray Drying)
- Lorelin Depot® (QM Leuprolide, In Water Drying (Emulsion))

Clinical Experience
- SR-Exenatide (Q2W: P2)
- SR-Octreotide (QM: BE)
- SR-Leuprolide (QM: P4, Q3M: P3)
- SR-Goserelin (QM: P3)
- SR-Donepezil (QM: P1)
- SR-Ropivacaine (QW: P1)

Construction of GMP facility
- SR-hGH (cGMP/EUGMP)
- SR-Exenatide microsphere (EUGMP)

Landscape of LAI Formulations by Commercialized LAI Products Grouped by Formulation Platform



*Number in the brackets: # of marketed products, excluding products that have been retracted from the market.

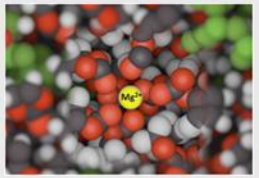
Ref. *Mol Pharm. 2024 Review article*

Technical Challenges for the Same and Similar Microsphere Technologies

1. *Difficulty developing mass production processes*.

Aseptic processing is essential

High Organic Solvent



- Cause premature drug leakage
- Broaden particle size distribution
- Altering microparticle properties

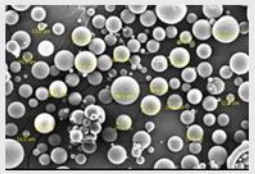
Cost & Quality

- High-cost equipment required at each step
- Challenging to maintain consistent product quality

Emulsification → **Removal Solvent** → **Sieving** → **Harvest** → **Freeze Drying, Pulverization** → **Powder Filling**

- ·Heterogeneity
- ·Unit production ↓
- ·Contamination risk ↑
- ·Contamination risk ↑
- ·Contamination risk ↑
- ·Contamination risk ↑
- ·Manufacturing cost ↑

High polydispersity



- Required sieving step due to wide particle size distribution
- Low yield rate

Complex Process

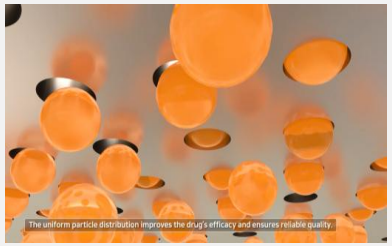
- High contamination risk
- Low collection& recovery rate

Key Features of InnoLAMP : ① Easy Mass Production

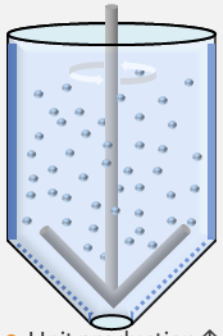
❖ ***Enables easy and reproductible mass production with low cost.***

High Barriers in Multi-step, Large-scale Manufacturing → **InnoLAMP: Simplified Process & Easy to Scale Up**

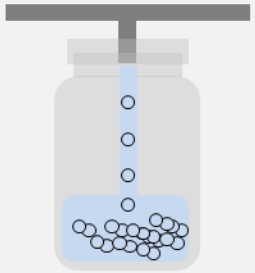
InnoLAMP Technology



- Monodisperse



- Unit production↑ (x5~20)



- Speed↑
- Cost↓
- Contamination risk↓

Emulsification → Solvent Removal → Suspension Filling & Drying

Monodisperse particle
Needle size↓, patient compliance ↑
High production yield

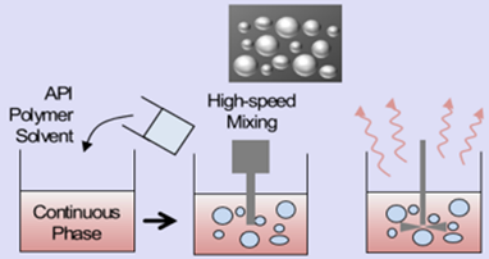
High unit production
Easy & reproducible mass production with low cost

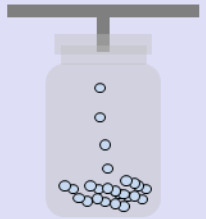
Simple process with improved filling step
High sterility assurance & Low construction cost

Conventional Technology

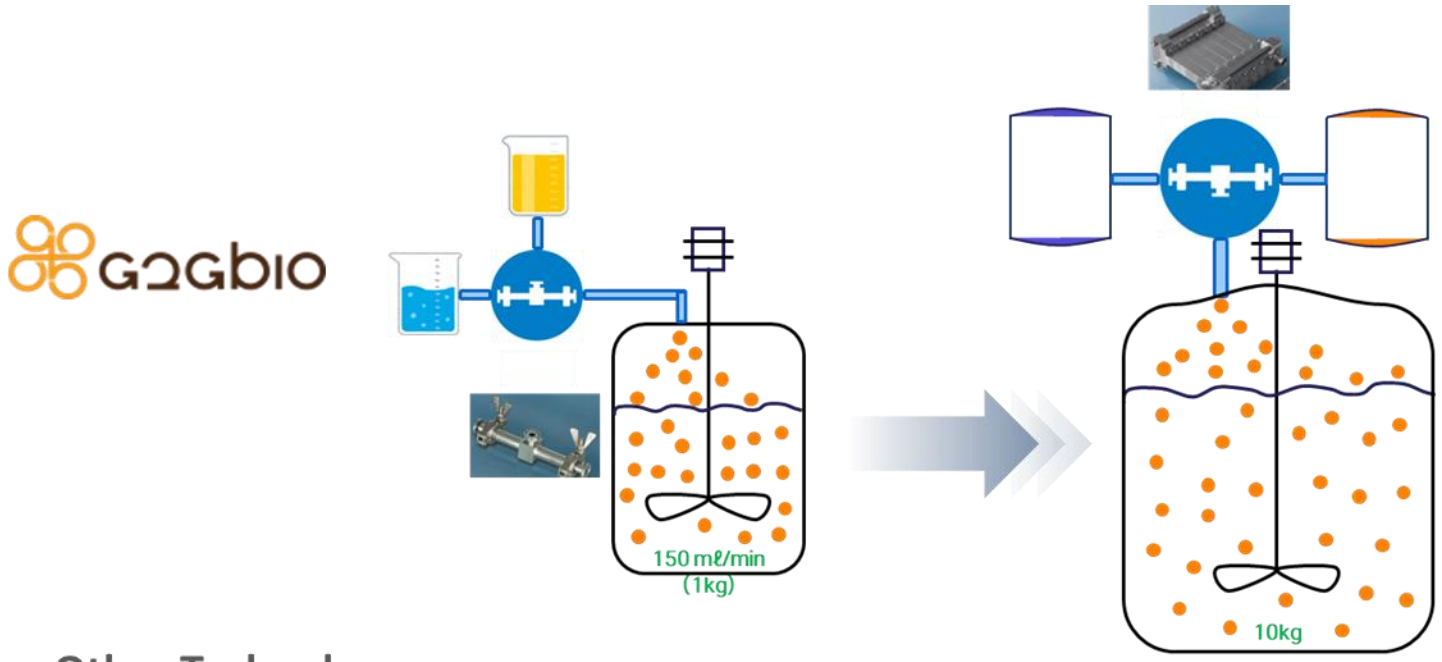
Emulsification → Solvent Removal → Sieving → Recovery → Drying & Pulverization → Powder Filling

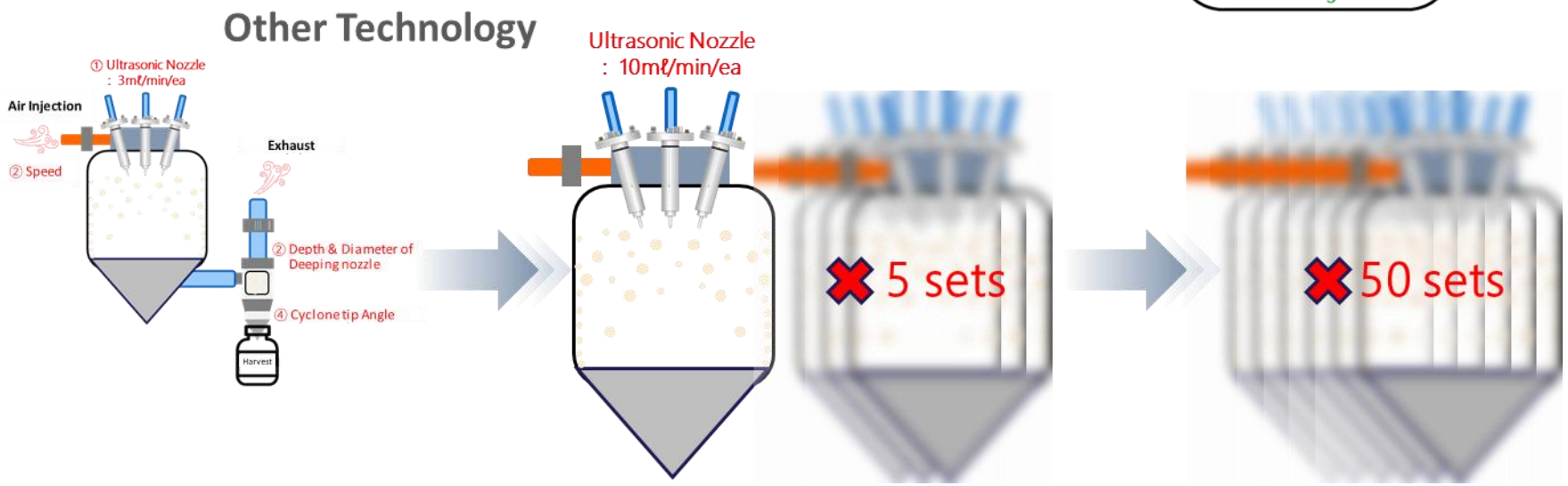
- Polydisperse
- Unit production↓
- Contamination risk↑
- Contamination risk↑
- Contamination risk ↑
- Recovery↓
- Speed↓
- Cost↑
- Contamination risk↑





Key Features of InnoLAMP : ① Easy Mass Production





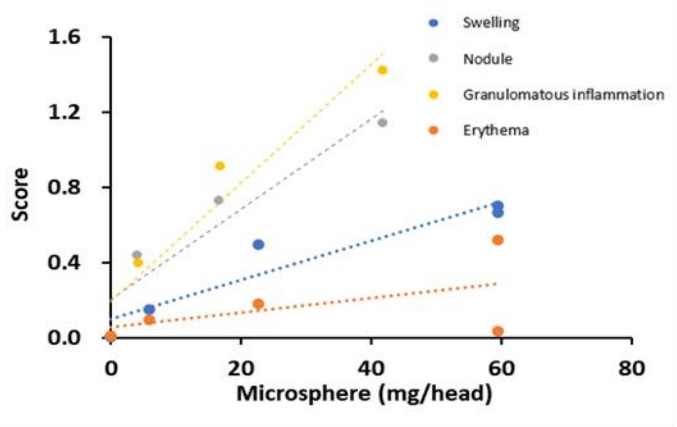
Technical Challenges for the Same and Similar Microsphere Technologies

2. *Limited Injection Dosage & Volume: High API loading is Key*

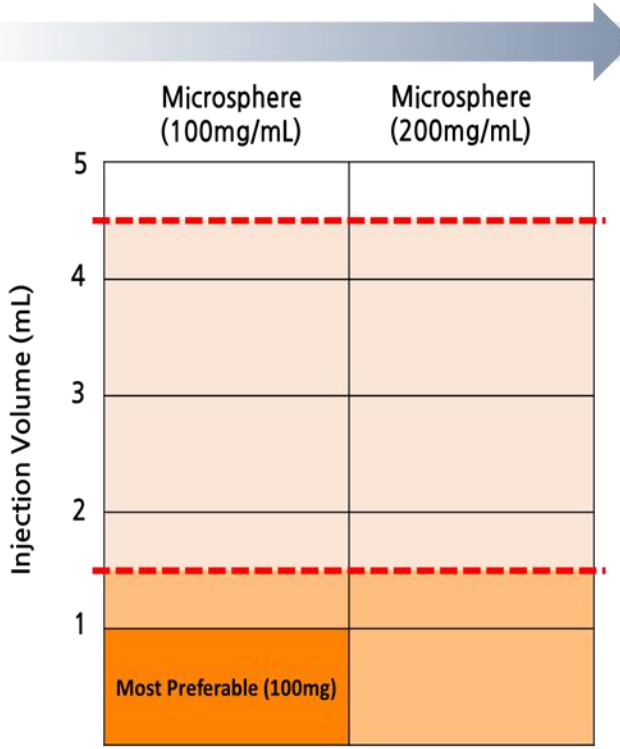
Limitations on Drug Loading in Microspheres

- **High dosage in a single injection is required** for 1 month or 3 months
- **Challenges in achieving high drug-loading** in microspheres
- Even when high-drug loading is achieved, **initial burst remains a major issue**

Increased Microsphere Dosage : Increased AES



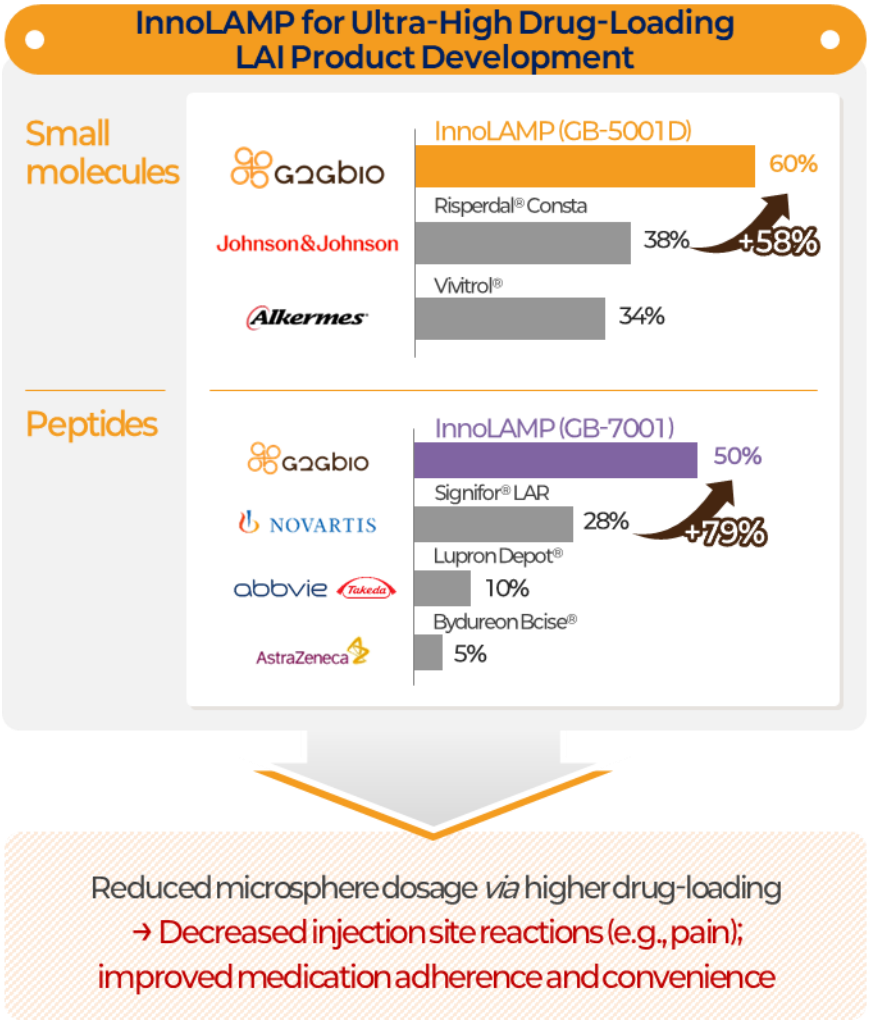
(*Ref. Local tolerance of Bydureon in monkey*)

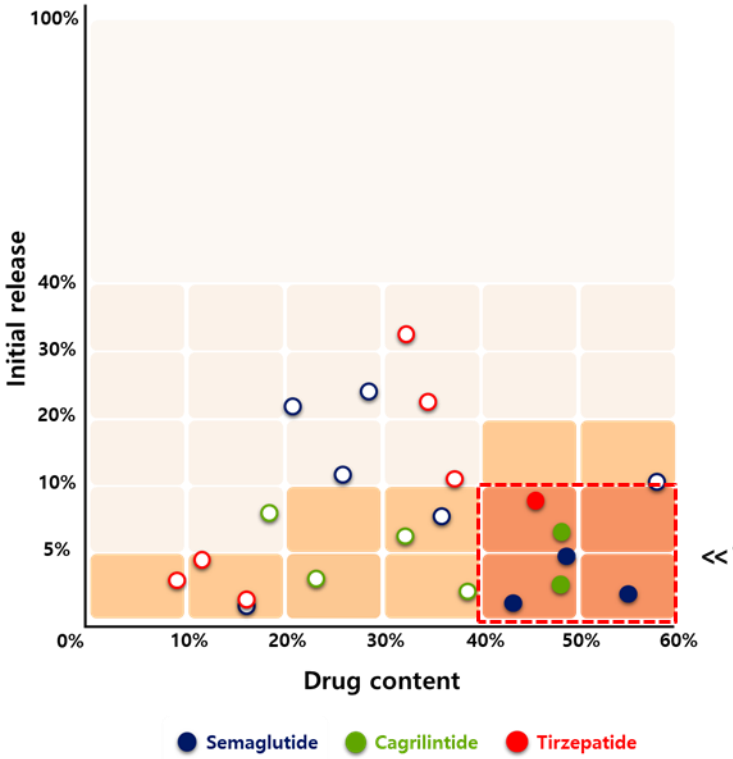


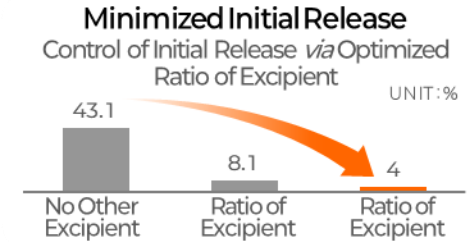
Next Question: High initial burst?

Key Features of InnoLAMP : ② High Drug Content (Overview)

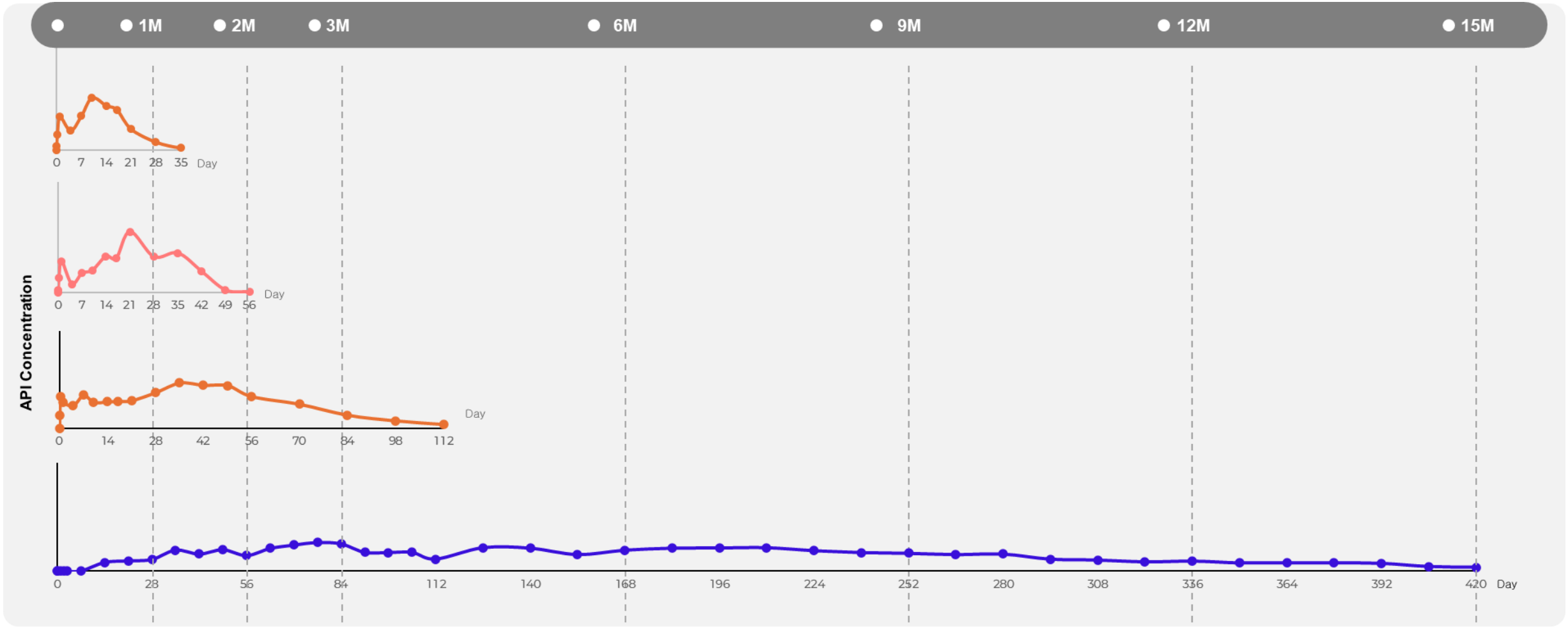
❖ ***Ultra-High Drug-Loading in Microspheres:***
Effective Control of Initial Drug Release and Maximized Medication Convenience





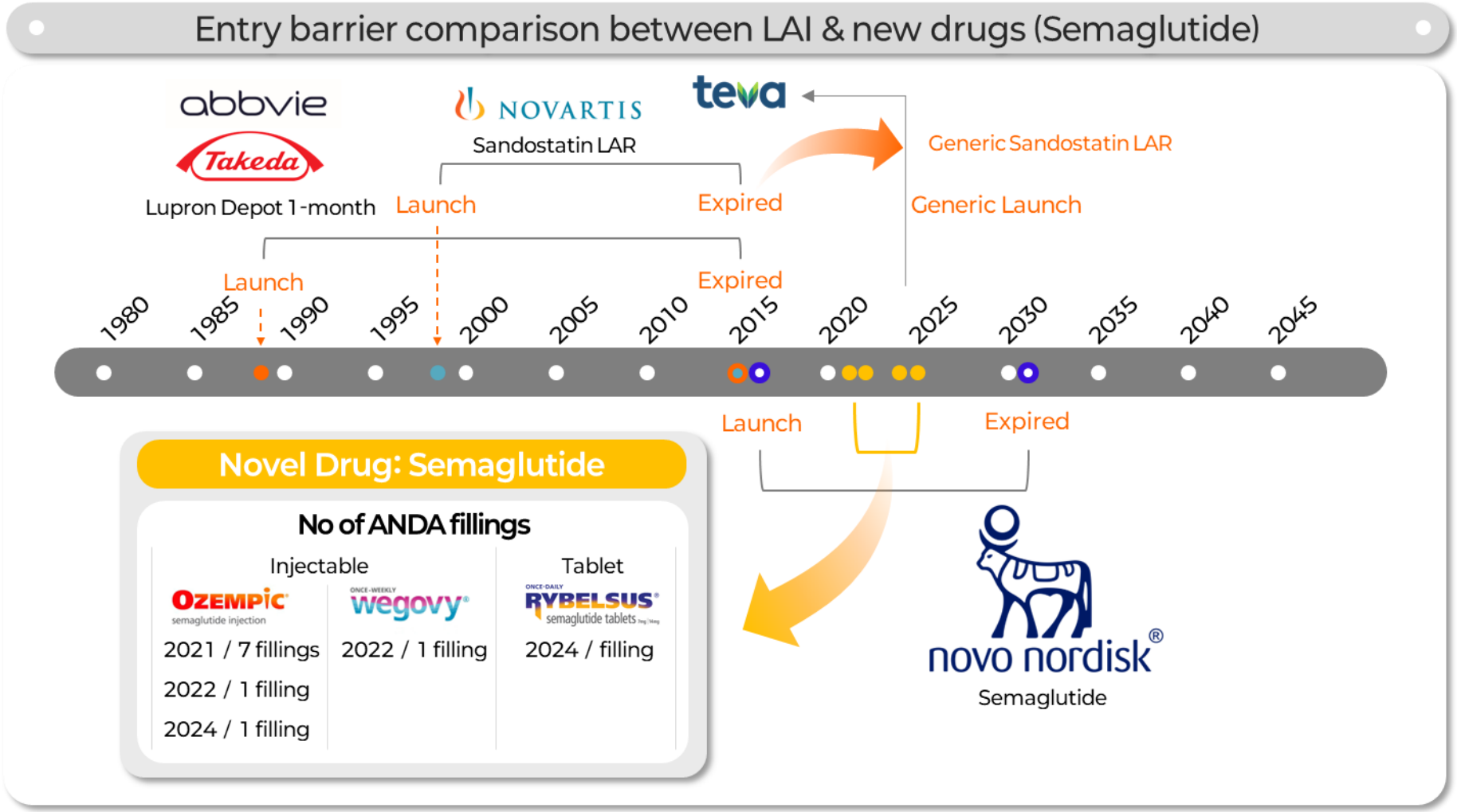


Controlling Drug Release Duration by G2GBIO's InnoLAMP™ Technology



Long-acting Injectables: Higher Profitability than Conventional Drugs

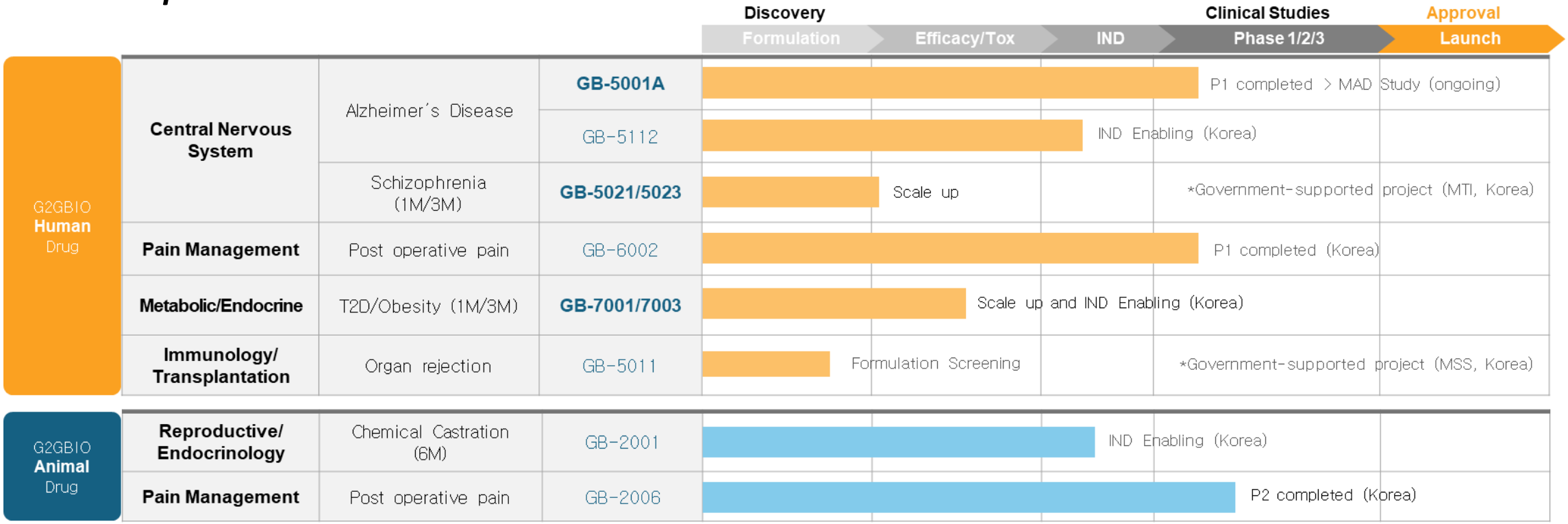
❖ ***LAIs maintain market exclusivity for a prolonged period even after patent expiry due to high entry barriers.***



- ✓ www.FDA.gov
- ✓ *Global Leuprorelin Drugs Market Research Report 2024*
- ✓ *Leuprolide Acetate Market Size & Share Analysis - Growth Trends and Forecast (2025 - 2030)*
- ✓ *Sandostatin LAR - Global Market Share and Ranking, Overall Sales and Demand Forecast 2024-2030*

Pipeline & Global Partnership

❖ ***Advancing a robust pipeline of next-generation long-acting injectable therapeutics across multiple indications***



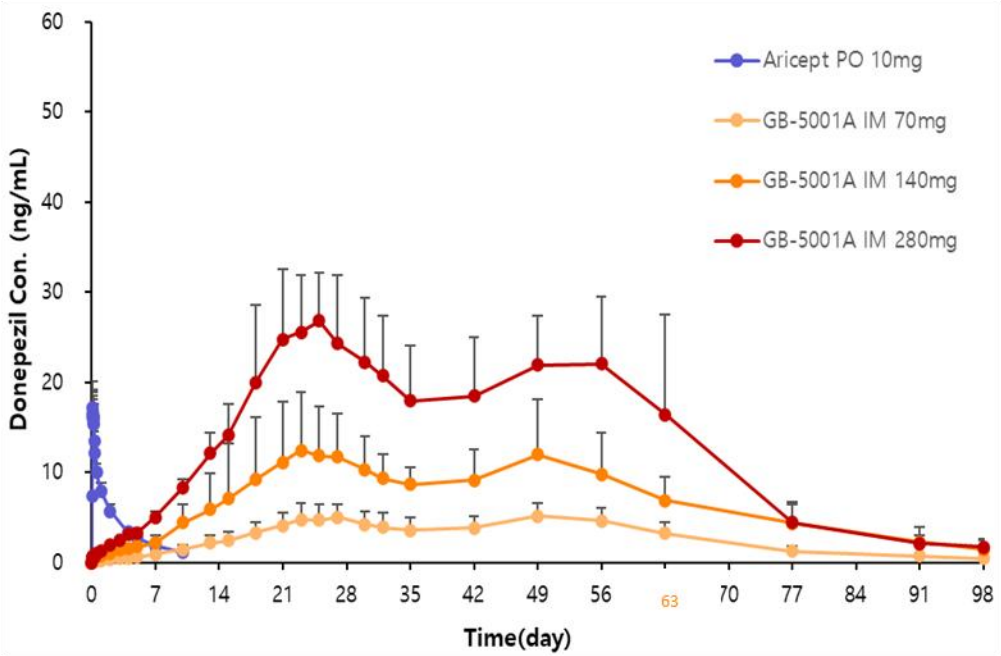
Partner's **API**

GLOBAL BIG PHARMA	US PHARMACEUTICAL COMPANY	Boehringer Ingelheim	GLOBAL BIG PHARMA
Feb. 2023	Mar. 2023	Feb. 2025	Oct. 2025

Manufacturing Facilities

❖ ***1st GMP (~1.2kg/batch) : Successfully manufactured GB-5001A (monthly & bimonthly donepezil) at our 1st GMP facility, with no safety issues observed and human PK data demonstrating an ideal profile for both monthly and bimonthly injectable formulations***

GB-5001A : monthly & bimonthly Donepezil

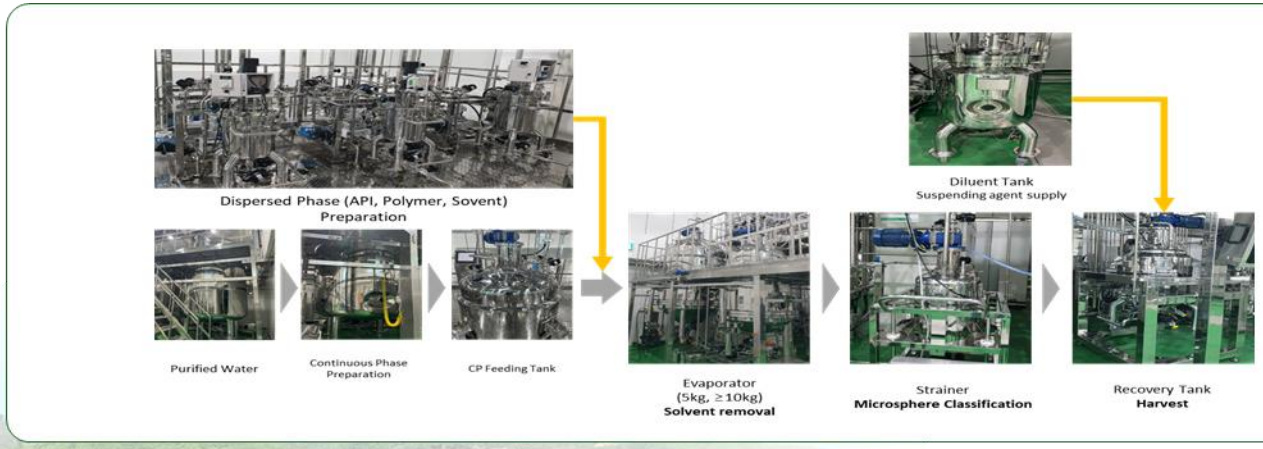


✓ No safety issue observed

✓ Obtained human PK data satisfying ideal profile for monthly & bimonthly donepezil injectables

Large-Scale Manufacturing Facility

❖ ***2nd GMP : The world's largest high-capacity GMP plant is set to be completed in 2027, featuring a production capacity of 30~60 kg per batch.***



Optimized Mass Production

Maximum Capacity (Plan)

Total 30~60 kg/Batch

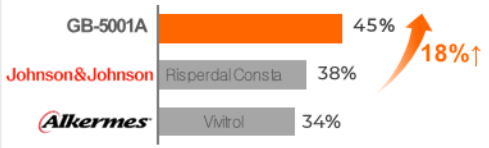
GB-5001A

A Phase 1 Clinical Study Completed for the World's First Once-Monthly Formulation GB-5001 :
Securing Superior Sustained Efficacy and Commercial Competitiveness

Competitiveness of GB-5001A

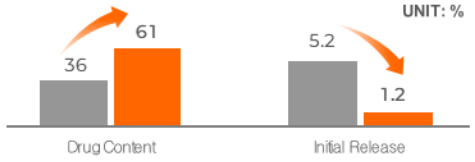
Ultra-High-Dose Small Molecules

Small Molecule API Content Comparison



Minimized Initial Release

Drug Content Maximized + Initial Release Decreased



Securing Core Patents to Maintain Unrivaled Technological Superiority

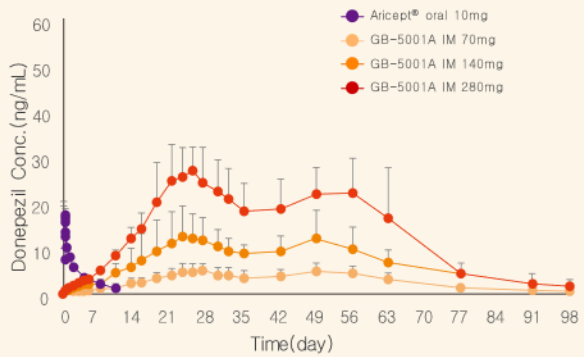
16 Patent Registrations

27 Patent Applications

GB-5001A Meeting Unmet Needs

Maximizing Drug Efficacy Duration

World's 1st 1-Month Formulation Human PK Data



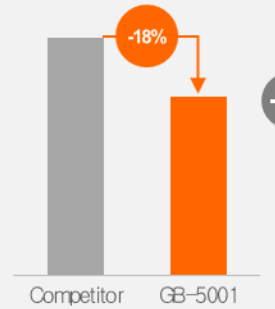
Compared to Aricept® (Oral)
Superior Sustained Efficacy

Sustained Drug-Action Over One Month
→ Improvement of Medication Adherence

Reducing Production Cost

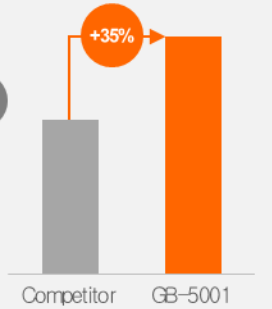
Polymer Consumption

Reduced Consumption of High-Cost Polymers



Production Efficiency

Greater Yield per overhead expenses

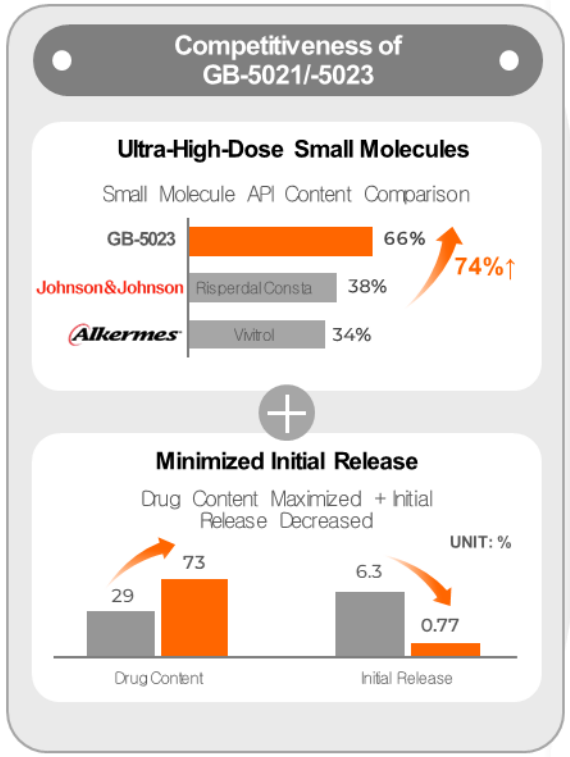


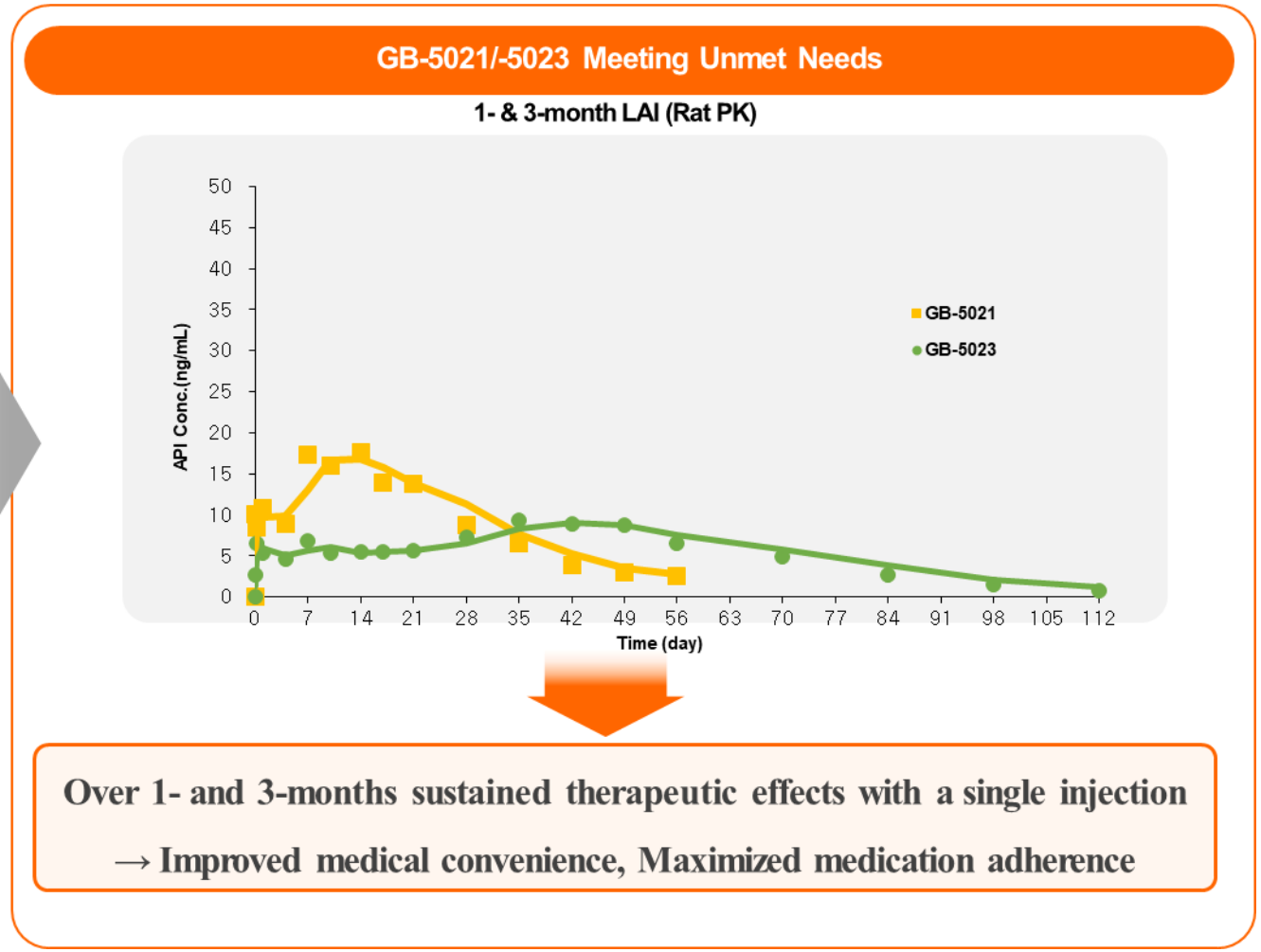
Compared to Competitors
Over 40% Reduction of Production Costs

Achieving Competitive Pricing

GB-5021 & GB-5023

- Sustained therapeutic effects for 1 and 3 months are achieved with a single administration for schizophrenia.

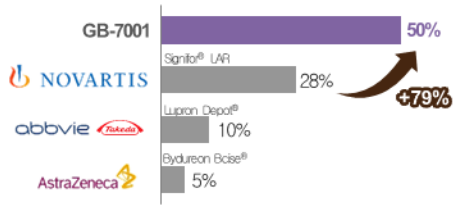




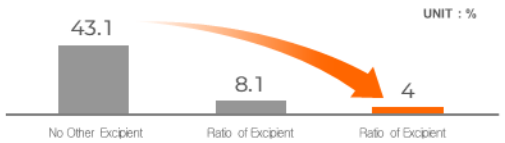
GB-7001/7003: Sustained Therapeutic Effects for 1 and 3 Months with a Single Administration of Semaglutide

Obesity · Diabetes Treatment Competitiveness

Ultra-High Peptide-Drug-Loading
Semaglutide Content Comparisons



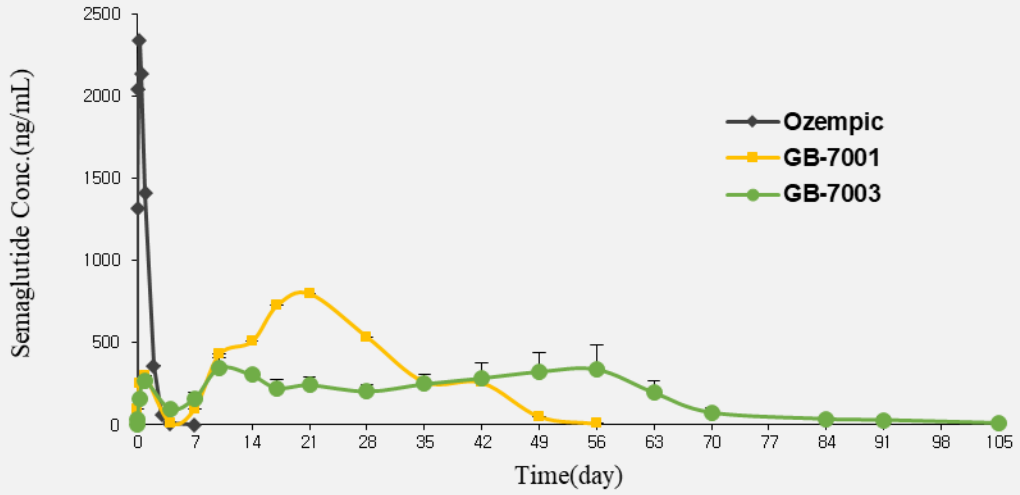
Minimized Initial Release
Control of Initial Release *via* Optimized Ratio of Excipient



Patented Anti-Inflammatory Additive Technology
Semaglutide + Anti-Inflammatory Agent + Excipient

GB-7001/-7003 Meeting Unmet Needs

1- & 3-month LAI (Rat PK)

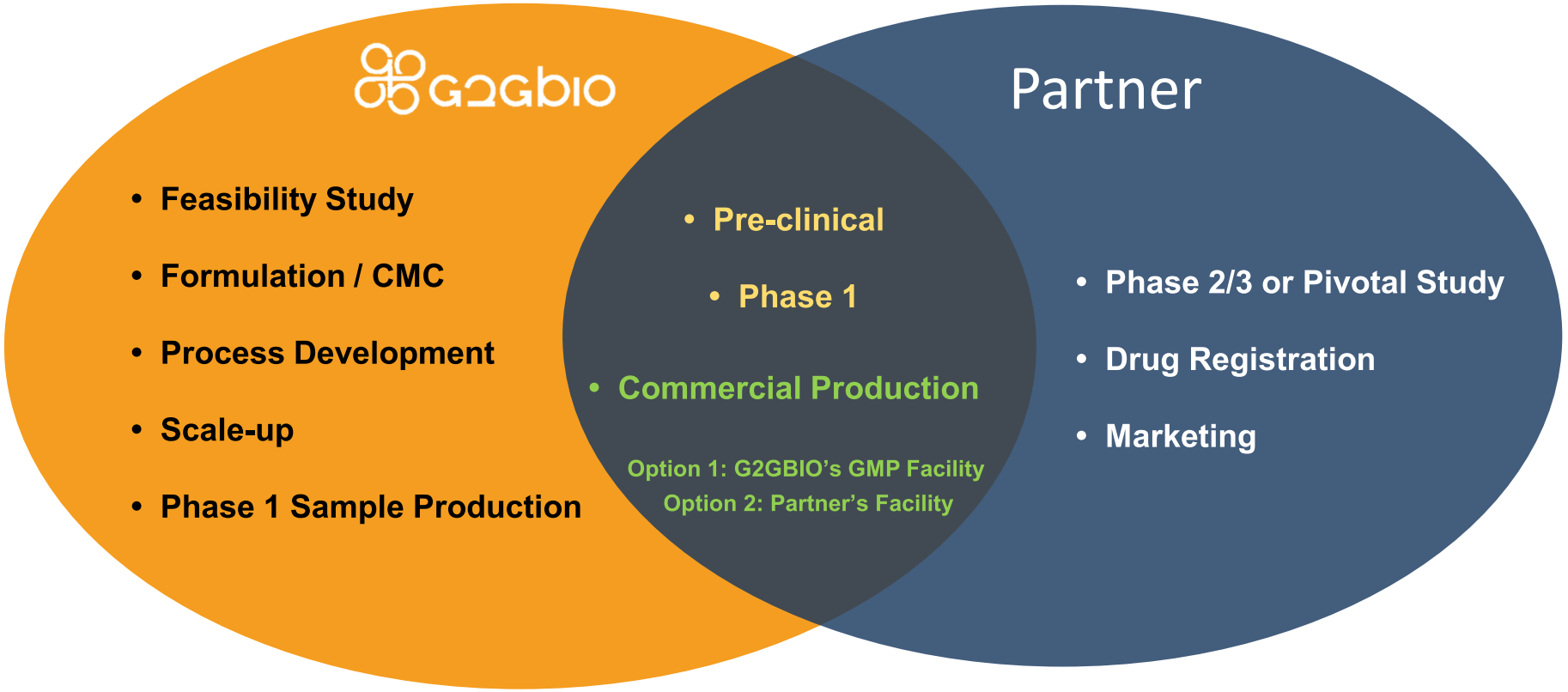


Over 1- and 3-months sustained therapeutic effects with a single injection

→ Improved medical convenience, Maximized medication adherence

Business Model

1. **G2GBIO's existing SR Assets:** License Agreement
2. **New Project:** CDMO, Co-development



Thank you

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