

JY007:

**A super long-acting growth hormone
with potential for Q3W-Q4W dosing**

Sep 2025

Pipeline

Platform	Program	Discovery	Preclinical	Indication
SLAF. Super Long-Acting Fusion Protein	JY007 Growth Hormone	Potential monthly formulation		Growth Hormone Deficiency
	JY021 Insulin		Target monthly formulation	Diabetes Mellitus

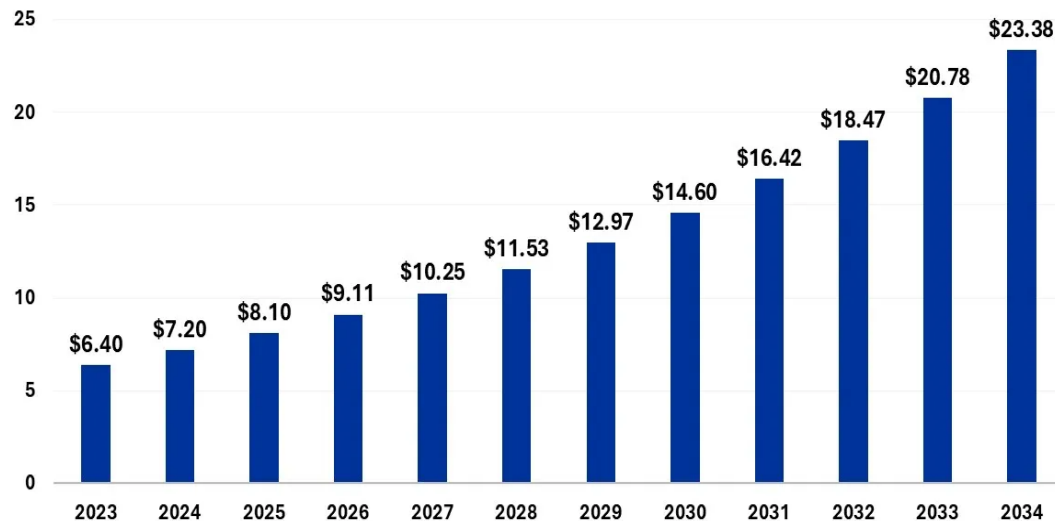
The Vast and Rapidly Expanding hGH Market

GHD has significant patient population worldwide:

1.5 million children and **600 thousand adults**.



Human Growth Hormone Market Size 2023 to 2034 (USD Billion)



The global hGH market was valued at **\$7.2 billion** in 2024 and is projected to reach **\$24 billion** by 2034 , growing at CAGR of 12.8%.

The long-acting GH drives market expansion: likelihood to treat, acceptance, adherence and persistence.

China currently represents **34%** of global hGH market.

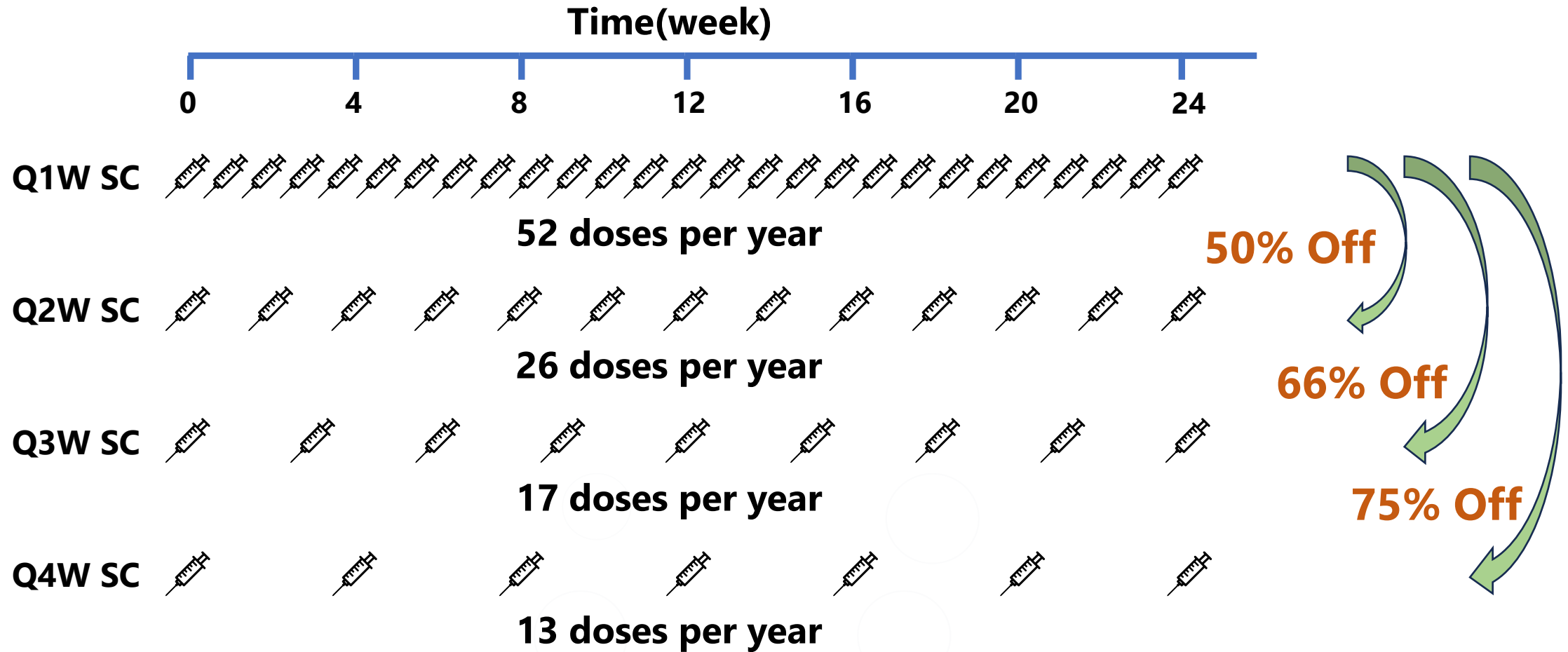


1. Frost & Sullivan. China Growth Hormone Market Research Report, 2023
2. Precedence Research. Human Growth Hormone Market Size, 2024
3. GHD: growth hormone deficiency
4. (h)GH: (human) growth hormone

No approved or clinical hGH is dosed beyond Q1W

Generic name	Brand name	Company	CN	US	Long acting moiety	Injection regimen
Polyethylene glycol rhgh	Jintrolong (金赛增)	Gensci (金赛)	Lunched	/	PEG	Q1W SC
Inpegsomatropin (怡培生长激素)	Yipei Sheng (益佩生)	AMOTOP (特宝)	Launched	/	YPEG	Q1W SC
Lona pegsomatropin-tcgd	Skytrofa	Ascendis VISEN	BLA	Launched	TransCon	Q1W SC
Somapacitan-beco	Sogroya	Novo Nordisk	BLA	Launched	Albumin- Binding Moiety	Q1W SC
Somatrogon-ghla	Ngenla	Pfizer	/	Launched	CTP	Q1W SC
Eftansomatropin		I-MAB Jumpcan	BLA	/	IgG4 Fc	Q1W SC

Weekly injections in children lead to poor adherence



We aim to develop a safe and effective hGH for **Q3W-Q4W** administration.

JY007: a long-acting hGH

High affinity to GHR

Flexible linker

No influence on affinity

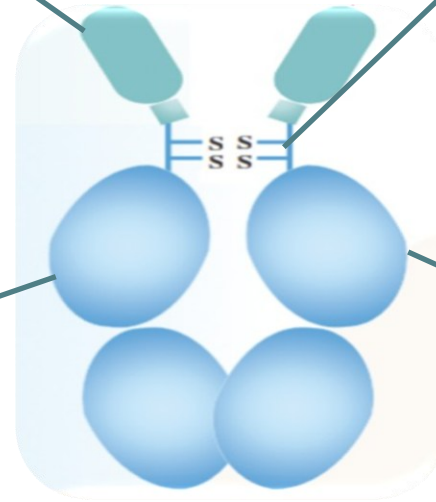
Fc effector silencing
No ADCC and CDC

Three amino acid mutations

YTE mutation

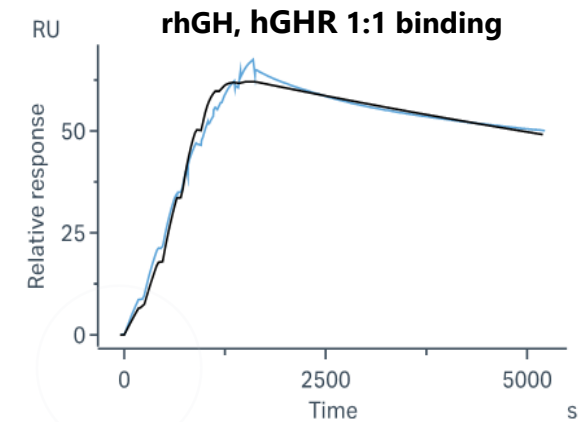
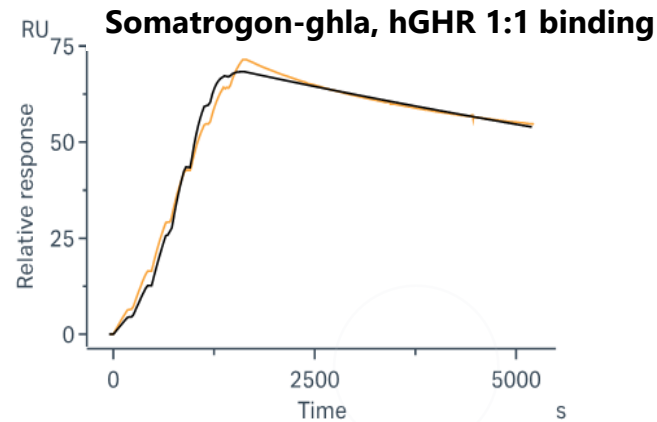
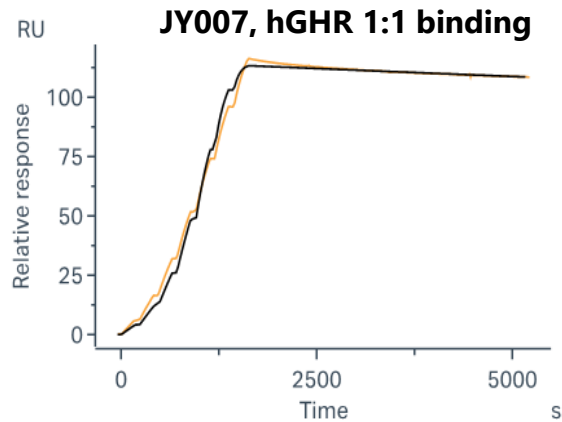
extends half life

**Patent stands to
at least 2045**



JY007, rhGH and somatogon exhibit similar in vitro activity

◆ **Similar affinity to GHR:** JY007, rhGH and somatogon-ghla show similar affinity to human, cyto and rat GHR bys SRP.



◆ **Similar cell proliferation activity:** JY007 and Somatogon-ghla exhibits similar potency of cell proliferation in GHR expressing Nb2-11 cell.

1. Somatogon-ghla is a once-weekly long-acting hGH developed by Pfizer.
2. rhGH: recombinant human growth hormone.
3. GHR: growth hormone receptor.

Favorable safety profile both in vitro and in vivo

In Vitro:

- ◆ SPR assays: FcγR and C1q binding was removed.
- ◆ Cellular assays: no ADCC and CDC effects, while positive control exhibited ADCC and CDC.
- ◆ Cellular assays: no platelet aggregation.

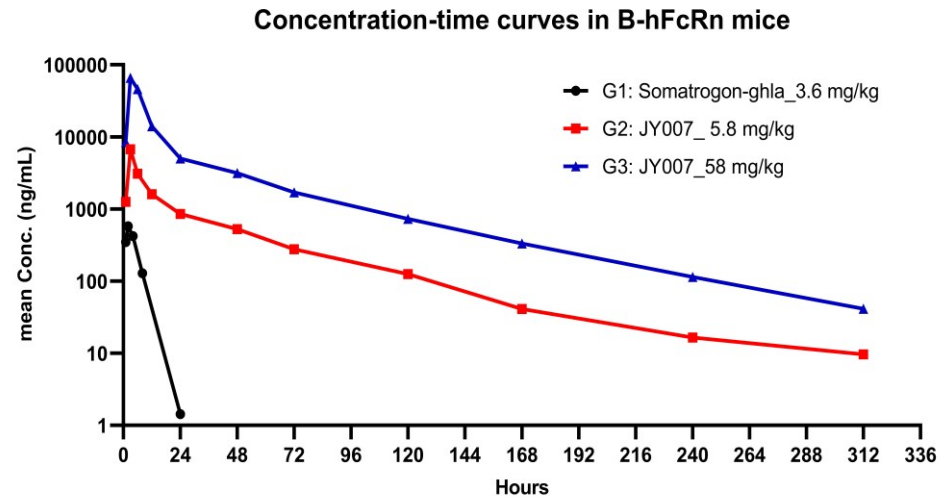
In Vivo:

- ◆ JY007 was well tolerated in mice following two administrations at 5.8 mg/kg and 58 mg/kg separately.
- ◆ JY007 was well tolerated in NHPs following single administrations at 1.5 mg/kg and 15 mg/kg.
- ◆ Data was collected in NHPs at day-1, 3, 7, 14 , 28, including: body temperature, ophthalmic examination, electrocardiograph and blood biochemical examination. No significant change was observed before and after treatment.

1. In B-hFcRn mice experiment, n=8 per group , two dose on day 0 and day14 , subcutaneous injection.
2. In NHPs experiment, n=3 per group, single dose, subcutaneous injection.

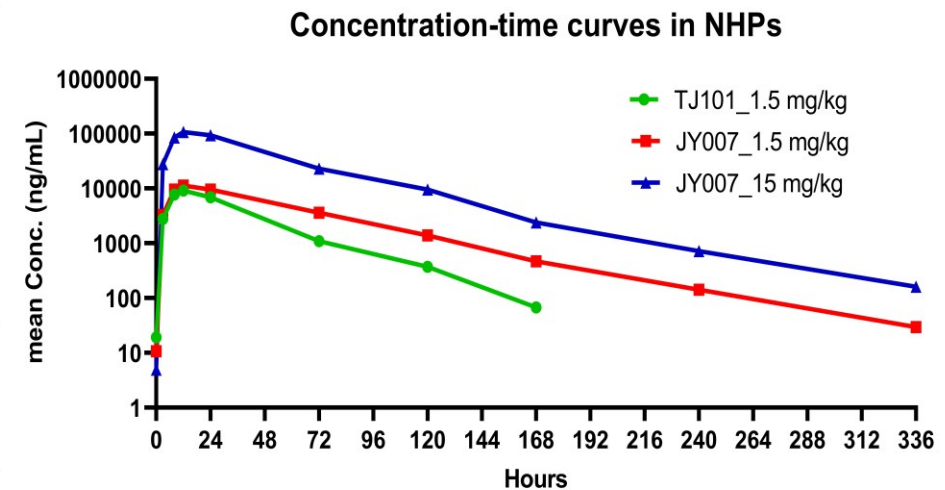
JY007 demonstrates longer half life compared to once-weekly hGH

In B-hFcRn mice



◆ The $t_{1/2}$ of JY007: 16x Somatogon.

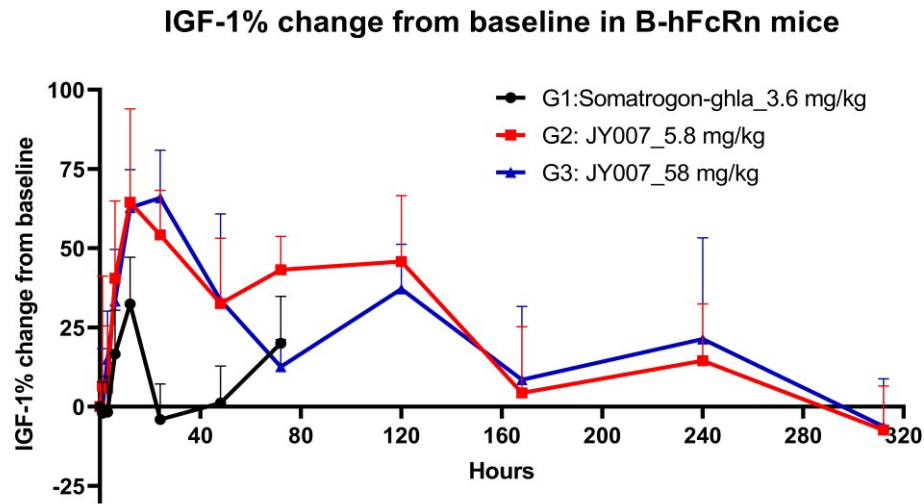
In NHPs



◆ The $t_{1/2}$ of JY007: 2x TJ101.

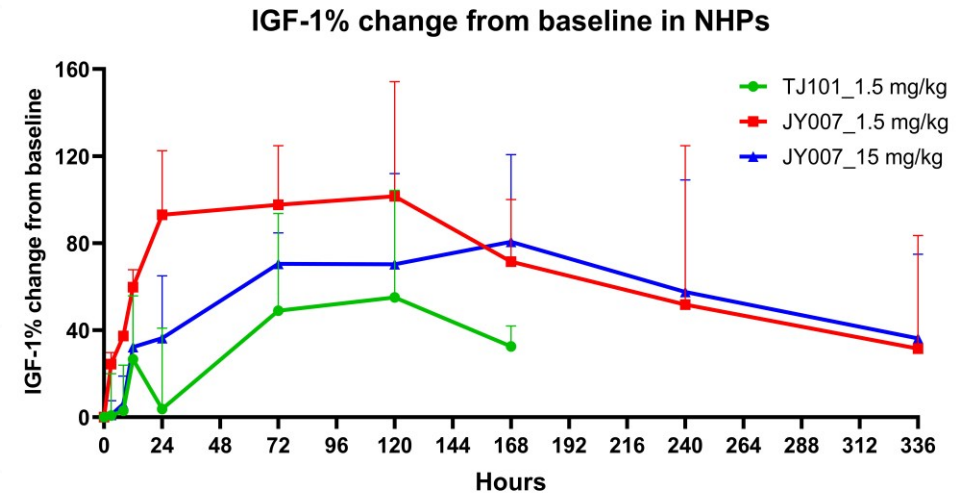
JY007 demonstrates longer IGF-1 duration compared to once-weekly hGH

In B-hFcRn mice



◆ The IGF-1 duration of JY007: 3x Somatrogen.

In NHPs



◆ The IGF-1 duration of JY007: 2x TJ101.

JY007 has the potential for Q3W-Q4W dosing in human

Antibody	Target	NHPs		Human	
APG808(YTE) Dupilumab(No YTE)	IL-4R α	 27d		 55d	
		 11d	2.4 times	 15d	3.7 times
APG777(YTE) Lebrikizumab(No YTE)	IL-13	 27d		 75d	
		 13d	2.1 times	 24.5d	3.1 times
VRDN-003(YTE) VRDN-001(No YTE)	IGF-1R	 12.8d		 40-50d	
		 6.3d	2.0 times	 10-12d	4.0 times
JY007(YTE) TJ101(No YTE)	GHR			 15-20d	
			2.0 times	 5d	About 3-4 times

- ◆ The general pattern: YTE mutation extends $t_{1/2}$ more significantly in **human(3.1-4.0 times)** than in **NHPs(2-2.4 times)**.
- ◆ Based on the $t_{1/2}$ of TJ101 in human, $t_{1/2}$ of JY007 in human is predicted to be up to **15-20 days** and supports **Q3W-Q4W** SC dosing.

Summary

Similar in vitro activity ✓	Favorable safety profile ✓	Long-acting ✓
◆ JY007, somatrogon-ghla and rhGH show similar affinity to GHR; ◆ JY007 and Somatrogon-ghla show similar cell proliferation activity.	◆ FcγR and C1q binding was removed; ◆ No ADCC and CDC; ◆ No plate aggregation; ◆ A favorable safety profile in mice at 5.8mg/kg and 58 mg/kg with two doses. ◆ A favorable safety profile in NHPs at 1.5mg/kg and 15 mg/kg with single dose.	JY007 vs wild-type IgG1 Fc: ◆ Affinity to FcRn: 33 times
		JY007 vs Somatrogon-ghla in FcRn mice: ◆ $t_{1/2}$: 16 times ◆ IGF-1 duration: 3 times
		JY007 vs TJ101 in NHPs: ◆ $t_{1/2}$ and AUC: 2 times ◆ IGF-1 duration: 2 times

JY007 is a potential best-in-class long-acting GH and supports **Q3W-Q4W** SC dosing.

Acknowledgements:

Clessbio



ProBio

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