Certain information and statistics set out in this section have been extracted from various official government publications, market data providers and a report commissioned by us and prepared by an Independent Third Party, Frost & Sullivan. The information from official government sources has not been independently verified by us, [**REDACTED**]*, Joint Sponsors,* [**REDACTED**]*, any of* [**REDACTED**]*, any of their respective directors and advisers, or any other persons or parties involved in the* [**REDACTED**]*, and no representation is given as to its accuracy.*

OVERVIEW OF CARDIOMETABOLIC AND INFLAMMATORY DISEASES DRUG MARKET

The cardiometabolic and inflammatory diseases drug market encompasses a broad and rapidly evolving landscape of therapies targeting diseases that arise from metabolic dysfunction and chronic inflammation, including obesity/overweight, T2D, MASH, hyperlipidemia, cardiovascular disease ("**CVD**"), chronic kidney disease ("**CKD**"), and OA pain. These conditions are increasingly prevalent worldwide and often co-occur in the same patient, driven by shared pathophysiological mechanisms such as insulin resistance, chronic inflammation, and endothelial dysfunction. This clustering of comorbidities significantly compounds cardiovascular and metabolic risks. According to Frost & Sullivan, the burden of these diseases is accelerating across both developed and emerging markets, with obesity/overweight and T2D reaching significant levels and MASH now recognized as a leading chronic liver disease. This growing burden underscores the need for therapies that go beyond symptom management to deliver truly diseases modifying effect for patients. In 2024, the global prevalence of cardiometabolic and inflammatory conditions was 3.3 billion.

Despite advances in pharmacological management, significant challenges and unmet clinical needs remain in the treatment of cardiometabolic and inflammatory diseases. Specifically:

- ***Safety and tolerability.*** Long-term use of existing therapies is often limited by adverse events such as gastrointestinal disturbances, infection, or bleeding. These side effects can be particularly problematic in elderly or comorbid patients, exacerbating their cardiovascular burden on elderly or comorbid patients and lead to treatment discontinuation.

- ***Insufficient efficacy.*** Conventional therapies frequently fail to provide adequate control overweight, blood glucose, and liver function, and are often insufficient in addressing the full spectrum of comorbidities associated with obesity/overweight and T2D. For example, in obesity/overweight patients, current medications often have limitations, including moderate weight loss, tolerability issues, and significant lean mass loss.

- ***Special population needs.*** Patients and those with obesity/overweight and its comorbidities such as liver disease, cardiovascular disease, chronic kidney disease, hyperlipidemia and OA pain often experience limited treatment efficacy and require more efficacious, safer, more tolerable, and more convenient treatment options that can be tailored to their complex clinical profiles.

GLP-1 Based Drug Market

Overview of GLP-1 Based Therapy

GLP-1 based therapy leverages GLP-1RAs as monotherapy or as the backbone in combination regimens with complementary mechanisms such as SGLT2 inhibitors, PCSK9 inhibitors, THR-β agonists, SSAO inhibitors, Amylin receptor agonists, and GIPR modulators. Beyond obesity/overweight and T2D, GLP-1 based therapy has the potential to address additional

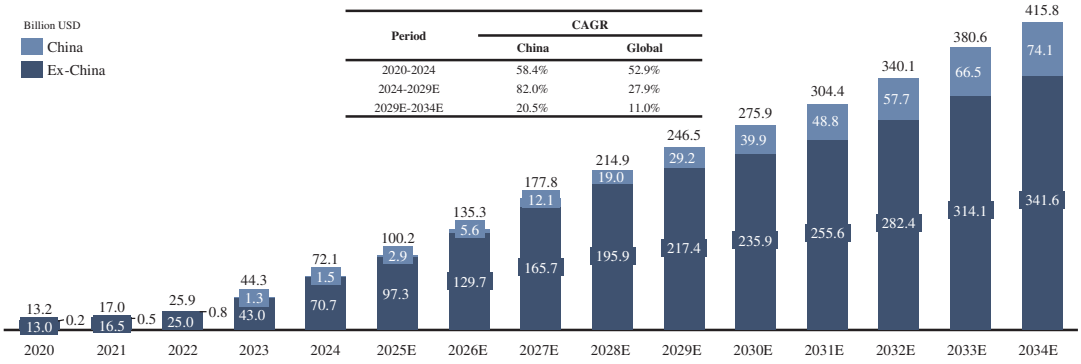
indications with a substantial comorbidities among people with overweight/obesity. Among individuals with overweight/obesity globally, liver disorders have a prevalence of approximately 75%, hyperlipidemia occurs in approximately 55%, CKD occurs in approximately 23%, and OA pain approximately 21%.

GLP-1 Based Therapy Market Size

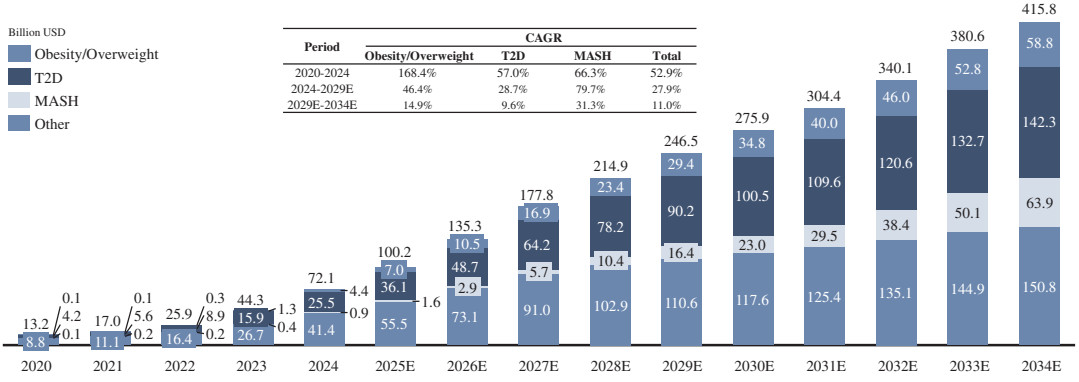
The global GLP-1 based therapy market, including GLP-1RA monotherapies as well as combination regimens involving GLP-1RA with other mechanisms, reached US$72.1 billion in 2024 and is expected to reach US$415.8 billion by 2034.

The following tables set forth the global market size and growth of GLP-1 based therapy by geography and indication.

Global GLP-1 Based Therapy Market Size (By Geography), 2020-2034E



Global GLP-1 Based Therapy Market Size (By Indications), 2020-2034E



Source: Frost & Sullivan

Growth Drivers and Future Trends of GLP-1 Based Therapy Market

The GLP-1 based therapy market is entering a phase of broad, rapid evolution shaped by both trends and driving factors. Specifically:

- ***Oral small-molecule therapies offers better solution for GLP-1 based therapy***. The strong combinability of oral small molecule GLP-1RA enables multi-mechanism regimens that better address the multifactorial nature of cardiometabolic diseases. These advantages are poised to expand market potential, particularly in blood glucose control and weight management.

- ***Combination of multiple mechanisms***. Cardiometabolic diseases arise from complex, overlapping pathophysiological pathways, making conventional single-target approaches often insufficient and driving a shift toward rational, multi-target strategies that prioritize complementary mechanisms and synergistic pathways. As comorbidities such as liver disease, cardiovascular disease, and chronic kidney disease frequently coexist with obesity/overweight and T2D, combination regimens that simultaneously address glycemic control, body weight, lipid metabolism, inflammation, and fibrosis offer the potential for more comprehensive disease management. In this context, pairing GLP-1RAs with various agents of other mechanisms, such as THR-β agonists, SSAO inhibitors, SGLT2 inhibitors, oral PCSK9 inhibitors, GIP receptor modulators, Amylin receptor agonists and UPA could help address a broader range of cardiometabolic and inflammatory abnormalities and achieve improved responses.

Concurrently, indication-level trends and drivers will create distinct trajectories across MASH, obesity/overweight, T2D, and OA pain. Specifically:

- ***MASH***

  - *Favorable regulatory tailwinds in MASH*. FDA has accepted a letter of intent to qualify liver stiffness measured by transient elastography as a "reasonably likely" surrogate endpoint in MASH patients with moderate to advanced fibrosis, signaling openness to noninvasive biomarkers in clinical trials. This direction may reduce reliance on invasive liver biopsies for both trial conduct and potential regulatory decision-making. Consistent with this trend, the approved Resmetirom label does not require liver biopsy for prescribing, and most U.S. payers are not requiring biopsy confirmation for diagnosis or reimbursement.

  - *Private insurance coverage.* THR-β agonist has been approved for MASH treatment and accepted by many private insurers. Insurers tend to reimburse drugs that can alter disease progression; if novel THR-β agonists — receive approval by 2032, its superior efficacy, cost-effectiveness and adherence advantages could prompt rapid inclusion in commercial insurers' chronic liver-disease formularies.

- ***Obesity/overweight and T2D***

  - *Global growing awareness.* As obesity awareness grows, the emergence of GLP-1RA marks a pivotal shift in how cardiometabolic and inflammatory disorders are managed, capturing both clinical interest and widespread media attention. These therapies not only offer clinically significant weight reduction, but also signal a broader societal change with how we approach chronic disease prevention and lifestyle-driven health outcomes. In China, social education initiatives like the Healthy China Initiative (2019-2030) aim to increase diabetes awareness among residents aged 18 and over to at least 60%, and ensure standard treatment rates for diabetes patients of at least 70% by 2030.

- *Policy support*. In China, obesity/overweight and T2D are increasingly integrated into the national chronic disease management framework. Initiatives such as Healthy China 2030 and the nationwide "Weight Management Year" campaign further emphasize the importance of weight control in primary care. The U.S. government reached pricing-and-access agreements with Eli Lilly and Novo Nordisk in November 2025 under which Medicare and Medicaid will, for the first time, cover GLP-1 therapies for obesity/overweight, lowering average monthly co-pays to around $50 and dramatically expanding affordability. These measures are expected to unlock an estimated 40 million new potential patients.

- *The efficacy and safety of GLP-1RAs are widely recognized*. The growing global obesity/overweight population has catalyzed expansion of the GLP-1 therapeutics market, resulting in a broadened portfolio of agents for effective obesity/overweight treatment. Extensive evidence from numerous clinical studies indicates that weight reduction can substantially lower the risk of obesity-related complications and chronic diseases.

- *Private insurance coverage.* For obesity/overweight, as the clinical value of GLP-1RA for obesity/overweight becomes quantified, insurers are exploring outcome-based payment models. The emergence of oral small-molecule GLP-1 drugs and policy assessments of Medicare coverage are expected to further increase commercial insurers' acceptance of obesity therapies, allowing more patients to obtain financial support. For T2D, The latest guidelines position GLP-1 receptor agonists as first-line therapy because of their pronounced benefits in reducing cardiovascular events and protecting renal function. Insurers assign higher reimbursement weight to these agents within value-assessment frameworks, and the introduction of multiple oral GLP-1 competitors is projected to stabilize pricing, thereby expanding commercial insurance coverage.

- ***OA Pain***

  - *Emerging scientific evidence elucidating SSAO's role in chronic inflammation.* SSAO is involved in the recruitment of leukocytes to sites of inflammation and serves as a key mediator of the inflammatory response. Inhibitors targeting SSAO have shown potential to alleviate chronic inflammation, offering a potentially new therapeutic approach for OA pain. SSAO-targeting strategies may represent a future breakthrough.

  - *Private insurance coverage.* Novel SSAO inhibitors and other non-opioid small-molecule analgesics that demonstrate clear efficacy in reducing pain and slowing joint degeneration would be regarded as high-value chronic-pain management drugs. Coupled with the weight-loss effects of obesity medications and the potential reduction in surgical demand, insurers are likely to provide higher reimbursement levels within integrated chronic-disease management programs.

MASH Drug Market

Overview of MASH

MASH is a progressive, severe form of metabolic dysfunction-associated steatotic liver disease, reflecting its strong link to metabolic disorders. It involves liver inflammation and injury associated with fat accumulation and can advance to fibrosis, cirrhosis, and hepatocellular carcinoma. While some develop fatigue or upper abdominal pain as disease progresses, MASH often remains asymptomatic for years.

Globally, the prevalence of MASH patients increased from 351.1 million in 2020 to 400.5 million in 2024, with a CAGR of 3.3%. This figure is projected to reach approximately 466.4 million by 2029 and 537.6 million by 2034. In China, the prevalence of MASH patients increased from 38.7 million in 2020 to 44.0 million in 2024, with a CAGR of 3.3%, and is expected to reach 51.9 million by 2029 at a CAGR of 3.4% and 61.1 million by 2034 representing a CAGR of 3.3%. According to Guidelines for the Prevention and Treatment of MASH (2024 Edition), current treatment for MASH includes pharmacologic and nonpharmacologic strategies. Pharmacotherapies include liver selective THR-β agonist such as Resmetirom and GLP-1RA such as Semaglutide. Comprehensive care also includes lifestyle modification with medical nutrition therapy, exercise therapy, and behavioral therapy, and when appropriate it includes surgical options such as metabolic surgery and liver transplantation.

Competitive Landscape of MASH Drug Market

The following table sets forth the details of the FDA-approved marketed drugs for MASH as of the Latest Practicable Date.

Drug Name	Brand Name	Target	Company	Prescription/ OTC	NRDL	Approval Time	Dosage From	Drugs Type	2024 Revenue (USD Billion)	Treatment Cost (USD)
Semaglutide	Wegovy®	GLP-1R	Novo Nordisk	Prescription	/	US (2025-8-15)	Injection	Peptide	–	349 per month
Resmetirom	Rezdiffra®	THR-β	Madrigal	Prescription	/	US (2024-03-14)	Oral	Small molecule	0.2	47,400 per year

Source: Frost & Sullivan

The following table sets forth the details of Phase II or above clinical stage drug candidates for MASH globally across different targets.

Target		Drug Name/Code	Company	Partner	Clinical Stage	First Post Date	Dosage Form	Drug Type	Regimen	Jurisdiction
THR-β		VK2809	Viking	Ligand Pharmaceuticals, Metabasis Therapeutics	Phase IIb	2019/11/21	Oral	Small molecule	Mono	FDA
		ECC4703	Eccogene	/	Phase IIa	2025/12/17	Oral	Small molecule	Combo	FDA
		ALG 055009	Aligos	/	Phase IIa	2024/4/2	Oral	Small molecule	Mono	FDA
		TERN-501	Terns	/	Phase IIa	2022/6/13	Oral	Small molecule	Combo	FDA
GLP-1		Survodutide	Boehringer Ingelheim	Zealand Pharma	Phase III	2024/3/13	Injection	Peptide	Mono	FDA
		Efocipegtrutide/ HM15211	Hanmi Pharmaceutical	/	Phase II	2020/8/10	Injection	Peptide	Mono	FDA
		Efinopegdutide	Hanmi Pharmaceutical	MSD	Phase II	2023/5/26	Injection	Peptide	Mono	FDA
		Pemvidutide	Altimmune	Velocity Pharmaceutical Development	Phase II	2023/8/14	Injection	Peptide	Mono	FDA
		DD01	D&D Pharmatech	Salubris	Phase II	2024/5/13	Injection	Peptide	Mono	FDA
		DR10624	Huadong Medicine	Doer Biologics	Phase II	2025/6/17	Injection	Peptide	Mono	FDA, NMPA
		Mazdutide/ IBI362	Innovent	Eli Lilly	Phase II	2025/4/22	Injection	Peptide	Mono	NMPA
		UBT251	United Laboratories	Novo Nordisk	Phase II	2025/8/28	Injection	Peptide	Mono	NMPA
Farnesoid X receptor ("FXR")		HEC96719	Sunshine Lake	/	Phase II	2022/5/31	Oral	Small Molecule	Mono	NMPA
		Linafexor/ CS0159	Cascade	/	Phase II	2022/10/24	Oral	Small Molecule	Mono	FDA
Peroxisome proliferator-activated receptor ("PPAR")		Lanifibranor	Inventiva	Chia Tai Tingqing	Phase III	2021/4/19	Oral	Small Molecule	Mono	FDA, NMPA
		Chiglitazar Sodium	Chipscreen	/	Phase II	2022/1/18	Oral	Small Molecule	Mono	NMPA
		Pemafibrate	Kowa	/	Phase II	2022/4/14	Oral	Small Molecule	Mono	FDA
Fibroblast growth factor 21 ("FGF21")		Efruxifermin	Novo Nordisk	/	Phase III	2023/12/8	Injection	Recombinate protein	Mono	FDA
		Pegozafermin	89bio (Roche)	/	Phase III	2024/3/19	Injection	Recombinate protein	Mono	FDA
		Efimosferminalfa	GSK	Boston Pharmaceuticals	Phase III	2025/10/27	Injection	Recombinate protein	Mono	FDA
Others	DGAT2	Ervogastat/ PF-06865571	Pfizer	/	Phase II	2020/3/23	Oral	Small Molecule	Mono	FDA
	VEGFR	ALS-L1023	AngioLab	/	Phase II	2020/4/13	Oral	Small Molecule	Mono	South Korea
	Cyclophilin	Rencofilstat	Hepion Pharmaceuticals	/	Phase II	2020/7/21	Oral	Peptide	Mono	FDA
	ANT	HU6	Rivus Pharmaceuticals	/	Phase II	2021/5/5	Oral	Small Molecule	Mono	FDA
	DGAT2	ION224	Ionis Pharmaceuticals	/	Phase II	2021/6/21	Injection	ASO	Mono	FDA
	acyl-CoA oxidase 1	Total glucosides of Picrorhizae Rhizome	Tasly Group	/	Phase II	2022/12/1	Oral	Small Molecule	Mono	NMPA
	HSD17B13	Rapirosiran/ ALN-HSD	Regeneron Pharmaceuticals	Alnylam Pharmaceuticals	Phase II	2022/8/29	Injection	siRNA	Mono	FDA
	HSD17B13	ARO-HSD/ GSK4532990	Arrowhead Pharmaceuticals	GSK	Phase II	2023-10-27	Injection	siRNA	Mono	FDA
	PDE	ZSP1601	Burgeon Therapeutics	/	Phase II	2023/1/20	Oral	Small Molecule	Mono	NMPA
	ACL x PPARα	BGT-002	Burgeon Therapeutics	/	Phase II	2024/7/9	Oral	Small Molecule	Mono	NMPA
	CCL24	Nebokitug/ CM-101	Chemomab Therapeutics	/	Phase II	2023/4/21	Injection	Antibody	Mono	FDA
	GPR119	Vanoglipel/ DA-1241	MetaVia	/	Phase II	2023/9/26	Oral	Small Molecule	Mono	FDA
	HSD17B13	VSA006	Visirna Therapeutics	/	Phase II	2024/3/21	Injection	siRNA	Mono	NMPA
	NLRP3 x AMPK	berberine Ursodeoxycholate/ HTD-1801	HighTide Therapeutics	/	Phase II	2022/11/21	Oral	Small Molecule	Mono	NMPA
	HSD11B1	J2H-1702	J2H Biotech	/	Phase II	2024/3/7	Oral	Small Molecule	Mono	South Korea
	NRF2	IMM-H014	Intellicrown Pharmaceutical	/	Phase II	2025/6/11	Oral	Small Molecule	Mono	NMPA
	–	BI 3802876	Boehringer Ingelheim	/	Phase II	2026/1/8	–	–	Mono	FDA
	ANT	HU6	Rivus	/	Phase II	2026/3/24	Oral	Small Molecule	Mono	FDA
	SSAO	ECC0509	Eccogene	/	Phase IIa	2025/12/17	Oral	Small Molecule	Combo	FDA

Notes: 1. As of the Latest Practicable Date.

2. First posted date refers to the date on which the study record was first available on Chinadrugtrials.org.cn or Clinicaltrials.gov.
3. The clinical stage refers to the latest clinical trials as well as the first posted date.
4. Candidates are treated as "discontinued/inactive" if they show no clinical progress after 2020, and are therefore excluded from the table.

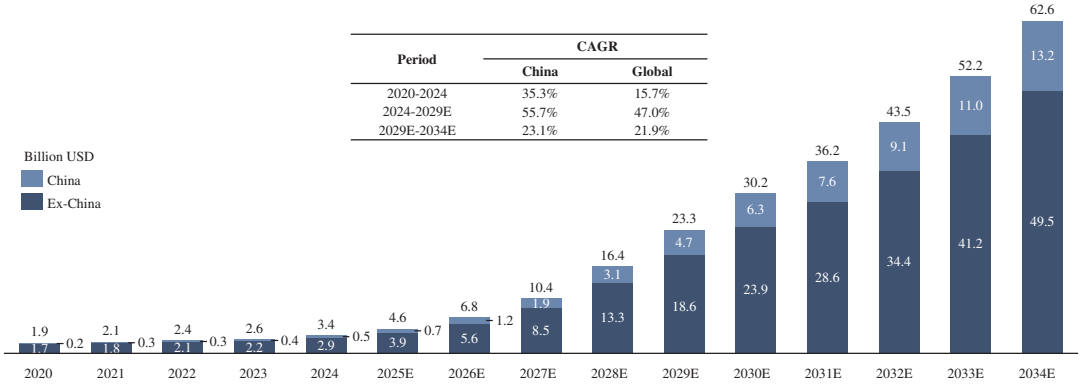
Source: Frost & Sullivan

MASH Drug Market Size

A major advancement in MASH drug market was the recent approval of Resmetirom (Rezdiffra) by the FDA, a THR-β partial agonist. Since its launch, Resmetirom has experienced robust sales growth with US$958.4 million in commercial sales in its first full year of launch, reflecting strong market demand and patient uptake. Semaglutide was also approved by the FDA in MASH in August 2025. In addition, Roche's definitive agreement to acquire 89bio for its Phase III MASH asset for up to US$3.5 billion, signals growing attention from leading pharmaceutical companies, reinforcing the indication's commercial and developmental prospects globally. Further underscoring the significant value and strategic importance of the MASH market, Novo Nordisk announced its acquisition of Akero Therapeutics for up to US$5.2 billion in December 2024, gaining access to Akero's lead MASH candidate efruxifermin, an FGF21 analog in Phase IIb development. Despite the recent progress in the field, there is still huge unmet clinical need for oral therapies with improved efficacy.

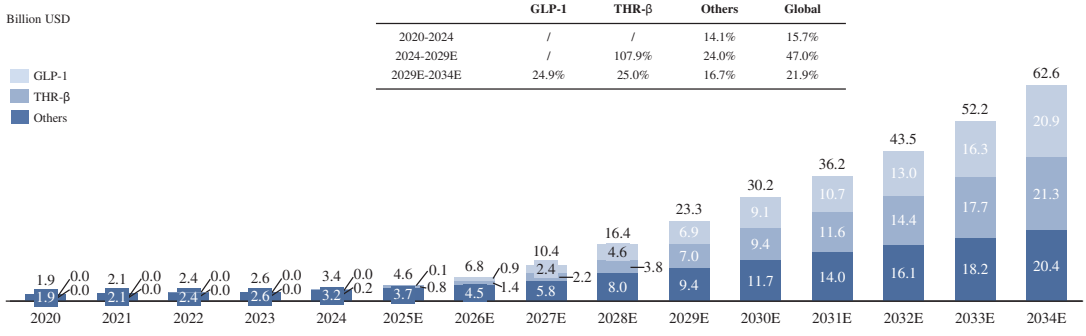
The following tables set forth the global market size and growth of MASH drug by geography and drug type.

Historical and Forecasted Global MASH Drug Market Size, 2020-2034E (By Geographic Region)



Period	CAGR	
	China	Global
2020-2024	35.3%	15.7%
2024-2029E	55.7%	47.0%
2029E-2034E	23.1%	21.9%

Historical and Forecasted Global MASH Drug Market Size, 2020-2034E (By Drug Types)



Period	CAGR			
	GLP-1	THR-β	Others	Global
2020-2024	/	/	14.1%	15.7%
2024-2029E	/	107.9%	24.0%	47.0%
2029E-2034E	24.9%	25.0%	16.7%	21.9%

Source: Frost & Sullivan

Notes: "Others" include drugs targeting related pathways such as FXR and PPAR. The forecast CAGR of 55.7% for China (2024-2029E) and 47.0% globally (2024-2029E) for the MASH drug market is based on the following factors, trends and assumptions:

(1) *Growing unmet need and expanding patient population*: only two MASH drugs are currently approved (Rezdiffra and Semaglutide), leaving substantial unmet market need. The treatment patient pool continues to expand rapidly based on available market data, with global MASH prevalence projected to grow from approximately 400.5 million in 2024 to the estimated 537.6 million in 2034;

(2) *Low current penetration with significant upside*: initial drug penetration among diagnosed late stage (F2-F3) fibrosis patients is forecast to reach only 15.8% in China and 22.7% in the United States by 2029, indicating substantial room for growth as diagnosis rates improve and treatment adoption increases;

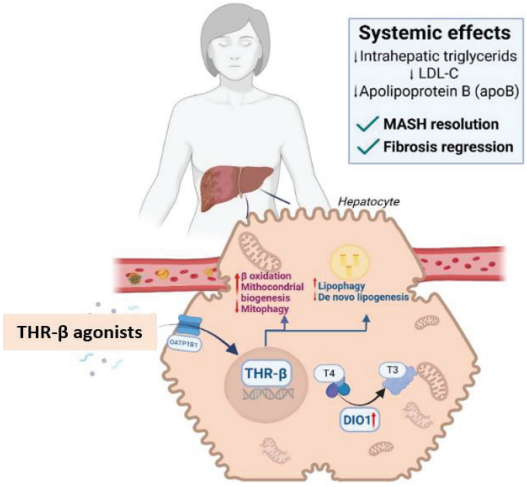
(3) *Improving diagnosis rates and enhanced market awareness*: the diagnosis rate of late-stage fibrosis among MASH patients is projected at 5% to 6% in China and 10% to 11% in the United States, with expected improvement as academic promotion and patient education initiatives intensify;

(4) *Pipeline maturation*: multiple MASH agents are anticipated to launch during the forecast period, with approval timelines estimated from current trial status, expanding treatment options and market size; and

(5) *Market value estimation*: market size is based on average MASH drug price × number of treated patients, with first-year treatment costs of US$2,100 to US$4,300 in China and US$9,000 to US$13,000 in the United States, adjusted for future price erosion aligned to industry trends.

Overview of THR-β

THR-β is a nuclear receptor activated by thyroid hormones, predominantly expressed in the liver, where it plays a central role in regulating lipid, energy, and fatty acid metabolism. THR-β agonists are a class of drugs that selectively stimulate this receptor, resulting in multiple beneficial metabolic effects relevant to MASH, dyslipidemia and obesity/overweight. THR-β agonists include full agonists and partial agonists. Full agonists deliver more complete receptor engagement than partial agonists and therefore drive stronger pharmacological metabolic responses. A THR-β full agonist could induce more significant potent lipid lowering, liver fat reduction, and anti fibrotic effects by maximizing receptor activation.



Source: Frost & Sullivan

Competitive Landscape of Small Molecule THR-β Drug in MASH Drug Market

The following tables illustrate the competitive landscape of small molecule THR-β candidates under clinical development as of the Latest Practicable Date.

Global Pipeline of Clinical Stage Small Molecule THR-β Candidate

Drug Name/Code	Target	Company	Partner	Clinical Stage	First Post Time	Indication	Region	Dosage Form	Drug Type	Regimen	Jurisdiction
VK2809	THR-β	Viking	Ligand Pharmaceuticals, Metabasis Therapeutics	Phase IIb	2019/11/21	MASH	Global	Oral	Small molecule	Mono	FDA
ECC4703	**THR-β**	**Eccogene**	**/**	**Phase IIa**	2025/12/17 2026/4/1	**MASH** **Obesity/ Overweight**	**Global**	**Oral**	**Small molecule**	**Combo**	**FDA**
ALG 055009	THR-β	Aligos	/	Phase IIa	2024/4/2	MASH	US	Oral	Small molecule	Mono	FDA
TERN-501	THR-β	Terns	/	Phase IIa	2022/6/13	MASH	US	Oral	Small molecule	Mono and Combo	FDA
ASC47	THR-β	Ascletis	/	Phase Ib	2024/5/24	Obesity	US	Injectable	Small molecule	Mono	FDA

Notes: 1. As of the Latest Practicable Date.

2. First posted date refers to the date on which the study record was first available on Chinadrugtrials.org.cn or Clinicaltrials.gov.

3. The clinical stage refers to the latest clinical trials as well as the first posted date.

Source: Frost & Sullivan

The following tables set forth the comparison of safety and efficacy profiles between ECC4703 and other THR-β drug candidates.

	ECC4703	VK2809	ALG-055009	ASC47[(2)]
Dosage Form	40mg, 80mg, daily, oral (14 day)	1-10 mg daily, oral (52-week)	0.3-0.9 mg daily, oral (12-week)	10-90 mg, single injection (SAD)
low-density lipoprotein cholesterol ("**LDL-C**")	-(30-45)% (placebo adjusted)	-25.2% @10 mg (placebo adjusted)	-12.3% @0.7 mg (placebo adjusted)	Up to -22% (placebo adjusted)
Safety	TEAE: 16.7%-50% SAE: 0.0%	TEAE: 78.4%-95.1% Treatment-related ("**SAE**") was reported	TEAE: 50%-70% SAE: 0.0% in active drug group	33.3% diarrhea (@90 mg), 16.7% nausea (@90 mg)

Notes: 1. These data are not derived from head-to-head studies; comparator drug candidate data are sourced from publicly available disclosures.

2. Developed for obesity/overweight

Source: Clinical Trial, Frost & Sullivan

Obesity/Overweight Drug Market

Overview of Obesity/Overweight

Obesity/overweight are defined as abnormal or excessive fat accumulation that poses health risks. Body Mass Index ("**BMI**"), calculated as weight in kilograms divided by height in meters squared (kg/m^2), is the standard metric. According to the World Health Organization, overweight is defined as BMI $\geq$ 25 and obesity as BMI $\geq$ 30 for adults, while China's National Health Commission sets the thresholds at BMI $\geq$ 24 for overweight and BMI $\geq$ 28 for obesity. These conditions significantly increase the risk of cardiometabolic disorders such as CVD, CKD, T2D, and MASH, making obesity/overweight a key issue in public health.

Globally, the prevalence of individuals affected by obesity/overweight increased from 2,275.7 million in 2020 to 2,612.5 million in 2024, with a CAGR of 3.5%. This figure is projected to reach approximately 2,993.2 million by 2029 and 3,394.7 million by 2034. In China, the prevalence of obesity/overweight increased from 570.7 million in 2020 to 640.5 million in 2024, with a CAGR of 2.9%, and is expected to reach 736.5 million by 2029 with a CAGR of 2.8% from 2024 to 2029 and 840.3 million by 2034 at a CAGR of 2.7% from 2029 to 2034.

GLP-1RAs have emerged as the leading therapeutic class for obesity/overweight, offering superior efficacy in weight reduction and cardiometabolic improvement. By mimicking the natural GLP-1 hormone, these agents regulate appetite and glucose metabolism, outperforming traditional treatments in both efficacy and safety. Current options mainly include injectable GLP-1RAs or dual GLP-1 and GIP receptor agonist delivered by subcutaneous routes. These therapies act centrally to reduce hunger and improve dietary control and peripherally to delay gastric emptying, forming the basis of the prevailing treatment paradigm in clinical practice. Despite this progress, limitations persist, including tolerability issues dominated by gastrointestinal adverse events, high discontinuation rates with some GLP-1RAs, loss of lean mass alongside fat reduction, and limited benefits across key comorbidities such as MASH, CVD, hyperlipidemia, chronic kidney disease, and OA pain. The following tables summarize the major limitations of marketed GLP-1RAs.

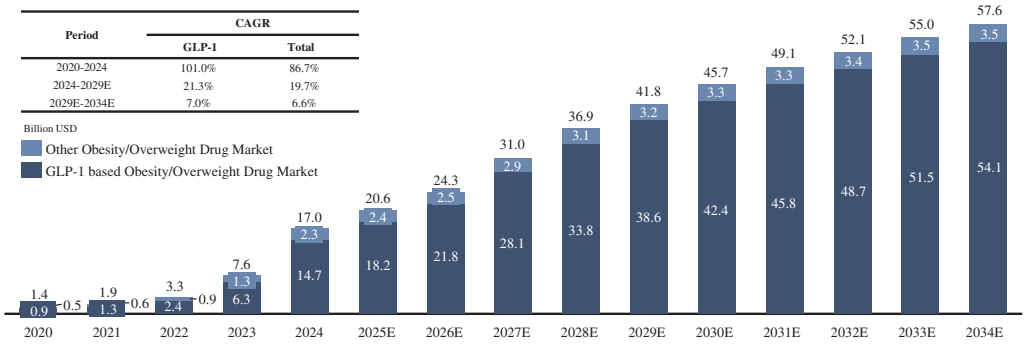
	Semaglutide	Tirzepatide
Efficacy	Body weight: **-12.4%** (68-week, 2.4 mg, placebo adjusted)	Body weight: **-20.1%** (72-week, 15 mg, placebo adjusted)
Tolerability issue	Nausea (**44.2%**), diarrhea (**31.5%**), vomiting (**24.8%**), and constipation (**23.4%**)	Nausea (**31.0%**), diarrhea (**23.0%**), vomiting (**12.2%**), and constipation (**11.7%**)
Discontinuation in real world	Within 1 year: **46.5%** for T2D, **64.8%** for obesity/overweight	
Proportion of lean mass loss	**40%**	**29%**
Limited efficacy in comorbidities (e.g. MASH)	Phase III: reduction in liver fibrosis without worsening of steatohepatitis **14%** (placebo adjusted)	Phase II: improvement of at least one fibrosis stage without worsening of MASH **21%** (placebo adjusted)

Source: Frost & Sullivan

Obesity/Overweight Drug Market Size

The global obesity/overweight drug market has experienced rapid growth in recent years, within this market, GLP-1 based therapies account for over 80% of total sales and are expected to exceed 90% by 2027, underscoring their dominant role in obesity/overweight treatment. The following table sets forth the global market size and growth of obesity/overweight drug by drug type.

Global Obesity/Overweight Drug Market, 2020-2034E (By Drug Types)



Source: Frost & Sullivan

Notes: The forecast market size is calculated using the following formula: market value = average obesity/overweight drug price × number of treated patients; and the forecast for each of the global and China obesity/overweight drug markets is supported the following growth factors and assumptions:

(1) *Expanding treatable patient population*: global obesity/overweight population was approximately 2.6 million in 2024 and projected to expand to 3.4 million in 2034; Chinese obesity/overweight population was approximately 640.5 million in 2024, and projected to expand to 840.3 million in 2034;

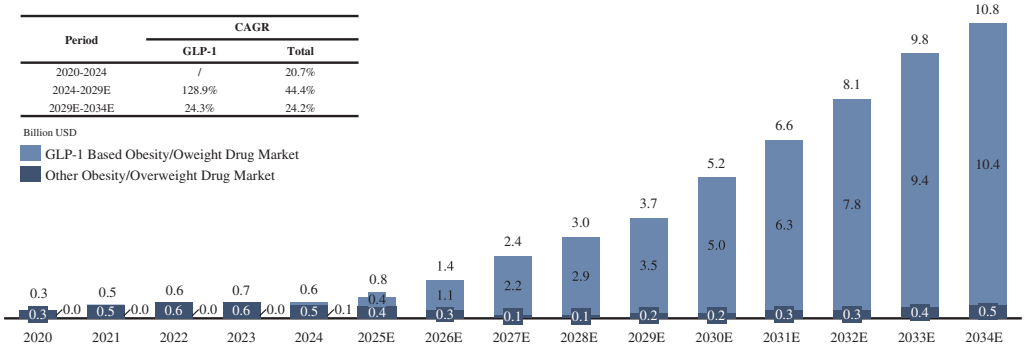
(2) *Current treatment penetration*: for the global market, the drug-treatment rate among obesity/overweight patients in the United States, which is used as global proxy in this case, is approximately 2% to 3% and forecasted to reach 25.7% by 2029; for the Chinese market, the drug-treatment rate among obesity/overweight patient is approximately 1% to 2% and forecasted to reach 17.1% by 2029;

(3) *Pricing*: first-year treatment costs of US$3,000 to US$5,000; with future price erosion aligned to industry trends; pricing based on the list prices of six currently approved drugs for the global market which are Tirzepatide, Semaglutide, Liraglutide, Orlistat, Phentermine/Topiramate ER and Naltrexone/Bupropion ER; five drugs are currently approved for the Chinese market, i.e. Tirzepatide, Semaglutide, Benaglutide, Liraglutide and Orlistat; and additional agents are in development with approval timelines estimated from trial status, Phase III duration and sponsor guidance for each market; and

(4) *Market size calculation exclusion*: the obesity/overweight agents anticipated to launch during the forecast period are assumed not to be included in China's national or provincial volume based procurement programs.

China's obesity/overweight drug market has remained relatively modest in recent years, with non-GLP-1 based therapies as the primary treatment options. However, the market is poised for substantial growth, driven almost entirely by the rapid expansion of GLP-1 based therapies. The following table sets forth the market size and growth of obesity/overweight drug by drug type in China.

China's Obesity/Overweight Drug Market, 2020-2034E



Source: Frost & Sullivan

Competitive Landscape of THR-β Drug in Obesity/Overweight Drug Market

As of the Latest Practicable Date, there were no THR-β drug approved globally for the treatment of obesity/overweight as illustrated in the below table.

Global Pipeline of THR-β Candidates for Obesity/Overweight

Drug Name/Code	Target	Company	Partner	Clinical Stage	First Post Time	Indication	Region	Dosage Form	Drug Type	Regimen	Jurisdiction
ECC4703	THR-β	Eccogene	/	Phase IIa	2025/12/17 2026/4/1	MASH Obesity/ Overweight	Global	Oral	Small molecule	Combo	FDA
ASC47	THR-β	Ascletis	/	Phase Ib	2024/5/24	Obesity	US	Injectable	Small molecule	Mono	FDA

Notes: 1. As of the Latest Practicable Date.

2. First posted date refers to the date on which the study record was first available on Chinadrugtrials.org.cn or Clinicaltrials.gov.

3. The clinical stage refers to the latest clinical trials.

Source: Frost & Sullivan

T2D Drug Market

Overview of T2D

Diabetes mellitus is a chronic cardiometabolic condition marked by elevated blood glucose due to impaired insulin secretion or action. Among its types, T2D is the most prevalent, accounting for over 90% of cases. It is closely linked to obesity/overweight and metabolic syndrome and increasingly affects younger populations due to lifestyle and dietary changes. Globally, the number of T2D patients increased from 493.7 million in 2020 to 589.0 million in 2024, with a CAGR of 4.5%. This figure is projected to reach approximately 650.9 million by 2029 and 697.6 million by 2034. In China, the number of T2D patients increased from 133.1 million in 2020 to 148.0 million in 2024, with a CAGR of 2.7%, and is expected to reach 166.3 million by 2029 with a CAGR of 2.4% from 2024 to 2029 and 174.1 million by 2034 at a CAGR of 0.9% from 2029 to 2034.

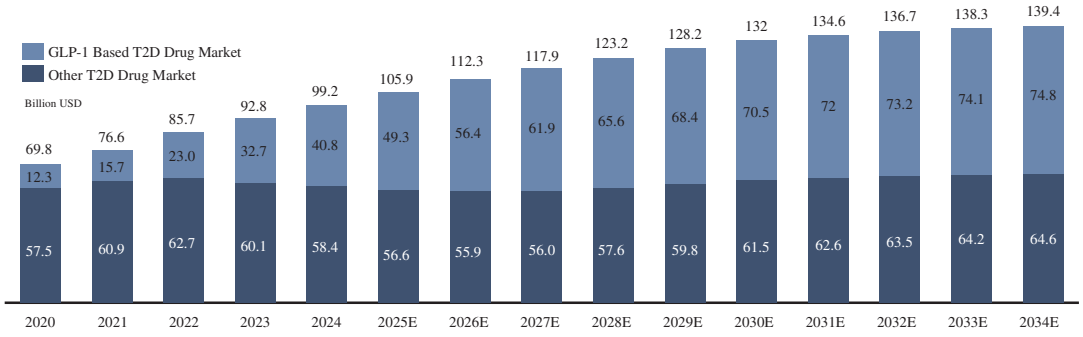
Current T2D therapies include insulin, Biguanides such as Metformin, GLP-1RAs such as Semaglutide and Tirzepatide, SGLT-2 inhibitors such as Dapagliflozin, and DPP-4 inhibitors such as Sitagliptin. GLP-1RAs are emerging as the most promising class because they provide dual benefits in glycemic control and weight reduction, offer superior efficacy and cardiovascular protection, and are expected to drive the next wave of growth. Their potential transition from adjunctive use to first-line treatment for select patient populations is expected to further accelerate adoption. However, compliance is particularly compromised because approved GLP-1RA therapies are mainly injection based, which increases treatment burden and reduces willingness to persist with long-term therapy.

T2D Drugs Market Size

The following tables set forth the market size and growth of global and China T2D drug by drug type.

Global T2D Drug Market, 2020-2034E (By Drug Types)

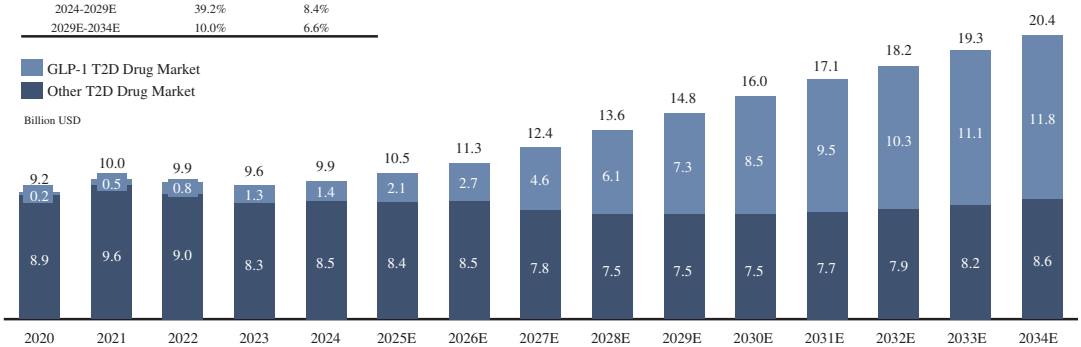
Period	CAGR	
	GLP-1 Based	Total
2020-2024	35.0%	9.2%
2024-2029E	10.9%	5.3%
2029E-2034E	1.8%	1.7%



Source: Frost & Sullivan

China's T2D Drug Market, 2020-2034E (By Drug Types)

Period	CAGR	
	GLP-1	Total
2020-2024	56.9%	2.0%
2024-2029E	39.2%	8.4%
2029E-2034E	10.0%	6.6%



Source: Frost & Sullivan Analysis

Overview of Oral Small Molecule GLP-1RAs

Currently, GLP-1RAs are predominantly available as injectables. Oral small-molecule GLP-1RAs are emerging as a pivotal advance in the field. Injectable GLP-1 based therapies face needle discomfort, dietary timing constraints, and cold-chain logistics that limit accessibility and adherence. In contrast, oral small molecules offer improved patient compliance, better manufacturing scalability, no food-effects, and ease of transportation and storage. Market trends indicate rising adoption of oral GLP-1 based therapies, underpinned by the diverse clinical pipeline of oral small molecule GLP-1RAs. The modality's ease of combination with other oral agents to build rational, multi-target regimens are positioning oral small-molecule GLP-1RA a major driver of long-term market share and real-world outcomes.

Category	Injectable GLP-1RA	Oral Peptide	Oral Small Molecule
Combinability	Low	Low	Easy combination with other oral therapies
Administration	Needle-related discomfort and needle phobia	Strict dietary requirements	No food effect
Accessibility	Limited due to mandatory cold-chain management	Supply scalability may be constrained	Less constrained by supply chain

Source: Frost & Sullivan

Based on recent development pathways for oral small molecule GLP-1RAs, the field can be categorized into two main scaffolds — Scaffold A and Scaffold B. Scaffold A, exemplified by orforglipron and ECC5004, exhibits superior *in vivo* potency, low off-target risks, and good drug-like properties. Scaffold B, represented by Danuglipron and Lotiglipron (both discontinued), employs low *in vivo* potency and selected molecules within Scaffold B carry risks of hepatotoxicity. The following table summarizes the two main scaffolds, their features, and representative compounds.

Classification By Scaffold A and Scaffold B

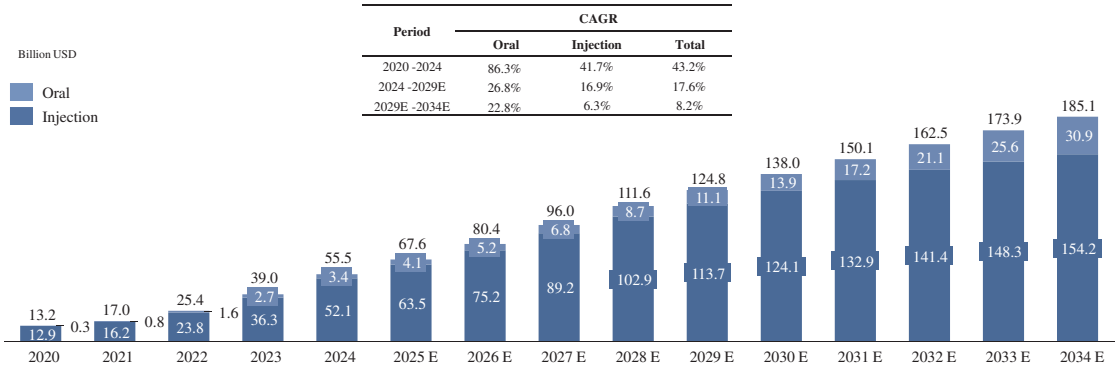
Category	Feature	Examples
Scaffold A	• Superior *in vivo* potency • Good drug-like properties • Low off-target risks	• Orforglipron • ECC5004
Scaffold B	• Low *in vivo* potency • Selected molecules with Scaffold B carry risks of hepatotoxicity	• Danuglipron • Lotiglipron

Source: Literature review, Frost & Sullivan

GLP-1RA As Monotherapy Drug Market

The global GLP-1RA monotherapy market, excluding combination regimens and multi-pharmacology agents, oral administrated GLP-1RA monotherapy drug is rapidly increasing its market share, achieving over 30% of the market share by 2034. The following tables set forth the market size and growth of GLP-1RA as monotherapy globally and in China.

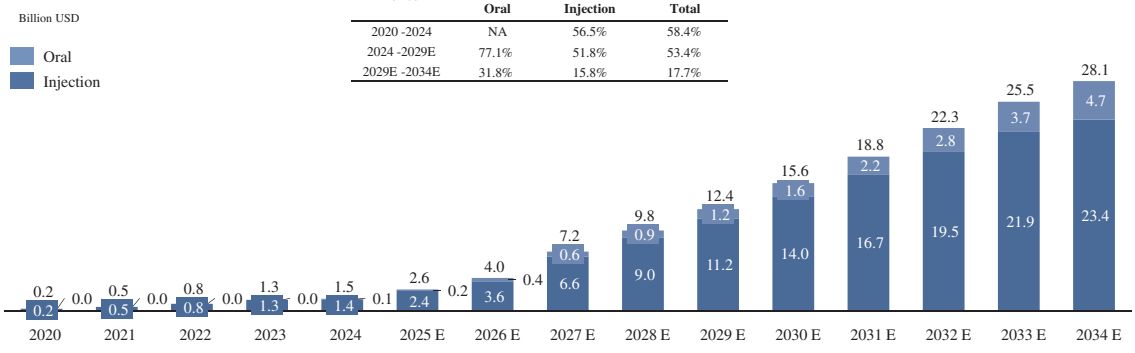
Global Drug Market Size of GLP-1RA As Monotherapy, 2020-2034E (By Administrations)



Period	CAGR		
	Oral	Injection	Total
2020 -2024	86.3%	41.7%	43.2%
2024 -2029E	26.8%	16.9%	17.6%
2029E -2034E	22.8%	6.3%	8.2%

Source: Frost & Sullivan

China's Drug Market Size of GLP-1RA As Monotherapy, 2020-2034E (By Administrations)



Period	CAGR		
	Oral	Injection	Total
2020 -2024	NA	56.5%	58.4%
2024 -2029E	77.1%	51.8%	53.4%
2029E -2034E	31.8%	15.8%	17.7%

Source: Frost & Sullivan

Competitive Landscape of Small Molecule GLP-1RAs in Obesity/Overweight Drug Market and T2D Drug Market

As of the Latest Practicable Date, four GLP-1RAs approved globally, including one oral small molecule GLP-1RA. The competitive landscape is expected to evolve further with the entry of generic GLP-1RA products. The emergence of generic GLP-1RA may improve affordability and access, while increasing pricing pressure on existing branded therapies and raising the bar for differentiated oral small molecule GLP-1RA candidates. As of the same date, seven oral small molecule GLP-1RA candidates entered global or U.S. Phase II or beyond clinical development for the treatment of obesity/overweight and/or T2D as illustrated in the below tables.

Marketed GLP-1RAs for the Treatment of Obesity/Overweight and T2D Globally

Drug Name/Code	Brand Name	Indication	Company	Price (USD)	2024 Revenue (USD Billion)	Prescription/OTC	NRDL	Dosage Form	Drug Type	Approval Time	Market Share
Orforglipron	Foundayo®	Obesity/overweight	Eli Lilly	/	/	Prescription	/	Oral	Small Molecule	US (2026-4-1)	/
Semaglutide	Wegovy®	Obesity/overweight	Novo Nordisk	1,349 per	8.4	Prescription	/	Injection	Peptide	US (2021-6-4)	49.7%
							/	Oral	Peptide	US (2025-12-22)	
	Ozempic®	T2D		935 per month			Yes	Injection	Peptide	US (2017-12-5)	
	Rybelsus®	T2D		935 per month			/	Oral	Peptide	US (2019-9-20)	
Tirzepatide	Zepbound®	Obesity/overweight	Eli Lilly	1,059 per month	4.9	Prescription	/	Injection	Peptide	US (2023-11-8)	29.0%
	Mounjaro®	T2D		1,023 per month			Yes		Peptide	US (2022-5-13)	
Liraglutide	Saxenda®	Obesity/overweight	Novo Nordisk	1,349 per month	1.0	Prescription	/	Injection	Peptide	US (2014-12-23)	5.9%
	Victoza®	T2D		930 per month			Yes		Peptide	US (2010-1-25)	

Source: Frost & Sullivan

Global Pipeline of Phase II or Beyond Small Molecule GLP-1RAs for Obesity/Overweight and T2D

Drug Name/Code	Scaffold Type	Company	Clinical Stage	Indication	Region	Dosage Form	Drugs Type	Regimen
Orforglipron	Scaffold A	Lily	NDA	T2D	Global	Oral	Small molecule GLP-1RA	Mono
ECC5004	**Scaffold A**	**Eccogene**	**Phase Ib**	**Obesity/Overweight**	**Global**	**Oral**	**Small molecule GLP-1RA**	**Mono**
				T2D	**Global**			
GSBR-1290/ Aleniglipron	Scaffold A	Structure	Phase IIb	Obesity/Overweight	US	Oral	Small molecule GLP-1RA	Mono
ASC30	Scaffold A	Ascletis	Phase IIa	Obesity/Overweight	US	Oral	Small molecule GLP-1RA	Mono
RGT-075	Scaffold B	Regor	Phase IIb	Obesity/Overweight	US	Oral	Small molecule GLP-1RA	Mono
				T2D	US			
TERN-601	Scaffold B	Terns	Phase IIa	Obesity/Overweight	US	Oral	Small molecule GLP-1RA	Mono
CX11	Scaffold B	Corxel	Phase II	Obesity/Overweight	US	Oral	Small molecule GLP-1RA	Mono
RO7795081	Scaffold B	Roche	Phase II	Obesity/Overweight	Global	Oral	Small molecule GLP-1RA	Mono
				T2D	Global			

Source: Clinicaltrials.gov, Frost & Sullivan

OA Pain Drug Market

Overview of OA Pain

OA pain is joint pain that worsens with activity and improves with rest, often with stiffness after inactivity, swelling, tenderness, crepitus, and reduced range of motion. It stems from cartilage breakdown in knees, hips, and hands and may become permanent conditions. Management targets symptom control using nonpharmacological measures such as physical therapy and weight management and pharmacological options such as NSAIDs, acetaminophen, intra-articular corticosteroids, and opioids. Long-term use of these agents could carry safety tradeoffs, including higher risks of gastrointestinal bleeding, renal impairment, cardiovascular events, addiction, and weight gain and fractures.

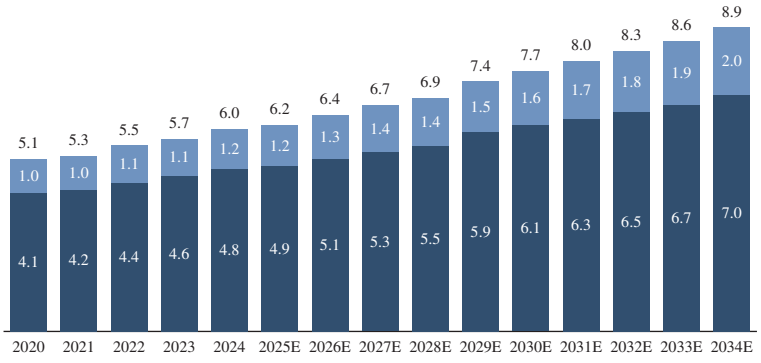
Globally, the prevalence of OA pain patients increased from 433.6 million in 2020 to 473.9 million in 2024, with a CAGR of 2.2%. This figure is projected to reach approximately 528.5 million by 2029 and 587.0 million by 2034, representing CAGRs of 2.2% and 2.1% for the same period. In China, the prevalence of OA pain patients increased from 356.1 million in 2020 to 388.7 million in 2024, with a CAGR of 2.4% and is expected to reach 432.9 million by 2029 and 479.8 million by 2034, representing CAGRs of 2.3% and 2.3% for the same period.

OA Pain Drug Market Size

Novel therapies such as orforglipron and ECC0509 are in clinical development for the treatment of OA pain. The following tables set forth the market size and growth of OA pain drug globally by geography and drug type.

Global OA Pain Drug Market, 2020-2034E, (By Geographical Region)

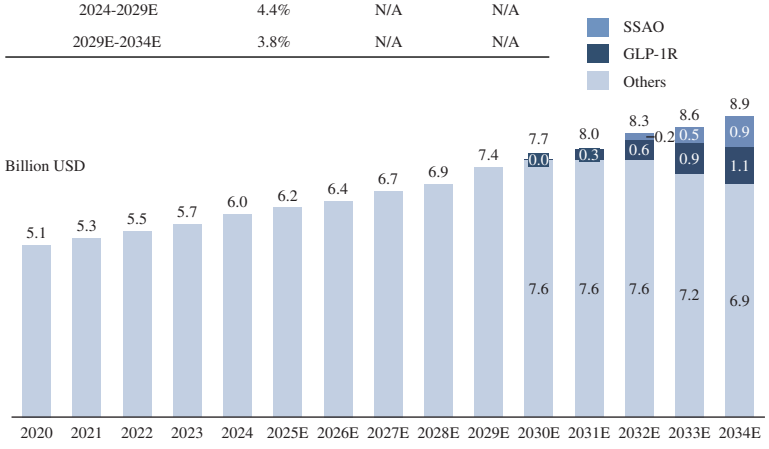
Period	CAGR	
	China	Global
2020-2024	4.1%	4.6%
2024-2029E	4.4%	5.3%
2029E-2034E	3.8%	4.9%



Source: Frost & Sullivan

Global OA Pain Drug Market, 2020-2034E, (By Drug Types)

Period	CAGR		
	Total	SSAO	GLP-1
2020-2024	4.1%	N/A	N/A
2024-2029E	4.4%	N/A	N/A
2029E-2034E	3.8%	N/A	N/A



Source: Frost & Sullivan

Overview of SSAO Drug

SSAO is an enzyme broadly expressed in mammals, which primarily catalyzes the oxidative deamination of primary amines to generate aldehydes, ammonia, and hydrogen peroxide (H_2O_2). SSAO plays key roles in numerous physiological and pathological processes, including leukocyte migration, oxidative stress, inflammation, vascular injury, diabetes, obesity/overweight, and fibrosis.

Competitive Landscape of Small Molecule SSAO Drug Market

As of the Latest Practicable Date, no drugs targeting SSAO have been approved for the treatment of OA pain globally, and ECC0509 is positioned as the first SSAO candidate for the treatment of OA pain. The following table illustrated the competitive landscape of clinical stage oral small molecule SSAO candidates globally for the treatment of OA pain as of the Latest Practicable Date.

Clinical Stage Small Molecule SSAO Pipeline in Global Study

Drug Name/Code	Target/Active Ingredient	Company	Clinical Stage	Indication	Region	Dosage Form	Drugs Type	Regimen
ECC0509	SSAO	Eccogene	Phase II	MASH	Global	Oral	Small molecule GLP-1RA	Combo
				OA Pain	Global			Mono
SNT-4728/ PXS-4728	SSAO/MAO-B	Syntara	Phase II	REM Sleep Behavior Disorder	Global	Oral	Small molecule GLP-1RA	Mono

Source: Frost & Sullivan

GIPR Modulator Drug Market

Overview of GIPR Modulator Drug

GIPR modulator is secreted by intestinal K cells postprandially, especially after fat intake. By activating GIPR, these agents enhance glucose-dependent insulin release from pancreatic β-cells, support glucagon secretion during hypoglycemia, and modulate lipid storage and bone metabolism. Emerging data suggest that tailoring dose and combining GIPR modulators with GLP-1RAs can maximize efficacy while mitigating gastrointestinal effects commonly seen with incretins.

GIPR Modulator Drug Market Size

In May 2022, Tirzepatide, a GLP-1R/GIPR dual agonist, was first approved in T2D, indicating the emergence of global GIPR modulator drug market. The market value increased from US$0.5 billion in 2022 to US$16.5 billion in 2024 and is projected to expand significantly, reaching US$112.9 billion by 2029 and US$152.8 billion by 2034 with CAGRs of 47.0% from 2024 to 2029 and 6.2% from 2029 to 2034. The GIPR modulator drug market in China is estimated to reach US$0.3 billion in 2025, US$15.8 billion in 2029 and US$33.6 billion by 2034, representing a CAGR of 16.3% from 2029 to 2034.

Amylin Receptor Agonist Drug Market

Overview of Amylin Receptor Agonist Drug

Amylin receptor agonist drugs mimic endogenous Amylin to deliver anti-hyperglycemic and weight-loss benefits. Mechanistically, they delay gastric emptying, suppress postprandial glucagon secretion in a glucose-dependent manner, and act centrally to enhance satiety, thereby reducing energy intake, improving postprandial glucose control, and supporting weight loss. Ongoing development focuses on optimizing receptor selectivity, extending half-life, and minimizing gastrointestinal tolerability issues while preserving satiety-driven efficacy.

Amylin Receptor Agonist Drug Market Size

The global Amylin receptor agonist drug market is projected to expand significantly, reaching US$34.8 billion by 2034. Similarly, the Amylin receptor agonist drug market in China is projected to reach a market size of US$4.3 billion by 2034.

UPA Drug Market

Overview of UPA Drug

Unimolecular poly-agonist ("**UPA**") are drug molecules that simultaneously activate two or more receptors or signaling pathways. By engaging multiple targets, UPAs can deliver synergistic efficacy beyond that of traditional single-target agonists. For example, concurrent activation of GLP-1, amylin, GIP, and GCGR can produce additive benefits on glycemic control, body weight, and lipid metabolism, thereby expanding therapeutic applications. As a result, UPA is expected to achieve superior clinical outcomes in complex metabolic diseases such as MASH, obesity/overweight, and T2D, and may emerge as a leading treatment strategy for chronic metabolic disorders.

UPA Drug Market Size

The global UPA drug market increased from US$19.8 billion in 2020 to US$107.9 billion in 2024, representing a CAGR of 52.8%. It is expected to reach US$262.3 billion by 2029 and US$398.8 billion by 2034, reflecting CAGRs of 19.4% from 2024 to 2029 and 8.7% from 2029 to

2034, respectively. In China, the UPA drug market expanded from US$0.3 billion in 2020 to US$2.2 billion in 2024 and is expected reaching US$28.4 billion by 2029 and US$66.0 billion by 2034, outpacing the global growth trajectory with CAGRs of 58.4%, 66.9% and 18.4% over the same periods.

SOURCE OF INFORMATION

We engaged Frost & Sullivan, a market research consultant, to prepare the Frost & Sullivan Report for use in this document. The information from Frost & Sullivan disclosed in this document is extracted from the Frost & Sullivan Report and is disclosed with the consent of Frost & Sullivan. In preparing the Frost & Sullivan Report, Frost & Sullivan collected and reviewed publicly available data such as government-derived information, annual reports, trade and medical journals, industry reports and other available information gathered by not-for-profit organizations as well as market data collected by conducting interviews with industry KOLs.

Frost & Sullivan has exercised due care in collecting and reviewing the information so collected and independently analyzed the information, but the accuracy of the conclusions of its review largely relies on the accuracy of the information collected. We agreed to pay Frost & Sullivan a fee of US$63,381 for the preparation and update of the Frost & Sullivan Report, which is not contingent on the [**REDACTED**] proceeding.