

INDUSTRY OVERVIEW

The information and statistics set out in this section and other sections of this document were extracted from different official government publications, available sources from public market research and other sources from independent suppliers, and from the independent industry report prepared by Frost & Sullivan in connection with the [REDACTED] (the “Frost & Sullivan Report”). The information from official government sources has not been independently verified by us, the Joint Sponsors, [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.

THE GENE THERAPY MARKET

Overview of Gene Therapy

Gene therapy is the use of various genetic altering techniques to treat diseases at their source. Compared with traditional medicines that generally treat symptoms or modulate physiological pathways, gene therapy goes upstream and targets the root genetic defect or blocks the pathogenic mechanism, offering curative potential to inherited diseases with no existing treatment options, and long-lasting benefit with a single treatment for refractory diseases.

While the adoption of gene therapy used to be constrained by its limited application scenarios and high costs, advances in gene therapy in recent years have enabled it to gradually pivot from ultra-rare, monogenic disorders towards more prevalent, large-market indications. Developments in the manufacturing process of gene therapy drugs are also enabling early-movers in the industry to reduce product cost and improve accessibility of gene therapy treatments. While there are already more than a dozen gene therapy products approved by regulators globally, recent developments have created significant opportunities for fast-moving and sophisticated gene therapy companies.

Gene therapy typically utilizes vectors to deliver genetic materials into target cells where they are transcribed and translated into functional proteins. Gene therapy vectors are primarily divided into viral and non-viral vectors. Viral vectors, which account for over 90% of gene therapies with a known delivery method, exploit their natural infection and fusion mechanisms to achieve high transduction efficiency and long-term expression in target cells. In comparison, non-viral vectors offer benefits such as lower immunogenicity and larger cargo capacity, but generally exhibit lower delivery efficiency and shorter duration of expression.

Commonly used viral vectors include adeno-associated viruses (“AAV”), adenoviruses, herpes simplex viruses, lentiviruses, and retroviruses. In particular, AAV enjoys advantages including wide host range, long-term *in vivo* expression and low immunogenicity, although it also tends to have low loading capacity. For details, see “— rAAV Gene Therapy Drugs and CMC Platforms — Overview of rAAV Gene Therapy”.

Development Pathway and Clinical Application Scenarios

In 2017, Luxturna[®] became the first FDA-approved rAAV gene therapy for the treatment of IRD associated with biallelic RPE65 mutations. The approval rate for gene therapy drugs accelerated greatly since 2022, mainly driven by the maturation of underlying technologies and a more established regulatory framework. Among the 20 gene therapy drugs approved in the United States since 2015, 18 were approved since 2022.

Currently, approved gene therapy drugs are primarily used for rare diseases. The FDA defines rare diseases as those affecting fewer than 200,000 people in the United States, and the National Health Commission (“NHC”) of the PRC maintains a list of designated rare diseases based on miscellaneous factors. Among the 20 gene therapy drugs approved in the United States and two gene therapy drugs approved in China since 2015, 19 drugs, or 95%, target rare diseases as defined by the FDA or designated by the NHC. However, there has been a trend for gene therapy research and development to pivot from rare diseases towards more prevalent, large-market indications.

In terms of the therapeutic areas targeted by gene therapy drugs, ophthalmic disease is the most targeted area among all gene therapy drugs under clinical stage development in the

INDUSTRY OVERVIEW

United States and in China. There are 48 and 47 gene therapy drugs under clinical stage development targeting ophthalmic diseases in the United States and China, respectively, representing 22% and 33% of the total number of gene therapy drugs under development. Ophthalmic diseases have received major attention since the eye is an ideal target for gene therapy due to its immune-privileged status, compartmentalization, and accessibility for local delivery. In 2017, Luxturna[®] was approved in the United States as an rAAV gene therapy for the treatment of RPE65-related IRD, validating gene therapy as a viable treatment option for ophthalmic diseases. Gene therapy drugs currently under development for ophthalmic diseases target not only monogenic IRDs such as Leber congenital amaurosis (“LCA”) but also high-prevalence, multifactorial refractory diseases like neovascular nAMD, DME and DR.

Gene therapy drugs also offer great potential to other therapeutic areas such as nervous system, cardiovascular and hematologic diseases. With cardiovascular diseases as an example, while traditional drugs are primarily palliative and require lifelong administration, gene therapy may achieve sustained transgene expression over multiple years with a single administration.

Approved Drugs and Drugs under Development

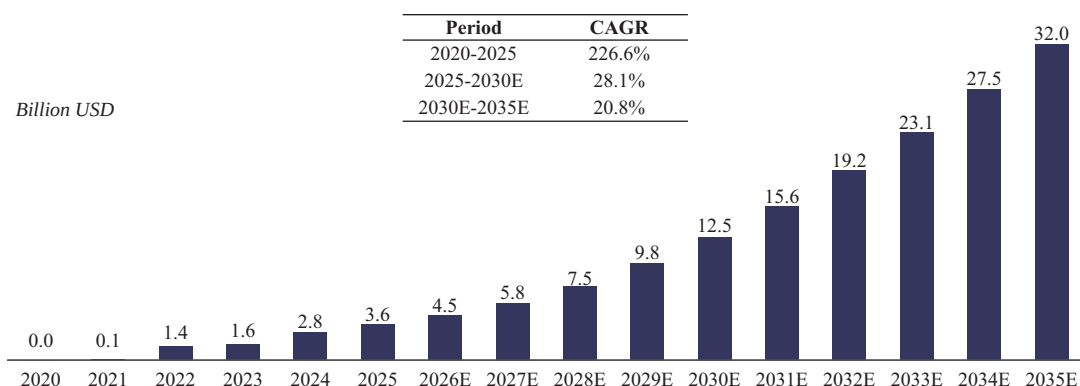
Since 2015 and up to the Latest Practicable Date, the United States has approved 20 gene therapy products, of which 19 were approved since 2022. Since 2015 and up to the Latest Practicable Date, China has approved two gene therapy products. The difference is mainly attributable to differences in regulatory maturity and ecosystem readiness for gene therapy development and commercialization of the two jurisdictions. Recent regulatory changes have raised expectations that more drug candidates will be approved in the near future.

There is currently a robust and diverse development pipeline for gene therapy drugs, including 221 clinical stage candidates in the United States and 142 clinical stage candidates in China as of the Latest Practicable Date.

Gene Therapy Market Size

The global gene therapy market has witnessed rapid growth in the last few years, reaching a market size of USD3.6 billion in 2025. The market has gone through a period of exponential growth from 2020 to 2025 with a CAGR of 226.6%. Going forward, the global market is expected to grow at a CAGR of 28.1% from 2025 to 2030 and reach a market size of USD12.5 billion in 2030. The market is expected to further increase to USD32.0 billion in 2035, with a CAGR of 20.8% from 2030 to 2035. The following diagram illustrates the growth of the global gene therapy market.

Global Gene Therapy Market, 2020-2035E

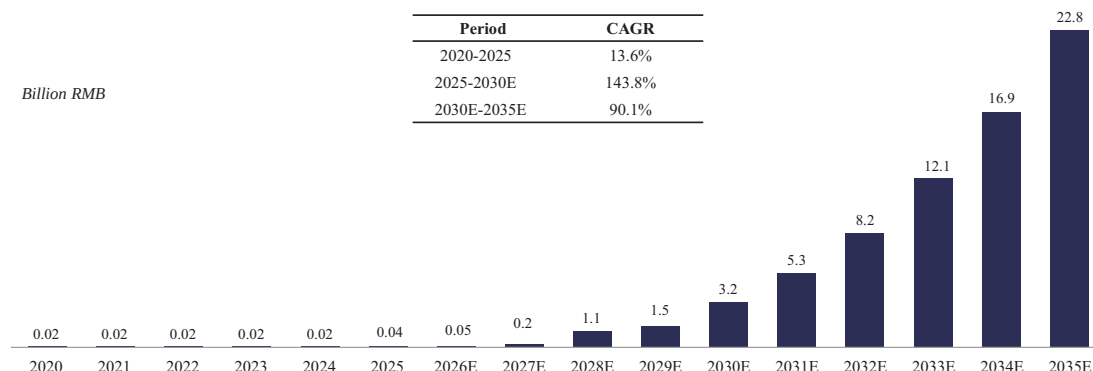


Source: Listed Companies’ Annual Reports, Frost & Sullivan Report

INDUSTRY OVERVIEW

The gene therapy market in China is also poised for a period of rapid growth. In 2025, the gene therapy market in China remained at a very early stage, with a total market size of approximately RMB0.04 billion. It is expected to grow at a CAGR of 143.8% from 2025 to 2030 and reach a market size of RMB3.2 billion in 2030. The market is expected to further increase to RMB22.8 billion in 2035, with a CAGR of 90.1% from 2030 to 2035. The following diagram illustrates the growth of the China gene therapy market.

Gene Therapy Market in China, 2020-2035E



Source: Listed Companies' Annual Reports, Frost & Sullivan Report

As of the Latest Practicable Date, there are approximately 47 gene therapy drug candidates in clinical development in China for ophthalmic indications, including three candidates in Phase III clinical trials. The increasing number of clinical-stage programs, particularly late-stage assets, reflects accelerating R&D momentum and provides support for the projected strong market growth in China over the forecast period.

Challenges and Entry Barriers to the Gene Therapy Market

The major challenges and entry barriers to the gene therapy market are set forth as follows:

- **Manufacturing capacity and cost constraints.** The gene therapy market is confronting a severe manufacturing capacity constraint, driven by the rapid expansion of clinical pipelines and the inherent complexity of production processes.
- **Regulatory, safety and long-term efficacy uncertainties.** As a novel therapeutic approach, gene therapy still faces significant uncertainties in both regulatory oversight and clinical implementation. Long-term data regarding treatment durability and potential delayed adverse effects remain insufficient, impacting physicians' willingness to adopt these therapies and patients' confidence in them. Given the long-lasting nature of genetic interventions, their regulatory framework is exceptionally stringent and continuously evolving, demanding extensive preclinical and clinical evidence.
- **High price and limited market acceptance.** There is a fundamental tension between research and development costs and market accessibility. Most approved therapies target ultra-rare diseases affecting small patient populations, necessitating high prices to recoup investments. However, healthcare systems and payers struggle to bear such costs, resulting in fragmented reimbursement policies with limited coverage.

Growth Drivers and Future Trends of the Gene Therapy Market

The growth of the gene therapy market is expected to be driven by the following factors:

- **Innovation in vector delivery technology.** Innovations in vector delivery systems and the use of gene-editing tools to improve existing gene-therapy methods are

INDUSTRY OVERVIEW

major drivers of the gene therapy market. The iterative upgrading of gene-delivery technologies such as the employment of artificial intelligence is accelerating the innovation and development of rAAV vectors.

- ***Advances in detection technology drive target discovery and screening.*** Improved detection technologies, particularly gene sequencing, have enabled more effective target discovery. In addition, genome breakthroughs have sped up drug screening, creating more pharmaceutical opportunities.
- ***Favorable government policies.*** Supportive government policies have continued to accelerate basic biomedical research and gene therapy development globally. In the U.S., the FDA has issued multiple gene therapy-specific guidances to streamline development and regulatory review, such as “Expedited Programs for Regenerative Medicine Therapies for Serious Conditions”, which clarifies expedited pathways for regenerative medicine therapies, and “Chemistry, Manufacturing, and Control Information for Human Gene Therapy INDs”, which provides detailed recommendations on CMC requirements to support product quality and consistency for investigational gene therapy products.
- ***Growing investment in research and development and capital support.*** The global gene therapy market is experiencing significant growth thanks largely to the increased research and development investment and capital support.

In China, the growth of the gene therapy market is expected to be further driven by public-private collaborations that promote the development of commercial insurances that cover gene therapy drugs. In December 2025, the National Healthcare Security Administration released the Innovative Drug Directory for Commercial Health Insurances, explicitly extending commercial insurance coverage to drugs with significant clinical value that are not reimbursed under public health insurance schemes such as gene therapy. Drugs listed on the Innovative Drug Directory are expected to supplement public health insurances and receive coverage from commercial health insurances, including the government-supervised, privately-operated Hui Min Bao (惠民保).

The future development of the gene therapy market is likely to witness the following trends:

- ***Expanding application of gene therapy.*** Gene therapy is shifting from rare diseases to more prevalent indications. Early successes in the treatment of rare diseases such as spinal-muscular atrophy and LCA validated the treatment method, but pipelines are now targeting large-market conditions including heart failure, type 2 diabetes, hypertension, chronic pain and Alzheimer’s disease.
- ***Increasingly cost-effective platforms for research and development and production.*** Currently, there are two major cell culture platforms for gene therapy: the Bac/Sf9 system and HEK293 system. These platforms are suitable for the production of different types of viral vectors and can meet the requirements of large-scale production through process optimization. Domestic manufacturers, by continuously refining their processes, have been able to reduce costs while steadily increasing viral titers and single-cell yields.
- ***Affordability and accessibility.*** The gene therapy market is expected to experience improving affordability and accessibility, driven by (i) biotech companies’ ongoing efforts to enhance the cost-effectiveness of research and development and manufacturing processes, (ii) the government’s support for increasingly flexible and diversified payment options, such as the expansion of commercial health insurance coverage and policy-supported reimbursement mechanisms, and (iii) higher patient volume and economies of scale which may allow more patient-friendly pricing.
- ***Enhancing safety profile.*** Future gene therapy development is expected to enhance safety through refined vector designs, reduced immunogenicity, and improved targeting specificity.
- ***Increasingly stringent quality control standards.*** To improve product safety and efficacy when manufacturing at scale, it is crucial to conduct quality research on gene therapy products, establish corresponding manufacturing and quality control methods and standards, carry out systematic non-clinical studies, and evaluate safety risks as well as effectiveness of action mechanisms.

INDUSTRY OVERVIEW

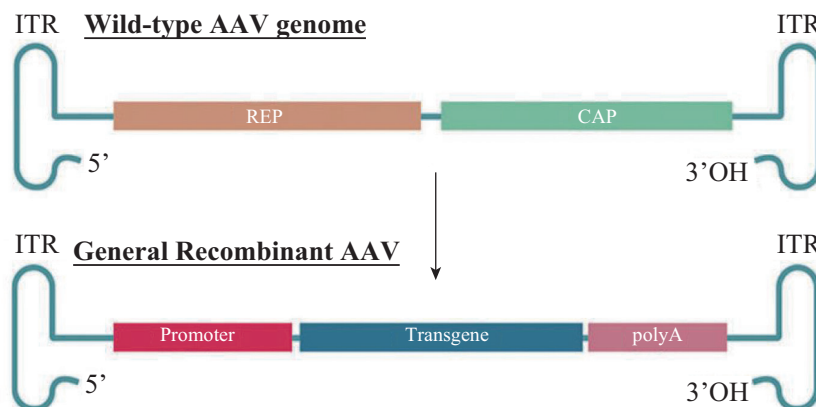
rAAV GENE THERAPY DRUGS AND CMC PLATFORMS

Overview of rAAV Gene Therapy

AAV is a single-stranded DNA virus, and the two ends of its genomic DNA are inverted terminal repeat (“**ITR**”) sequences which are required for DNA replication initiation and packaging of recombinant AAV virus particles. Between the ITR sequences lies the viral coding region, which contains two genes, Rep and Cap. Among them, the Rep gene mainly functions in the replication of the viral genome and its integration with the host genome, while the Cap gene mainly functions in the packaging of the viral genome and its secretion from host cells.

For rAAV gene therapy, wild-type AAV genomes are packaged into rAAV and used as vectors in gene therapies. The most widely used packaging method for rAAV relies on the triple transfection of HEK293 cells. This system employs three plasmids: a transfer plasmid carrying the gene of interest flanked by ITRs, a Rep/Cap plasmid providing AAV replication and capsid proteins, and an adenoviral helper plasmid supplying essential viral functions. However, for scalable manufacturing, the Bac/Sf9 system offers a compelling alternative. In this platform, recombinant baculoviruses deliver specially designed insect-promoter-driven Rep and Cap expression cassettes along with the ITR-flanked gene of interest to Sf9 insect cells. This method is particularly advantageous for large-scale production due to its superior scalability, as it utilizes viral infection rather than plasmid transfection, and lower cost, as it utilizes viral expansion instead of large-scale plasmid preparation. For details, see “— CMC Platforms for rAAV Vectors” below.

The following chart sets forth the structure of wild-type AAV genomes and general recombinant AAVs.

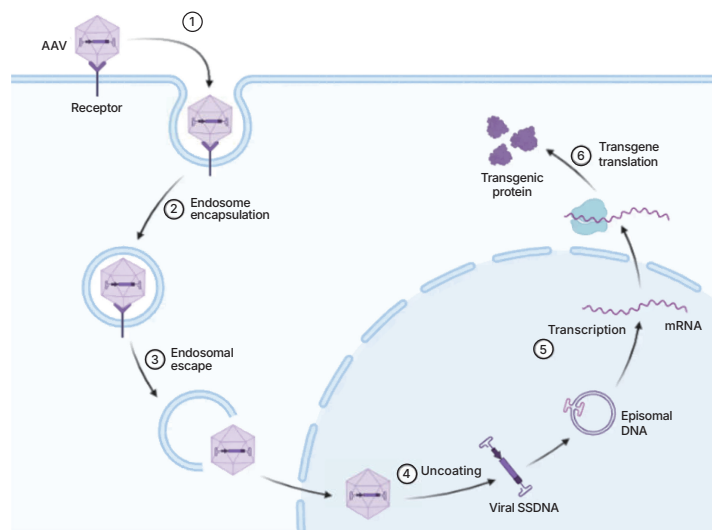


Source: Literature Review, Frost & Sullivan Report

Compared with other viral vectors, rAAV vector enjoys a number of advantages including being non-pathogenic, enabling efficient and sustained transgene expression, easy manipulation, and low immunogenicity. As a replication-defective DNA virus without autonomous replication ability, AAV can only replicate when other helper viruses simultaneously infect the host. Moreover, it barely integrates into the host genome.

INDUSTRY OVERVIEW

rAAV gene therapy utilizes rAAV vectors to deliver genes of interest into target cells, where they are transcribed and translated into functional proteins. The following diagram illustrates the mechanisms of action of rAAV gene therapies when applied to treat target diseases.



Notes:

- (1) Steps 1 through 3: rAAV vectors bind to cell surface receptors and are then internalized by vesicles and transported to the nuclear membrane.
- (2) Steps 4 through 6: After detaching from the vesicles, rAAV transports its single-stranded genome into the cell nucleus, where it is converted into DNA, and then the expression of the target protein is completed through transcription and translation.

Source: Literature Review, Frost & Sullivan Report

AAV can be classified into different serotypes based on genetic sequencing and functional characteristics (designated AAV1 through AAV13). Different serotypes may have different tissue tropism, that is, tissue specificity for infection. Therefore, different serotypes may be used for different diseases and targeted tissues to achieve the best effect. For example, specific serotypes can be used to target photoreceptor cells or retinal pigment epithelium, making them ideal for treating ophthalmic diseases.

Approved Drugs and Drugs under Development

As of the Latest Practicable Date, 11 rAAV gene therapy drugs have been approved globally. These drugs generally focus on rare diseases and have high production cost and treatment cost. Eight of the approved drugs were produced with the HEK293 system and three were produced with the Bac/Sf9 system.

INDUSTRY OVERVIEW

The following table sets forth certain details of these rAAV gene therapy drugs.

Drug Name	Company	Vector type	Target	Indication	Regulatory Approval Time	Therapeutic Area	Production System
Alipogene tiparvovec ¹	uniQure Biopharma, Cassie Pharma, Amsterdam Molecular Therapeutics, Xenon Pharma	Adeno-associated virus vector AAV1	LPL	Familial chylomicronemia syndrome	EMA: 2012-10-25 (Withdrawn)	Cardiovascular disease, rare disease	Bac/Sf9
Voretigene neparvovec	Roche / Novartis	Adeno-associated virus vector AAV2	RPE65	Retinal dystrophy caused by biallelic RPE65 mutations	FDA: 2017-12-19 EMA: 2018-11-22 PMDA: 2023-06-26	Ophthalmologic disease, rare disease	HEK293
Onasemnogene Aheparvovec	Novartis / Regeneron	Adeno-associated virus vector AAV9	SMN1	Spinal muscular atrophy	FDA: 2019-05-24 PMDA: 2020-03-19	Musculoskeletal system disorder, neurological disease, rare disease	HEK293
Eladocogene exuparvovec	PTC Therapeutics	Adeno-associated virus vector AAV2	AADC	Aromatic L-amino acid decarboxylase deficiency	EMA: 2020-05-18	Neurological disease, rare disease	HEK293
Valoctocogene Roxaparvovec	BioMarin Pharma	Adeno-associated virus vector AAV5	FVIII	Hemophilia A	FDA: 2022-07-20 EMA: 2024-11-13	Hematologic disease, rare disease	Bac/Sf9
Etranacogene dezaparvovec	uniQure Biopharma / CSL	Adeno-associated virus vector AAV5	FIX	Hemophilia B	FDA: 2022-11-22 EMA: 2023-02-20 FDA: 2023-06-23	Hematologic disease, rare disease	Bac/Sf9
Delandistrogene moxeparvovec	Roche, Sarepta Therapeutics	Adeno-associated virus vector AAVrh74	Microdystrophin	Duchenne muscular dystrophy	FDA: 2023-05-13	musculoskeletal system disorder, rare disease	HEK293
Fidanacogene elaparvovec	Roche	Adeno-associated virus vector AAVrh74	FIX	Hemophilia B	FDA: 2024-04-26 EMA: 2024-07-25 (Withdrawn)	Hematologic disease, rare disease	HEK293
Dalnacogene Pomparvovec	Belief BioMed; Shanghai Belief-Delivery BioMed	Adeno-associated virus vector AAV	FIX	Hemophilia B	NMPA: 2025-04-08	Hematologic disease, rare disease	HEK293
Lunsotogene parvec-cwha	Regeneron	Adeno-associated virus vector AAV1	OTOF	Severe-to-profound and profound sensorineural hearing loss (any frequency >90 dB HL) associated with molecularly confirmed biallelic variants in the OTOF gene	FDA: 2026-04-23	Otorhinolaryngologic Diseases, rare disease	HEK293
Pariglasgene brecaaparvovec	UltraGenyx Pharmaceutica	Adeno-associated virus vector AAV8	G6PC	Glycogen storage disease type Ia (GSDIa)	FDA: 2026-08-19	Metabolic Diseases, rare disease	HEK293

Note:

- (1) Alipogene tiparvovec was voluntarily withdrawn in 2017 following its commercial unsustainability, which was driven by an high price and limited market uptake in Europe.

Source: Clinicaltrial.gov, Frost & Sullivan Report

As of the Latest Practicable Date, there are over 250 rAAV gene therapy drugs under development, with five in BLA stage. The development is still concentrated in early clinical exploration: about 53% are in Phase I/II trials, validating safety and preliminary efficacy and dose finding. Stand-alone Phase I studies add another 27%, reflecting a steady influx of first-in-human candidates. Late-stage activity is emerging but remains modest — Phase III projects represent 10% and Phase II 6% of the pipeline, and 3% in Phase II/III.

Rare diseases and ophthalmic diseases constitute a significant portion of the global rAAV gene therapy pipeline. Treatment for rare diseases account for over half of all rAAV gene therapy drugs under development. Meanwhile, in terms of therapeutic areas, ophthalmic disease is the most targeted area, and other promising areas include neuromuscular, cardiovascular and hematologic diseases.

CMC Platforms for rAAV Vectors

The CMC of rAAV vectors present significant challenges to the rAAV gene therapy market. Some of these challenges include:

- **High manufacturing cost.** rAAV production remains one of the most expensive manufacturing platforms in the biologics field. Costs are driven by low volumetric productivity, dependence on complex cell-based production systems, high cost of plasmids, and labor-intensive downstream purification steps. In addition, rAAV requires extensive quality testing, which further increases per-batch and per-dose costs.
- **Batch-to-batch consistency.** rAAV potency is highly sensitive to the manufacturing process, and small variations in upstream or downstream operations can significantly affect biological activity. Low potency is often driven by factors such as incomplete genome packaging, damaged or oxidized capsids, aggregation, vector genome truncation, and suboptimal transduction efficiency. Variability in potency directly impacts clinical efficacy and may require higher doses, compounding safety risks.
- **High empty capsid rates.** Empty capsids inflate the total capsid burden without therapeutic benefit, tipping the immune balance towards neutralizing antibodies

INDUSTRY OVERVIEW

and complement activation. Removing these impurities is essential to secure potency, minimize reactogenicity, and achieve a clean safety profile.

- **Limited scalability.** Most traditional rAAV manufacturing platforms are difficult to scale linearly due to limitations in transfection efficiency, oxygen transfer, plasmid mass requirements, and vessel size. The lack of robust, high-yield, industrial-scale processes hinders commercial readiness and drives up cost, lead time, and facility requirements.

Currently, there are two primary manufacturing systems for rAAV vectors. The HEK293 system utilizes plasmid transfection into HEK293 cells, and the Bac/Sf9 system utilizes baculovirus infection of *Spodoptera frugiperda* insect cells. While the HEK293 system has traditionally been widely used due to its ease of setup and relatively low technical barrier, the Bac/Sf9 system is attracting interest in recent years due to its low manufacturing cost, high batch-to-batch consistency, low empty capsid rates, and high scalability and volumetric yield, all of which are potentially crucial advantages that may help overcome the key challenges to the gene therapy market. In addition, some rAAV gene therapy drugs under development use the HSV/BHK system, although to date there has been no approved rAAV gene therapy drug globally produced with this system.

The following table sets forth a comparison of the two primary manufacturing systems.

Category	Bac/Sf9 System	HEK293 System	Descriptions
Manufacturing Cost	Relatively low	Relatively high	The cost of rAAV manufacturing in Bac/Sf9 is generally lower, driven by inexpensive media and efficient infection-based production. HEK293 production is more expensive due to the need for large quantities of high-quality plasmids, costly transfection reagents, and more demanding mammalian cell culture processes.
Batch-to-Batch Consistency . . .	High	Moderate	Batch-to-batch consistency is a key advantage of the Bac/Sf9 platform. Once the baculovirus master bank is established, production under consistent multiplicity of infection conditions results in minimal variability between batches. In contrast, the HEK293 system, relying on transient transfection, exhibits greater batch-to-batch variation due to inherent differences in transfection efficiency and plasmid quality in each production run.
Empty Capsid Rates	Relatively low	Relatively high	The Bac/Sf9 system generally results in lower empty capsid rates. rAAV from the HEK293 platform had a full/empty capsid ratio of 70.8%, while rAAV from the Bac/Sf9 system had a full/empty capsid ratio of 93.2%, demonstrating a markedly lower empty capsid rate for the Bac/Sf9 system. ⁽¹⁾
Scalability	High (100–2000+ L)	Moderate; limited by transfection	The Bac/Sf9 system is highly scalable, with insect cells readily expanding in large stirred-tank bioreactors reaching up to 2,000 liters, making it well suited for large-scale GMP manufacturing. In comparison, the scaling of the HEK293 system is limited by the efficiency and cost of plasmid transfection.
Yield per Liter . . .	High and scalable	Moderate	The Bac/Sf9 system typically achieves high volumetric yields, benefiting from efficient infection and good scalability. HEK293 yields are moderate and more sensitive to transfection efficiency and plasmid quality. In the same head-to-head study discussed above, rAAV from Bac/Sf9 cells had approximately 40-fold higher yields than rAAV from HEK293 cells. ⁽¹⁾ In addition, publicly available studies have reported that Bac/Sf9 systems may achieve productivity levels of approximately 7×10^4 purified rAAV particles per cell under optimized experimental conditions.
Infectivity	Relatively high	Relatively low	The Bac/Sf9 system typically achieves higher infectivity. rAAV from Bac/Sf9 system had a higher tissue culture infectious dose/viral genome than rAAV from HEK293 platform, indicating better infectivity. ⁽¹⁾

INDUSTRY OVERVIEW

Note:

- (1) Systematic comparison of rAAV vectors manufactured using large-scale suspension cultures of Bac/Sf9 system and HEK293 platform originates from a head-to-head study in which AAV2.N54-afibercept vectors were produced under matched upstream/downstream protocols in Bac/Sf9 system and HEK293 platform, at both 2 liters and 50 liters, followed by identical analytics for yield, capsid content and infectivity.

Source: Literature Review (systematic comparison of rAAV vectors manufactured using large-scale suspension cultures of Sf9 and HEK293 cells), Frost & Sullivan Report

THE OPHTHALMIC DRUG MARKET

Overview of Ophthalmic Diseases

Ophthalmic disease refers to a class of disorders that anatomically occur in the eyes. There are more than one hundred recognized ophthalmic diseases. Eye conditions caused by genetic defects are collectively referred to as inherited ophthalmic diseases, which include, among others, retinal degenerations such as XLRP, LCA and others. Ophthalmic diseases can result in an irreversible loss of vision and blindness. In particular, based on an estimate from 2020, the leading causes of blindness in adults aged over 50 years old are, in the order of prevalence, cataracts, glaucoma, undercorrected refractive error, AMD, and diabetic eye diseases (including DR and DME).

Treatment Paradigm

A wide range of treatment options have been developed for ophthalmic diseases. Among them, anti-VEGF therapy is a standard treatment drug for fundus neovascular diseases, which include DME, nAMD, myopic choroidal neovascularization and retinal vein occlusion, as well as retinopathy of prematurity.

VEGF, or vascular endothelial growth factor, is a protein secreted by the endothelial cells, immune cells, epithelial cells or tumor cells that promotes the growth of blood vessels. Fundus neovascular diseases can lead to an overexpression of VEGF protein in cells, which stimulates neoangiogenesis and results in retinopathy and impaired vision. Anti-VEGF drugs inhibit VEGF-guided neoangiogenesis and alleviate disease progression.

Published literature suggests that approximately 20% to 40% of nAMD patients and 30% to 50% of DME patients globally may demonstrate inadequate or suboptimal response to anti-VEGF therapies, and similar unmet needs have also been observed in clinical practice in China.

INDUSTRY OVERVIEW

As of the Latest Practicable Date, a number of anti-VEGF drugs have been approved in China and the United States for the treatment of fundus neovascular diseases. The following chart sets forth a breakdown of approved drugs by targeted indication.

	FDA Approved	NMPA Approved
nAMD	2006—Lucentis® 2011—Eylea® 2019—Beovu® 2022—Vabysmo® 2023—Eylea HD®	2011—Lucentis® 2013—Lumitin® 2018—Eylea® 2024—Vabysmo® 2025—Eylea HD®
DME	2012—Lucentis® 2014—Eylea® 2022—Vabysmo® 2022—Beovu® 2023—Eylea HD®	2018—Lucentis® 2018—Eylea® 2019—Lumitin® 2023—Vabysmo® 2025—Beovu®
mCNV	2017—Lucentis®	2017—Lumitin® 2018—Lucentis®
RVO	2010—Lucentis® 2014—Eylea® 2023—Vabysmo® 2025—Eylea HD®	2018—Lucentis® 2022—Lumitin® 2024—Vabysmo®
DR	2015—Eylea® 2017—Lucentis® 2023—Eylea HD®	2021—Lucentis® 2026—Beovu®
ROP	2023—Eylea®	2021—Lucentis®

Source: NMPA, FDA, Frost & Sullivan Report

Unmet Medical Needs

Despite steady advances in the treatment methods for ophthalmic diseases, significant unmet medical needs remain.

With respect to anti-VEGF therapies, due to the short half-life of anti-VEGF antibodies or proteins, frequent repeated injections are required to maintain therapeutic efficacy. This creates both a high economic burden to patients and the health systems and results in low patient adherence over time subsequently resulting in poor long-term outcomes. In addition, frequent injections also result in increased risk of developing fibrosis, retinal scarring, and geographic atrophy.

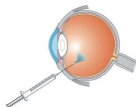
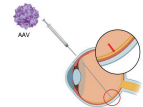
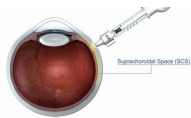
More generally, there is an insufficient number of therapies available, as the pathogenesis of certain ophthalmic diseases such as IRDs are not yet fully understood. Challenges remain in ophthalmic drug delivery, as complex delivery methods such as subretinal or intraretinal injections are often beyond the capacity of hospitals in less developed regions. There is limited access to innovative drugs. Finally, there is insufficient drug development for rare diseases, as their limited market size often discourages investment.

rAAV Gene Therapy in Ophthalmic Disease Treatment

In recent years, rAAV gene therapy has emerged as a promising treatment option for certain ophthalmic diseases, particularly fundus neovascular diseases. Compared with other treatment options, rAAV gene therapy possesses several key advantages which may enable it to address existing unmet medical needs.

INDUSTRY OVERVIEW

- **Higher Safety Profile.** rAAV vectors have low immunogenicity and are less likely to trigger strong immune responses when introduced into the body. This characteristic significantly reduces the risk of the body’s immune system attacking the vector and the introduced gene. Additionally, rAAV is non-pathogenic to humans, does not naturally cause disease, and barely integrate into the host patient’s genome.
- **Stable Gene Expression.** rAAV vectors can achieve long-term transgene expression in dividing and non-dividing cells. Moreover, rAAV vectors are highly efficient in transducing various cell types in the eye. Therefore, one injection of rAAV gene therapy can provide long-lasting benefits. Engineered serotypes of AAV can target specific ocular tissues, such as retinal pigment epithelium and photoreceptors, which is crucial for effective gene therapy.
- **Targeted and Efficient Delivery.** By engineering the viral capsid or using cell-specific promoters, rAAV vectors can deliver genes specifically to certain cell types in the eye. This not only minimizes off-target effects but also enhances therapeutic efficacy by ensuring that the therapeutic gene is expressed only in the desired cells. Furthermore, the relatively small tissue area and accessible nature of the eye allow rAAV vectors to be administered directly with low doses. The retina-blood barrier reduces systemic exposure and the risk of immune responses, making the delivery process more controllable and precise. Currently, depending on the therapeutic purpose, rAAV vectors are mainly delivered through intravitreal injection, subretinal injection, and suprachoroidal injection. The following diagram sets forth a comparison of the main delivery methods for rAAV vectors. Intravitreal injection is relatively non-invasive and has low requirements for the operation environment and the doctor’s expertise, but also requires rAAV vectors to be able to penetrate multiple layers of cells.

	Intravitreal Injection	Subretinal Injection	Suprachoroidal Injection
Type of Injection			
Infecting Cell	<ul style="list-style-type: none">• Mainly infects ganglion cells and Müller glial cells	<ul style="list-style-type: none">• Mainly infects retinal pigment epithelial (RPE) cells and photoreceptor cells	<ul style="list-style-type: none">• Mainly infects retinal pigment epithelial (RPE) cells and Photoreceptors (rods and cones)
Advantages	<ul style="list-style-type: none">✓ Less invasive✓ Operation is more convenient, safer, has lower requirements for the doctor’s operation, and has high clinical applicability✓ Fewer postoperative complications	<ul style="list-style-type: none">✓ Subretinal injection allows the viral vector to more easily approach RPE cells, and it also results in a relatively reduced immune response.	<ul style="list-style-type: none">✓ Minimally invasive, in-office procedure✓ Broad circumferential coverage✓ Bypasses inner barriers
Disadvantages	<ul style="list-style-type: none">✗ Intravitreal injection requires the viral vector to travel from the vitreous cavity to the RPE cells, moving from the inner retina to the outer retina. rAAV may need to effectively penetrate the entire retina, crossing through multiple layers of cells, hence there is a relatively high requirement for the penetrating ability of the rAAV vector, especially for expressing non-secreted therapeutic proteins.	<ul style="list-style-type: none">✗ Some patients might experience thinning of the central retina and vision loss, with decreased retinal thickness observed in certain cases, posing significant safety risks.✗ Subretinal injection is a special surgery and has a risk of retina detachment. It faces challenges in achieving uniform and precise delivery, with some medication potentially leaking from the retinal incision, making it difficult to deliver the vector volume accurately and evenly.	<ul style="list-style-type: none">✗ Immune exposure and inflammation: The suprachoroidal space is outside the blood-retinal barrier, so gene vectors there are exposed to immune surveillance✗ Rapid choroidal clearance: The choriocapillaris has extremely high blood flow, so vector particles in the SCS can be quickly washed away. This rapid clearance may limit the fraction of vector that penetrates into retina. Much higher dose is needed.✗ Technical challenges of injection: Delivering into the thin SCS requires precision and a special device.

Source: Literature Review, Frost & Sullivan Report

- **Increasing Clinical Applications.** So far, a total of nine rAAV gene therapy drugs have received regulatory approval. For instance, Luxturna[®] is an rAAV gene therapy that has been approved for treating RPE65-related IRD. Currently, a significant amount of research and clinical trials are ongoing to explore the potential applications of rAAV vectors in ophthalmic diseases.

As a result of the above advantages of rAAV vectors, there have been many high-profile transactions involving rAAV vectors. For example, in October 2025, Eli Lilly acquired Adverum Biotechnologies, including its lead product candidate, Ixo-vec, for US\$262 million.

INDUSTRY OVERVIEW

Ixo-vec, or ixoberogene soroparvovec and formerly ADVIM-022, is an rAAV gene therapy candidate in Phase III clinical trials targeting nAMD. In November 2025, Eli Lilly obtained the worldwide exclusive rights to MeiraGTx Holdings’ AAV-AIPL1, an rAAV gene therapy candidate for LCA4, with an upfront payment of US\$75 million and total milestone payments of US\$475 million. Also in October 2025, Otsuka Pharmaceutical entered into a license agreement with 4D Molecular Therapeutics to obtain exclusive rights in Asia-Pacific for 4D-150, an rAAV gene therapy in Phase III clinical trials targeting nAMD and DME, for US\$471 million. Meanwhile, AbbVie is progressing its development of sura-vec, or surabgene lomparvovec and formerly ABBV-RGX-314, an rAAV gene therapy for nAMD and DR, towards Phase III clinical trials, after entering into a collaboration and licensing agreement for the candidate in 2021 with an upfront payment of US\$370 million and total milestone payment of up to US\$1.38 billion.

Growth Drivers of the Ophthalmic Drug Market

The growth of the ophthalmic drug market is expected to be driven by the following factors:

- **Enlarging Patient Pool.** nAMD represents a substantial disease burden, with patient numbers reaching 21.6 million in 2025 globally. DR driven by the growing prevalence of diabetes affects an even larger population, with 127.7 million patients worldwide in 2025. The rising prevalence of nAMD and DR, largely attributable to population aging and metabolic disease trends, has led to a continued increase in disability-adjusted life years. As a result, demand for effective and durable ophthalmic treatments is expected to grow in the coming years.
- **Broader Therapeutic Indications.** Although Luxturna® remains the only globally marketed ophthalmic gene therapy to date approved for RPE65-related IRD, a growing pipeline is rapidly emerging. In China, 47 ophthalmic gene therapy candidates are currently in clinical development, with over 20 targeting chronic retinal diseases such as AMD and DME rather than rare inherited conditions. This expanding pipeline underscores the transition of gene therapy toward broader therapeutic indications, supporting continued growth of the ophthalmic drug market.
- **Favorable global regulatory environment.** In the United States, the FDA has issued disease-specific and modality-focused guidance for ophthalmic drug development, including recommendations for nAMD, while regulatory mechanisms such as treatment INDs and expanded access programs have facilitated the development and availability of innovative therapies. In parallel, China has strengthened national eye health policies under the 14th Five-Year National Eye Health Plan, focusing on expanded ophthalmic healthcare capacity and improved disease screening and treatment coverage. Together with increasing regulatory clarity on quality, safety, and efficacy requirements, these measures have supported sustained investment and the long-term expansion of the global ophthalmic drug market.

The Ophthalmic Drug Market Size

The global ophthalmic pharmaceutical market maintained a smooth and steady growth in the past 5 years, increasing to USD44.1 billion in 2025 from USD33.5 billion in 2020 with a CAGR of 5.7%. The global ophthalmic pharmaceutical market is estimated to approach USD49.4 billion by 2030 and USD65.5 billion by 2035, representing a CAGR of 2.3% from 2025 to 2030 and a CAGR of 5.8% from 2030 to 2035.

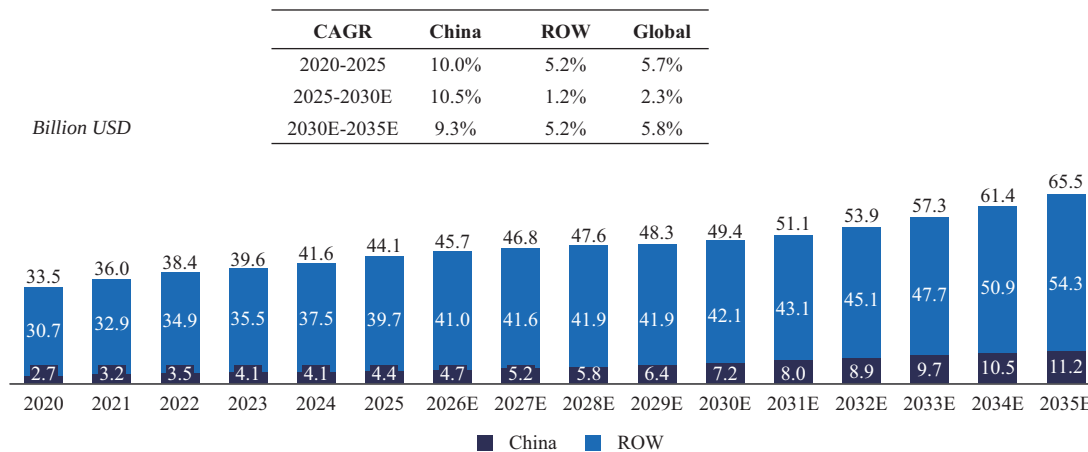
In comparison, the China ophthalmic drug market has grown at a faster pace and is projected to keep up its momentum. Consistent with worldwide trends, an increasing number of ophthalmic drugs with new and user-friendly formulations and dosing schedules have been in development. In addition, benefiting from drug registration reforms, an increasing number of innovative drugs are expected to enter the Chinese market at an expedited pace. Moreover, with the fast-growing innovation capabilities of domestic developers, the development efforts

INDUSTRY OVERVIEW

on drugs with innovative targets is expected to increase. In China, the ophthalmic pharmaceutical market reached USD4.4 billion in 2025 from USD2.7 billion in 2020, with a CAGR of 10.0%. The ophthalmic pharmaceutical market in China is expected to maintain a high-speed growth and reach USD7.2 billion by 2030 and USD11.2 billion by 2035, with a CAGR of 10.5% from 2025 to 2030 and 9.3% from 2030 to 2035.

The following diagram illustrates the growth of the global and China ophthalmic drug market.

Global and China Ophthalmic Pharmaceutical Market Size, 2020-2035E



Currently, there are no approved rAAV-based gene therapy products for the same indications as the Company’s Core Products.

The RPGR-associated XLRP Market

RP is a form of IRD. It is characterized by primary degeneration of rod photoreceptors, followed by secondary loss of cones, leading to progressive night blindness and visual field constriction, usually resulting in legal and often complete blindness.

RPs generally consist of autosomal dominant RP, XLRP, and autosomal recessive, with XLRP being the most severe subtype and accounting for approximately 5% to 15% of all RPs. Among XLRPs, mutations in the RPGR gene are the most common causes, with RPGR-associated XLRP representing over 70% of XLRPs. XLRP is an inherited retinal dystrophy primarily caused by pathogenic mutations in X-linked genes, leading to progressive photoreceptor degeneration. Clinically, XLRP typically presents with progressive night blindness and peripheral visual field loss, which may gradually worsen to severe visual impairment. Common ocular findings include bone-spicule-like pigment deposits in the fundus and attenuation of retinal vessels, accompanied by abnormal electroretinography (“ERG”) responses with reduced or nonrecordable rod signals. Diagnosis is generally supported by a combination of ophthalmic examinations and functional assessments, including fundus examination, optical coherence tomography (“OCT”), ERG, visual field testing, and confirmatory genetic testing to identify disease-causing variants.

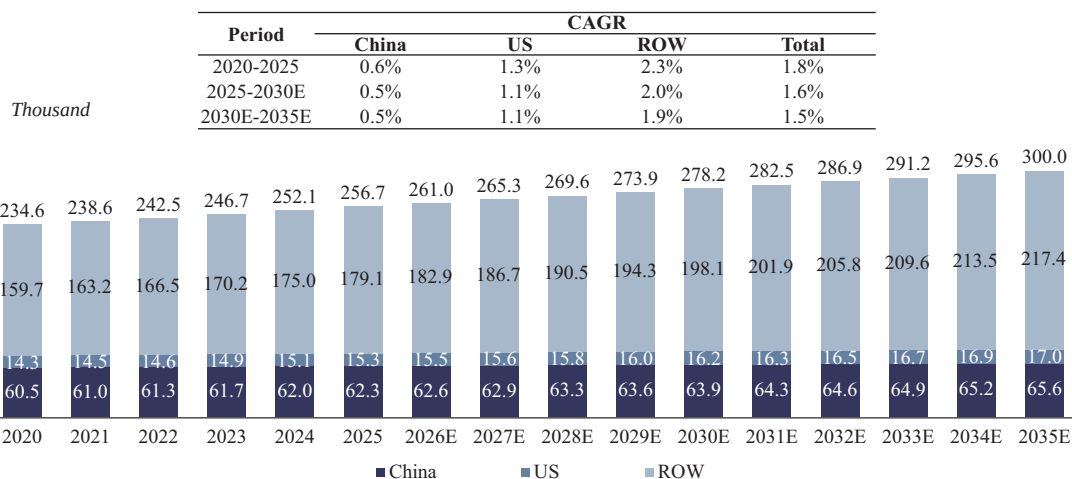
Based on publicly available epidemiology studies and clinical practice patterns, the diagnosis rates are estimated at approximately 70% for XLRP.

The number of XLRP patients globally reached 256.7 thousand in 2025 and is forecasted to reach 300.0 thousand in 2035. The global incidence of XLRP in 2025, which measures the number of new cases that develop in the time period, was 4.6 thousand and is expected to be 4.4 thousand in 2035. In China, the number of XLRP patients was 62.3 thousand in 2025, which is expected to grow to 65.6 thousand in 2035. The incidence of XLRP in China was 0.3 thousand in 2025 and is expected to be 0.4 thousand in 2035. In the United States, the number of XLRP patients was 15.3 thousand in 2025, which is expected to grow to

INDUSTRY OVERVIEW

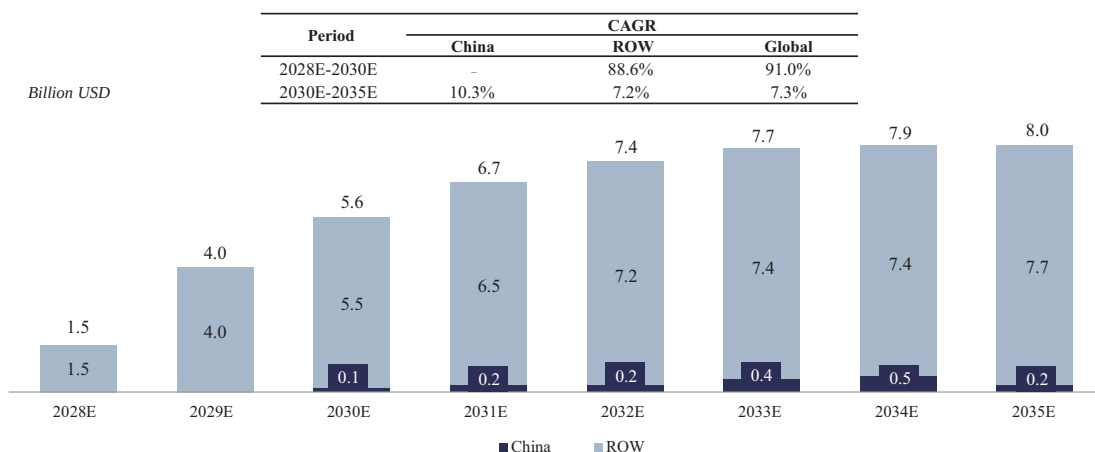
17.0 thousand in 2035. The incidence of nAMD in the US was 45.7 thousand in 2025 and is expected to increase to 57.4 thousand in 2035. The following chart sets forth certain additional details regarding the global prevalence of XLRP.

Global Prevalence of XLRP, 2020-2035E



Source: Frost & Sullivan Report

Global XLRP Drug Market, 2028-2035E



Note: Given that gene therapy is currently the only therapeutic approach for XLRP, current market projections focus on gene therapies. Pricing assumptions are benchmarked with reference to the price of Luxturna, the only approved gene therapy for ophthalmic indications. Assumptions regarding the timing of product launch are based on estimated average clinical development timelines by stage.

Source: Frost & Sullivan Report

The first XLRP treatment drug is expected to be approved in 2028. The global XLRP drug market is expected to grow from USD 1.5 billion in 2028 to USD 5.6 billion by 2030, representing a CAGR of 91.0% from 2028 to 2030. The market is expected to reach to USD 8.0 billion in 2035, representing a CAGR of 7.3% from 2030 to 2035.

The first XLRP treatment drug is expected to be approved in 2030 in China. The China XLRP drug market is expected to be valued at USD 0.1 billion in 2030 and to grow to USD 0.2 billion by 2035, representing a CAGR of 10.3% from 2030 to 2035.

INDUSTRY OVERVIEW

The general growth of the XLRP drug market globally and in China is primarily driven by the expected commercialization of gene therapy candidates during the forecast period. Currently, all XLRP pipeline products under development globally, including FT-002, are gene therapies, and therefore the XLRP drug market is essentially a gene therapy market. The market size is expected to be relatively large, primarily attributable to the high pricing of gene therapies, with pricing assumptions benchmarked against Luxturna, the only approved ophthalmic gene therapy globally, which is priced at approximately USD850,000 per treatment. The assumption for pricing in China is lower than that in the U.S., primarily due to the overall lower pricing level of innovative drugs in the Chinese market. However, given the relatively high pricing of gene therapies, the China XLRP drug market is still expected to remain substantial. In addition, except for the Company’s product candidate FT-002, The only other XLRP product in clinical development globally is currently in Phase II/III clinical stage, which is expected to potentially commercialize from around 2028 to 2030. As such, the XLRP market is expected to experience a relatively high CAGR during 2028 to 2030, driven by the rapid ramp-up in gene therapy penetration from a low base following initial commercialization and the gradual penetration of emerging therapies. Furthermore, the outpatient visit rate of XLRP patients is projected to gradually increase from approximately 80% in 2020 to around 90% in 2035. In addition, the diagnosis rate of XLRP is projected to gradually increase from approximately 70% in 2020 to around 85% in 2035, primarily driven by increasing disease awareness, improving diagnostic accessibility. In addition to pricing-related assumptions, the increasing healthcare-seeking and diagnosis rates are also expected to support the future growth of the XLRP drug market.

Following the significant growth in the forecast period, the market growth rate is expected to moderately decelerate, as gene therapies are generally one-time treatments and the pool of treatable patients is expected to gradually decrease after the initial wave of diagnosed patients receives treatment. In particular, while the global XLRP drug market is projected to sustain steady growth through 2035 before the expected deceleration becomes evident, which is driven by the broader patient population across multiple jurisdictions and continued adoption of gene therapies, the China XLRP drug market is expected to experience a decline as early as in 2034. This projected contraction is primarily attributable to the relatively limited addressable patient population for XLRP in China as compared to the global market, and the one-time treatment paradigm of gene therapies. Based on current market penetration assumptions, most of the treatable patient population in China is expected to have already received treatment by 2034, leaving only a relatively small number of remaining eligible patients. As such, the long-term commercial sustainability of XLRP therapies in China will depend on factors such as pricing and reimbursement policies, patient access initiatives, and the successful expansion into global markets with larger patient populations.

The current treatment paradigm for RPGR-associated XLRP remains extremely limited, and there are currently no approved therapies worldwide specifically indicated for RPGR-associated XLRP. China’s latest clinical guidelines also emphasize that there is currently no therapy capable of curing or halting the progression of RPs. Patients are counseled to avoid intense light, limit visual fatigue, and maintain regular sleep and healthy dietary habits to modestly slow disease progression. There is an urgent need to develop innovative and effective disease-modifying strategies to address RPs, particularly its most severe subtype, XLRP.

INDUSTRY OVERVIEW

As of the Latest Practicable Date, no gene therapy drug for XLRP has been approved globally and there were three drugs in development for XLRP, all of which are rAAV-based gene therapy drugs. The following table illustrates the competitive landscape of rAAV gene therapy drugs for XLRP treatment as of the Latest Practicable Date.

Drug Name	Company	Target	Vector type	Clinical Stage	First Posted Date	Country	Manufacturing System
Botaretigene sparaparvovec ¹	MeiraGTx	RPGR	AAV5	Phase III	2020-12-17	US, UK, Spain, etc.	HEK293
Laruparetigene zosaparvovec (laru-zova, AGTC-501)	Beacon Therapeutics	RPGR	AAV2	Phase II/III	2021-04-20	UK, US, Australia	HSV/BHK ²
FT-002	Frontera Therapeutics	RPGR	AAV	Phase II	2024-10-15 ³	China	Bac/SF9
				Phase II IND Approval	2024-09-23	U.S.	

Notes:

- (1) Botaretigene sparaparvovec was originally licensed to J&J in 2019 and was sold to them in 2023 for up to \$415M; it was reacquired by MeiraGTx in 2026 for \$25M after its Phase 3 trial missed the primary endpoint. As of the Latest Practicable Date, MeiraGTx plans regulatory filings in the US, EU, UK and Japan in 2026, targeting a 2027 launch.
- (2) As of the Latest Practicable Date, in the field of rAAV gene therapy, the HSV/BHK system has not been validated with any drug approval globally.
- (3) FT-002 has completed both Phase I and Phase II clinical trials. The first posted date disclosed herein refers to the date on which the first participant in the Phase II trial signed the informed consent form.

Source: Clinicaltrial.gov, CDE, Frost & Sullivan Analysis

The nAMD Market

AMD, a degenerative retinal disease that causes progressive loss of central vision, is the leading cause of irreversible blindness in aged people. The disease affects the central area in the ocular posterior segment, known as the macula lutea, which is essential for the vision of fine details and image resolution.

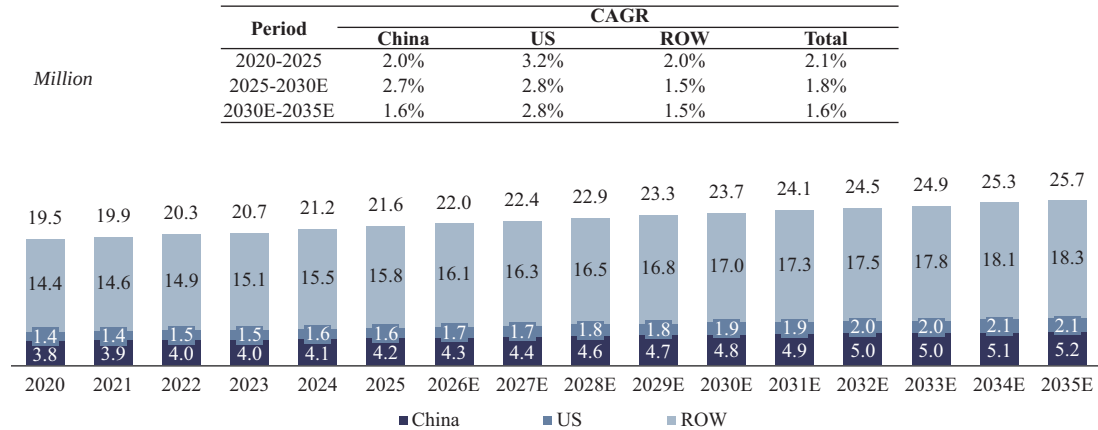
AMD can be categorized as either dry AMD or neovascular AMD, also known as wet AMD or nAMD. Neovascular age-related macular degeneration (“nAMD”) is primarily driven by abnormal choroidal neovascularization, in which newly formed fragile blood vessels grow beneath or into the macula and subsequently leak fluid and/or blood, resulting in macular edema, hemorrhage, scarring, and potentially irreversible central vision loss. Clinically, patients commonly experience progressive blurring of central vision, metamorphopsia, central scotoma, reduced contrast sensitivity, and increased difficulty seeing in dim light, which can substantially impair daily activities such as reading and face recognition. The development and progression of nAMD are associated with a combination of aging, genetic susceptibility, and environmental or lifestyle risk factors, with smoking and cardiovascular risk factors frequently cited as key contributors. Diagnosis is typically established through fundus examination and multimodal retinal imaging (e.g., OCT and fluorescein angiography) to confirm macular neovascularization and associated fluid or hemorrhage. While nAMD only accounts for approximately 10% to 20% of AMD cases, it is responsible for approximately 80% to 90% of all vision loss attributable to AMDs.

Based on publicly available information relating to epidemiology studies and clinical practice patterns, the diagnosis rates are estimated at approximately 90% for nAMD.

INDUSTRY OVERVIEW

The number of patients with nAMD globally reached 21.6 million in 2025, and is expected to reach 25.7 million in 2035. The global incidence of nAMD was 0.4 million in 2025 and is expected to remain at 0.4 million in 2035. In China, the number of nAMD patients was 4.2 million in 2025, which is expected to grow to 5.2 million in 2035. The incidence of nAMD in China was 0.1 million in 2025 and is expected to remain at 0.1 million in 2035. In the United States, the number of nAMD patients was 1.6 million in 2025, which is expected to grow to 2.1 million in 2035. The incidence of nAMD in the US was 45.7 thousand in 2025 and is expected to increase to 57.4 thousand in 2035. The following charts set forth certain additional details regarding the global prevalence of nAMD.

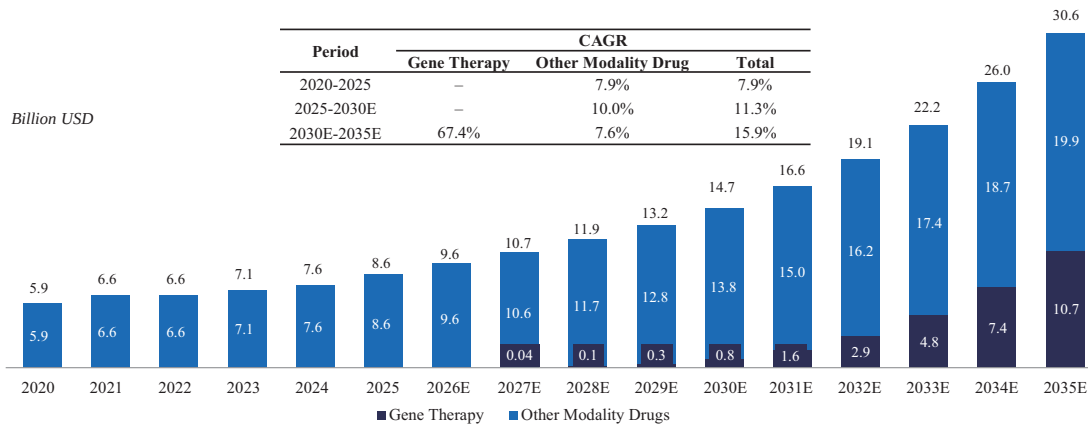
Global Prevalence of nAMD, 2020-2035E



Source: Frost & Sullivan Report

The following charts illustrate the anticipated growth of the nAMD treatment drug market by jurisdiction and by treatment options.

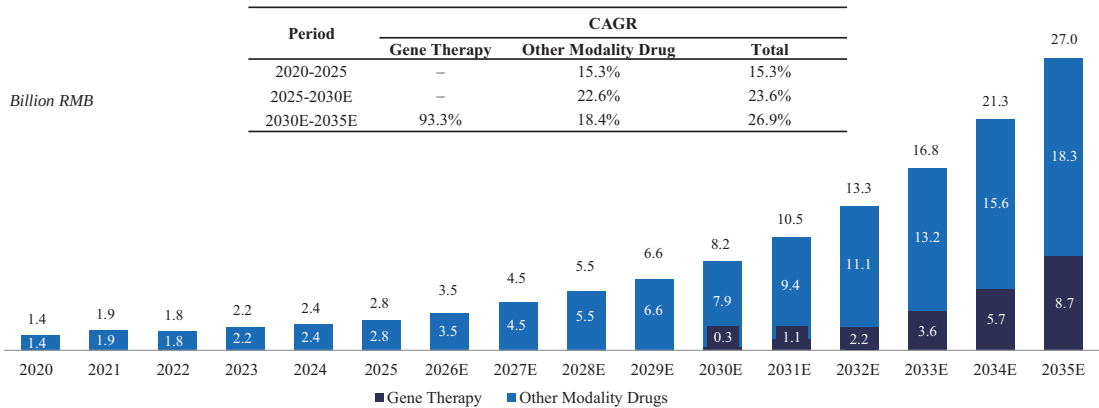
Global nAMD Treatment Drug Market, 2020-2035E



Source: Annual Reports of Listed Medical Companies, NMPA, CDE, FDA, Frost & Sullivan Analysis

INDUSTRY OVERVIEW

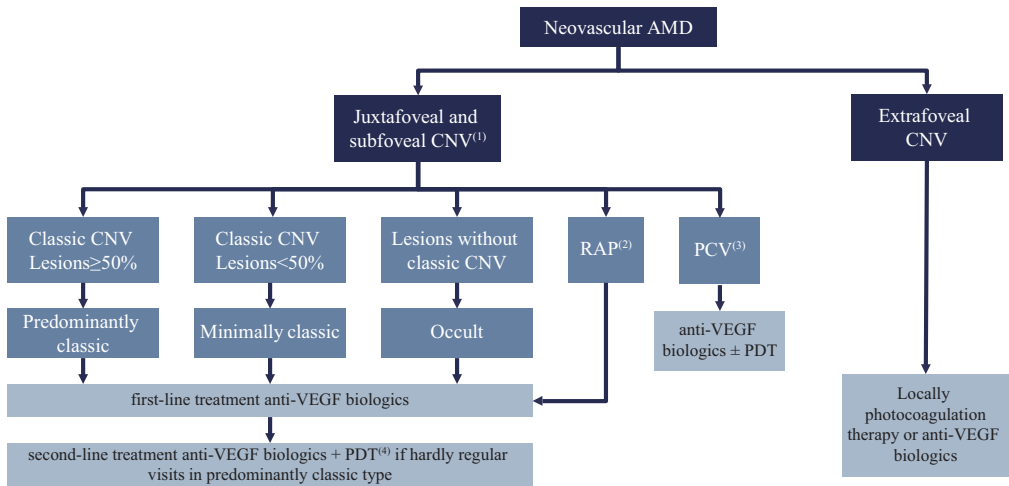
China nAMD Treatment Drug Market, 2020-2035E



Source: Annual Reports of Listed Medical Companies, NMPA, CDE, Frost & Sullivan Analysis

The current treatment paradigm for nAMD in both China and the United States primarily relies on intravitreal anti-VEGF therapies as the standard first-line treatment. In China, verteporfin-based photodynamic therapy (“PDT”) may also be used in combination with anti-VEGF therapies in certain subtypes of nAMD, such as polypoidal choroidal vasculopathy (“PCV”), while local photocoagulation therapy may be considered for selected extrafoveal lesions. In the United States, verteporfin with PDT and thermal laser photocoagulation may also be used in selected patients, particularly those with specific lesion subtypes or extrafoveal choroidal neovascularization (“CNV”), although these treatment approaches are currently less commonly adopted in clinical practice. The charts below set forth the treatment paradigm for nAMD in China and the United States.

Treatment Paradigm for nAMD in China



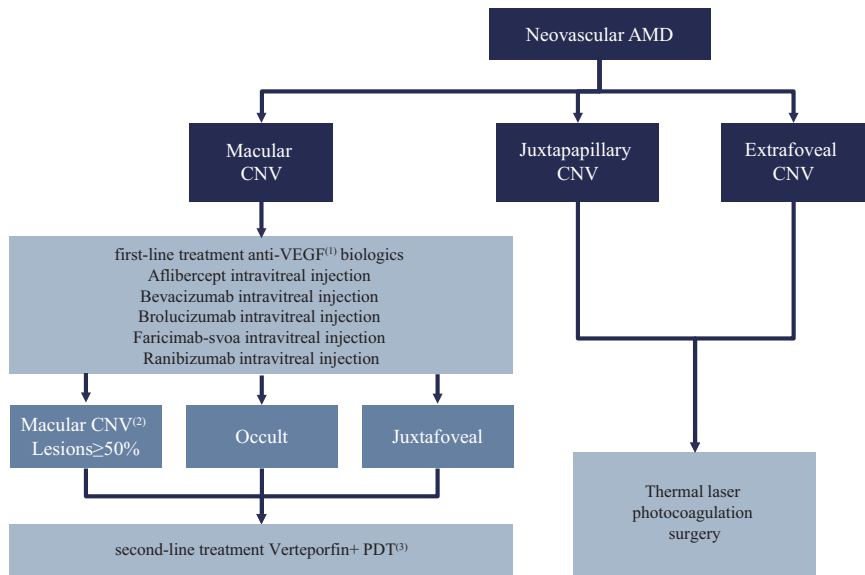
Notes:

- (1) CNV: choroidal neovascularization.
- (2) RAP: retinal angiomatous proliferation.
- (3) PCV: polypoidal choroidal vasculopathy.
- (4) PDT: photodynamic therapy.

Source: Literature Review, Frost & Sullivan Report

INDUSTRY OVERVIEW

Treatment Paradigm for nAMD in the United States



Notes:

- (1) VEGF: vascular endothelial growth factor.
(2) CNV: choroidal neovascularization.
(3) PDT: photodynamic therapy.

Source: Literature Review, Frost & Sullivan Report

Anti-VEGF therapies have demonstrated efficacy in suppressing pathological neovascularization and reducing retinal fluid, and have therefore become the primary standard of care for the treatment of nAMD. However, these existing treatment options have significant limitations, including poor patient compliance and high treatment burden. As discussed above, anti-VEGF treatment manages the symptoms of nAMD but does not alter the underlying disease course, thus requiring lifelong intervention. nAMD patients have to receive nine intravitreal anti-VEGF injections in the first year alone and continue at three to six injections annually. This frequent injection need creates a long-term logistical burden on patients as well as caregivers, and results in poor patient compliance. There is also a significant economic cost. According to a published cost-effectiveness study in the UK, long-term anti-VEGF therapy is estimated to average a total of 9.2 quality-adjusted life years. On this basis, the total treatment costs of anti-VEGF therapy are calculated to be up to US\$304,000 in the United States and up to RMB403,000 in China. The following table illustrates the competitive landscape for approved drugs for nAMD treatment as of the Latest Practicable Date.

INDUSTRY OVERVIEW

Route of Administration	Drug Name	Company	Target	First Approved Date	Country	Modality	Dosage	Strength	Price	Annual Cost Per Patient	2025 Annual Sales (USD Million)
Intravitreal	Ranibizumab (Lucentis®)	Roche; Genentech	VEGFA	2006-06-30	US	Monospecific antibody	0.5 mg once monthly for at least 3 initial doses, followed by reduced-frequency dosing (approximately 4–5 injections over the subsequent 9 months)	US: 0.05ml:0.3mg China: 0.2ml:2mg	USD1,150.8 RMB3,673.5	USD8,056–9,206 RMB25,714–29,388	712.8
				2007-01-22	EMA						
				2011-12-31	China						
				2025-10-20	Korea						
	Conbercept (Lumitin®)	Chengdu Kanghong Pharmaceutical Group	VEGF	2013-11-29	China	Monospecific antibody	0.5 mg, administered monthly for the first 3 months, followed by fixed every 3-month dosing	China: 0.2ml:2mg	RMB3,452.8	RMB20,717	347.1
				2024-06-18	Myanmar						
				2026-08-20	Guyana						
	Pegaptanib (Macugen®)	Gilead Sciences	VEGFA	2008-07-16	Japan	Monospecific antibody	0.3 mg, once every six weeks	N/A	N/A	N/A	N/A
	Aflibercept (Eylea® /Eylea HD®)	Regeneron Pharmaceuticals	VEGF	2011-11-18	US	Monospecific antibody	Eylea®: 2 mg, administered monthly for the first 3 months, followed by dosing every 2 months Eylea HD®: 8mg, administered monthly for the first 3 doses, followed by dosing every 8 to 16 weeks	Eylea®: US: 0.05ml:2mg China: 0.1ml:4mg Eylea HD®: US: 0.07ml:8mg	Eylea®: USD 1,962.1 RMB 2,935.3 Eylea HD®: USD 2,755.6	Eylea®: USD 13,734 RMB 20,547 Eylea HD®: USD13,778–22,045	11,875.1
				2012-09-28	Japan						
				2012-11-21	EMA						
				2018-05-08	China						
	Faricimab (Vabysmo®)	Roche; Genentech	ANGPT2, VEGFA	2022-01-28	US	Bispecific antibody	6 mg every 4 weeks for the first 4 doses, followed by individualized dosing intervals (every 8–16 weeks) based on OCT and visual acuity assessments	US: 0.05ml:6mg China: 0.05ml:6mg	USD2,357.7 RMB3,608.0	USD14,146–18,861 RMB21,648–28,864	4,937.7
				2022-03-28	Japan						
				2022-06-01	Canada						
				2022-09-19	EMA						
	Brolucizumab (BEOUV®)	Novartis	VEGFA	2023-01-20	Korea	Monospecific antibody	0.05 mL per injection. Initial treatment consists of three injections every 4 weeks, followed by dosing every 8–12 weeks	US: 0.05ml:6mg China:0.165 ml:19.8 mg	USD2,083.7 RMB6,500.0	USD12,502–14,586 RMB39,000–45,500	N/A
				2019-10-07	US						
				2020-02-13	EMA						
				2020-03-12	Canada						
				2020-03-25	Japan						
Intravenous	Verteporfin (Visudyne®)	Novartis	YAP; TEAD	2000-07-27	EMA	Other photodynamic therapies	6 mg/m ² , intravenous infusion over 10 min, followed by laser activation; repeated every 3 months	N/A	N/A	N/A	N/A

Note: Strength, price, annual cost per patient and annual sales of certain products are not available in the relevant companies’ annual reports or other public filings, hence it is listed as N/A. Annual sales data for Pegaptanib, Brolucizumab and Verteporfin are not publicly available in the relevant company’s annual report or other public filings and are therefore presented as N/A. Drugs such as Ranibizumab, Aflibercept, Faricimab, Brolucizumab and Conbercept have each been approved for multiple indications; accordingly, as indication-specific sales and prescription-level data are generally not publicly disclosed, annual sales attributable solely to nAMD are not publicly available. Prices shown in USD and RMB refer to the corresponding prices in the United States and China, respectively.

Source: Prescribing Information, Clinicaltrial.gov, CDE, Frost & Sullivan Analysis

Gene therapy represents a promising approach to address the above limitations by enabling the continuous, endogenous production of anti-angiogenic proteins, potentially offering a one-time, durable treatment solution. As of the Latest Practicable Date, there are over 80 drug candidates in clinical trials for the treatment of nAMD globally, including 24 rAAV-based gene therapy candidates, among which nine are administered via intravitreal injection. Besides gene therapy candidates, there are also other therapeutic modalities under development for nAMD, including antibodies, peptides, intraocular implant, small molecules and RNA-based therapies. In China, there are over 30 drug candidates in clinical development for nAMD, including 17 rAAV-based gene therapy candidates. The following table illustrates the competitive landscape of rAAV gene therapy drugs for nAMD treatment as of the Latest Practicable Date.

INDUSTRY OVERVIEW

Route of Administration	Drug Name	Company	Target	Vector Type	Phase	First Posted Date	Country	Manufacturing System
Intravitreal	IxoBERgene soroparvovect (Ixo-vec, ADVIM-022)	Eli Lilly / Adverum	VEGF	AAV2.7m8	Phase III	2025/3/4	US	Bac /Sf9
	zunibergene rocparvovect (4D-150)	4D Molecular Therapeutics	VEGFA; VEGFB; VEGFC; PLGF	AAV vector R100	Phase III	2025/3/7	US, Canada	HEK293
	SKG0106	Skyline Therapeutics	VEGFA	AAV	Phase I/II	2023/8/14	China, US	NA
	FT-003	Frontera Therapeutics	VEGF	AAV	Phase II Phase II IND Approval	2024/9/26 ¹ 2024/11/11	China US	Bac /Sf9
	XMVA09	Starrygene Therapeutics Company Limited	ANGPT2, VEGF	AAV	Phase I/II	2024/4/12	China	NA
	ABI-110	Avirmax Biopharma	VEGF	AAV2.N54	Phase I/II	2024/8/12	US	Bac/Sf9
	GZ402663	Sanofi	VEGF	AAV2	Phase I/II	2024/10/28	US	NA
	IVB-103	Innovac Biotherapeutics	-	AAV	Phase I/II	2024/11/29	China	NA
	EXG202	Hangzhou Jiayin Biotechnology Co., Ltd	ANGPT2, VEGF	AAV	Phase I/II	2025/9/18	China	NA
Subretinal	LX111	Innostellar Biotherapeutics	VEGF	AAV	Phase I	2025/7/8	China	NA
	Surabgene lomparvovect (Sura-vec, ABBV-RGX-314)	Abbvie / Regeneron	AAV8-VEGF	AAV8	Phase III	2022/6/7	US, UK, Japan, etc.	HEK293
	LX102	Innostellar Biotherapeutics	VEGF	AAV	Phase III	2025/12/29	China	NA
	JWK001	Chengdu Gene Vector Biotechnology	VEGF	AAV	Phase II	2026/8/20	China	NA
	KH631	Chengdu Kanghong Pharmaceutical Group Co.,Ltd.	VEGF	AAV	Phase I/II	2023/1/5	China	NA
	EXG102-031	Hangzhou Jiayin Biotechnology Co., Ltd	ANGPT2, VEGFA, VEGFC	AAV	Phase I	2022/12/10	US	NA
	NG101	Reyon Pharmaceutical, NeuracleGenetics	VEGF	AAV	Phase I/II	2023/6/6	China	NA
	RRG001	Shanghai RefreshGeneTherapeutics	VEGF	AAV	Phase I/II	2023/8/9	US, Canada	NA
	NGGT007	Next Generation Gene Therapeutics	CYP4V2	AAV	Phase I/II	2023/11/21	China	NA
	CRG-B191	Shanghai Kenuke Pharmaceutical Technology	VEGF	AAV	Phase I/II	2025/1/16	China	NA
	HG202	Huida Gene Therapeutics Co., Ltd.	VEGF	AAV	Phase I	2025/11/6	China	NA
	RGL-2201	Shanghai Regenlead Therapies Co., Ltd.	VEGF	AAV	Phase I	2023/9/4	China	NA
	AL-001	Beijing Anlong Biopharmaceutical Co., Ltd	VEGF	AAV	Phase I	2025/3/3	China	NA
Suprachoroidal	KH658	Chengdu Kanghong Pharmaceutical Group	VEGF	AAV	Phase II	2025/2/17	China	Bac/Sf9
			VEGF	AAV	Phase I/II	2024/6/13	China	NA

* “NA” indicates that the manufacturing system of the corresponding product has not been publicly disclosed.

Note:

- (1) FT-003 has completed both Phase I and Phase II clinical trials. The first posted date disclosed herein refers to the date on which the first participant in the Phase II trial signed the informed consent form.

Source: Clinicaltrial.gov, CDE, Frost & Sullivan Report

The DME Market

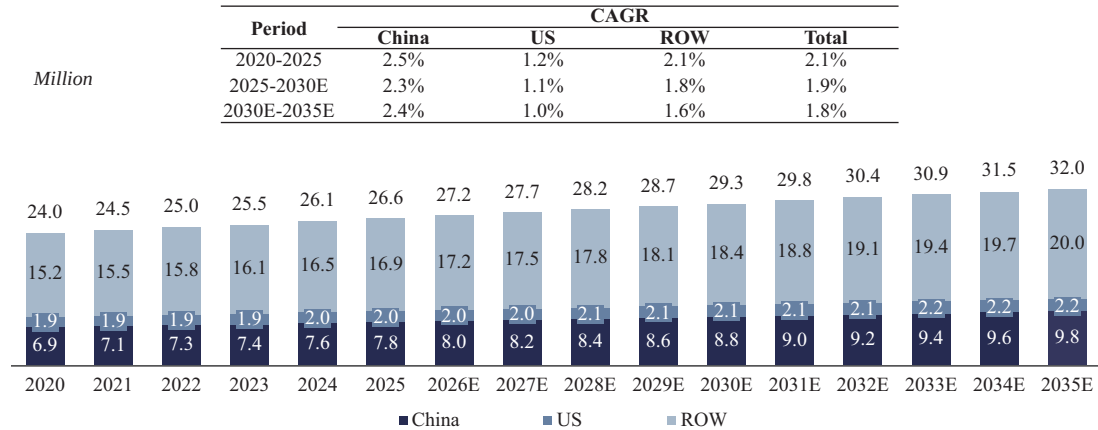
Diabetic macular edema (“DME”) is a common vision-threatening complication of diabetic retinopathy, characterized by breakdown of the blood-retinal barrier and subsequent leakage of intraretinal fluid and/or exudation into the macular area, leading to retinal thickening and impaired central vision. The pathogenesis of DME is closely associated with diabetes-driven microvascular damage and inflammation, with VEGF playing a key role in increasing vascular permeability and promoting edema formation. Clinically, patients typically present with blurred or fluctuating central vision, reduced visual acuity, and difficulty with near-vision tasks such as reading, which may progressively worsen if left untreated. 5.5% of people with diabetes have DME, representing a meaningful disease burden given the increasing prevalence of diabetes worldwide. Diagnosis is typically confirmed by retinal examination supported by OCT to assess macular thickening and intraretinal fluid, with fluorescein angiography used when clinically indicated to evaluate vascular leakage.

Based on publicly available information relating to epidemiology studies and clinical practice patterns, the diagnosis rates are estimated at approximately 40% for DME.

INDUSTRY OVERVIEW

The number of patients with DME globally reached 26.6 million in 2025, and is expected to reach 32.0 million in 2035. In China, the number of DME patients was 7.8 million in 2025, which is expected to grow to 9.8 million in 2035. In the United States, the number of DME patients was 2.0 million in 2025, which is expected to grow to 2.2 million in 2035. The global incidence of DME was 0.5 million in 2025 and is expected to remain at 0.5 million in 2035. The incidence of DME in China was 0.2 million in 2025 and is expected to remain at 0.2 million in 2035. The incidence of DME in the US was 22.4 thousand in 2025 and is expected to be 20.6 thousand in 2035. The following charts set forth certain additional details regarding the global prevalence of DME.

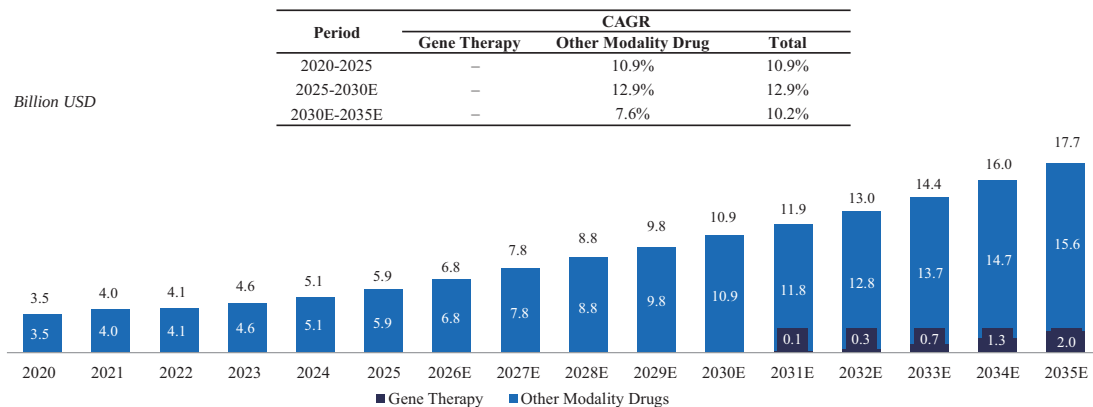
Global Prevalence of DME, 2020-2035E



Source: Frost & Sullivan Report

The following charts illustrate the anticipated growth of the DME treatment drug market by jurisdiction and by treatment options.

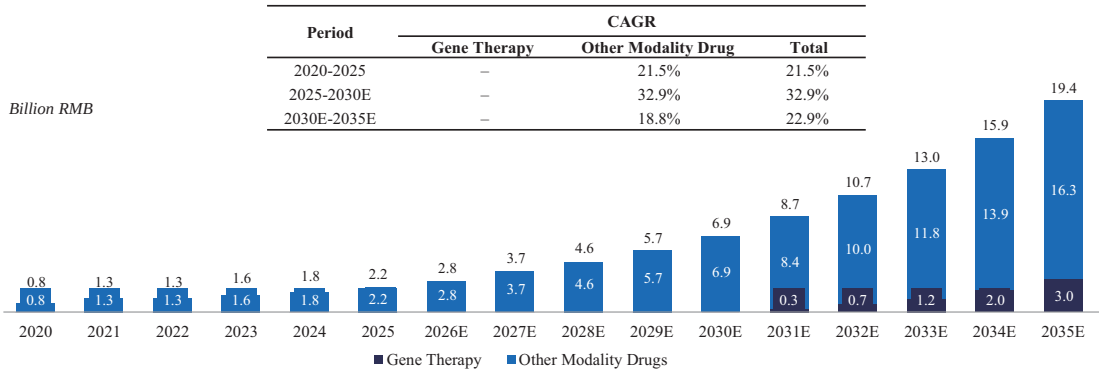
Global DME Treatment Drug Market, 2020-2035E



Source: Annual Reports of Listed Medical Companies, NMPA, CDE, FDA, Frost & Sullivan Analysis

INDUSTRY OVERVIEW

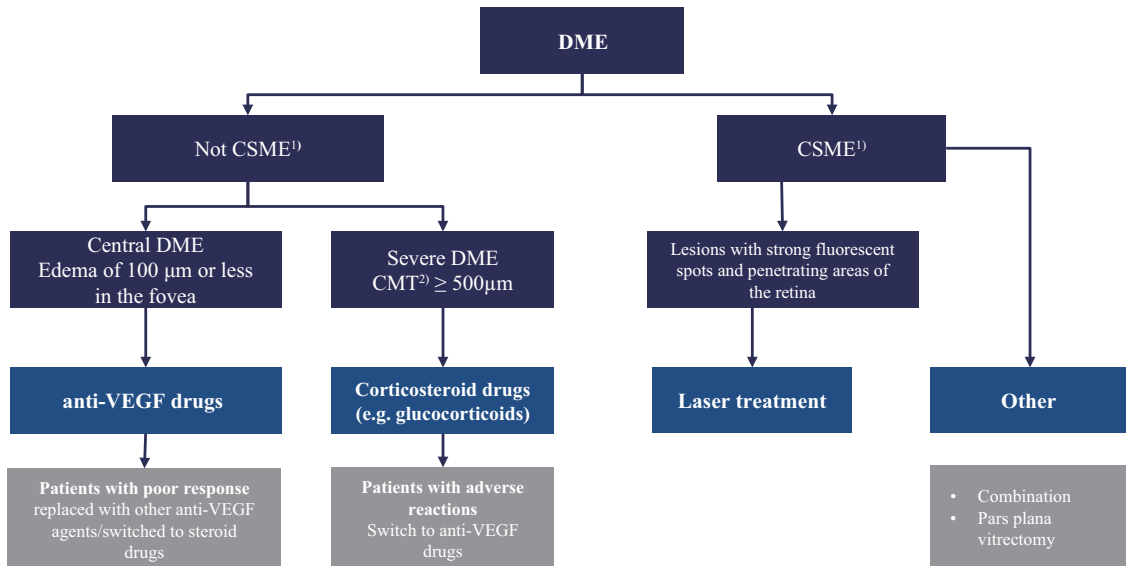
China DME Treatment Drug Market, 2020-2035E



Source: Annual Reports of Listed Medical Companies, NMPA, CDE, Frost & Sullivan Analysis

As for the DME drug market in China, the significant market growth is primarily driven by the strong commercial performance, as well as the expected commercialization of multiple pipeline products during the forecast period. Currently, there are five approved DME drugs in China, all of which are anti-VEGF therapies. Major approved anti-VEGF drugs, including Conbercept, Aflibercept and Ranibizumab, achieved substantial sales growth during 2020-2024, collectively driving a significant CAGR in the DME market in China. In addition, there are numerous pipeline products under development for DME, including various modalities other than gene therapies, such as antibodies, small molecules, peptides and RNA-based therapies, most of which are expected to potentially commercialize during the forecast period. Accordingly, the DME drug market in China is expected to maintain relatively high growth during the forecast period.

Anti-VEGF drugs are currently the recommended therapy and recommended pharmacological therapy for DME treatment as they can improve visual acuity and retinal thickness. However, they are subject to the downsides associated with their limited duration of action, including high treatment burden, poor patient compliance and unsatisfactory long-term outcomes, which may include suboptimal visual improvement and disease recurrence. Patients with DME are typically treated based on the severity and location of retinal swelling. Anti-VEGF drugs are currently the main first-line treatment for most patients, as they can reduce retinal swelling and improve vision. For patients with inadequate treatment response or more severe disease conditions, corticosteroids, laser treatment or surgical procedures may also be considered. The chart below sets forth the treatment paradigm for DME.



INDUSTRY OVERVIEW

Notes:

- (1) CSME: clinically significant DME, the highest grade lesion type in the clinical diagnosis and treatment of the macula;
- (2) CMT: Central macular thickness

Source: Guidelines for Clinical Diagnosis and Treatment in China, Frost & Sullivan Analysis

The following table illustrates the competitive landscape for approved drugs for DME treatment as of the Latest Practicable Date.

Route of Administration	Drug Name	Company	Target	First Approved Date	Country	Modality	Dosage	Strength	Price	Annual Cost Per Patient	2025 Annual Sales (USD Million)
Intravitreal	Ranibizumab (Lucentis®)	Roche; Genentech	VEGFA	2010-10-22	EMA	Monospecific antibody	0.5 mg once monthly for at least 3 initial doses, followed by individualized dosing intervals based on disease activity	US: 0.05ml:0.3mg China: 0.2ml:2mg	USD1,150.8 RMB3,673.5	USD8,056–9,206 RMB25,714–29,388	712.8
				2012-08-10	US						
				2014-02-21	Japan						
				2018-11-13	China						
	Aflibercept (Eylea®/Eylea HD®)	Regeneron Pharmaceuticals	VEGF	2018-10-20	Korea	Monospecific antibody	Eylea®: 2 mg, monthly for the first 5 months, followed by injections every 2 months thereafter. Eylea HD®: 8 mg every 4 weeks for the first 3 doses, followed by every 8 to 16 weeks	Eyleas: US: 0.05ml:2mg China: 0.1ml:4mg Eylea HD®: US: 0.07ml:8mg	Eyleas: USD1,962.1 RMB2,935.3 Eylea HD®: USD2,755.6	Eylea®: USD15,697 RMB23,482 Eylea HD®: USD13,778–22,045	11,875.1
				2014-07-29	US						
				2014-08-11	EMA						
				2014-11-18	Japan						
				2018-02-02	China						
	Conbercept (Lumitin®)	Chengdu Kanghong Pharmaceutical Group	VEGF	2019-05-17	China	Monospecific antibody	0.5 mg, once monthly for the first 3 months, followed by once every 3 months	China: 0.2ml:2mg	RMB3,452.8	RMB20,717	347.1
				2026-08-20	Guyana						
	Faricimab (Vabysmo®)	Roche; Genentech	ANGPT2, VEGFA	2022-01-28	US	Bispecific antibody	6 mg every 4 weeks for at least 4 doses, followed by individualized dosing intervals or every-8-week dosing based on clinical response	US: 0.05ml:6mg China: 0.05ml:6mg	USD2,357.7 RMB3,608.0	USD14,146–18,862 RMB21,648–28,864	4,937.7
				2022-03-28	Japan						
				2022-06-01	Canada						
				2022-09-19	EMA						
	Brolucizumab (BEovu®)	Novartis	VEGFA	2023-01-20	Korea	Monospecific antibody	0.05 mL per injection, Initial treatment consists of three injections every 4 weeks, followed by dosing every 8–12 weeks	US: 0.05ml:6mg China: 0.165mL:19.8mg	USD2,083.7 RMB6,500.0	USD12,502–14,586 RMB39,000–45,500	N/A
				2023-12-13	China						
				2022-03-31	EMA						
				2022-06-01	US						
				2022-06-20	Japan						
				2025-05-27	China						
				2025-10-20	Korea						

Note: Annual sales data for Brolucizumab are not publicly available in the relevant company’s annual report or other public filings and are therefore presented as N/A. Drugs such as Ranibizumab, Aflibercept, Faricimab, Brolucizumab and Conbercept have each been approved for multiple indications; accordingly, as indication-specific sales and prescription-level data are generally not publicly disclosed, annual sales attributable solely to DME are not publicly available. Prices shown in USD and RMB refer to the corresponding prices in the United States and China, respectively.

Source: Prescribing Information, Clinicaltrial.gov, CDE, Frost & Sullivan Analysis

INDUSTRY OVERVIEW

Similar to nAMD, rAAV gene therapy is a promising solution for DME treatment given its ability to accomplish long-lasting results through a single injection and substantially improves upon the deficiencies of standard anti-VEGF therapy. As of the Latest Practicable Date, there are 20 drug candidates in clinical trials for DME in China and over 50 globally. Among these, six rAAV-based gene therapy candidates for the treatment of DME are currently under clinical development worldwide. Besides gene therapy candidates, there are also other therapeutic modalities under development for DME, including antibodies, peptides, intraocular implant, small molecules and polypeptide therapies. The following table illustrates the competitive landscape of rAAV gene therapy drugs for DME treatment as of the Latest Practicable Date.

Route of Administration	Drug Name	Company	Target	Vector type	Phase	First Posted Date	Country	Manufacturing System
Intravitreal	zunibergene rocaparvovec (4D-150)	4D Molecular Therapeutics	VEGFA, VEGFB, VEGFC, PLGF	AAV vector R100	Phase II	2023-07-05	US, Puerto Rico	HEK293
	FT-003	Frontera Therapeutics	VEGF	AAV	Phase II	2024-10-22 ¹	China	Bac/Sf9
					Phase II IND Approval	2024-12-25	US	
	SKG0106	Skyline Therapeutics	VEGFA	AAV	Phase I	2024-02-01	China	NA
	LX111	Innostellar Biotherapeutics	VEGF	AAV	Phase I	2026-01-23	China	NA
Suprachoroidal	Surabgene lomparvovec (Sura-vec, ABBV-RGX-314)	Abbvie / Regeneron	VEGF	AAV8	Phase II/III	2026-05-18	US, Puerto Rico	HEK293
	KH658	Chengdu Kanghong Pharmaceutical Group	VEGF	AAV	Phase II	2026-07-07	China	NA

* “NA” indicates that the manufacturing system of the corresponding product has not been publicly disclosed.

Note:

(1) The first posted date disclosed herein refers to the date on which the first participant in the Phase II trial signed the informed consent form.

Source: Clinicaltrial.gov, CDE, Frost & Sullivan Report

The DR Market

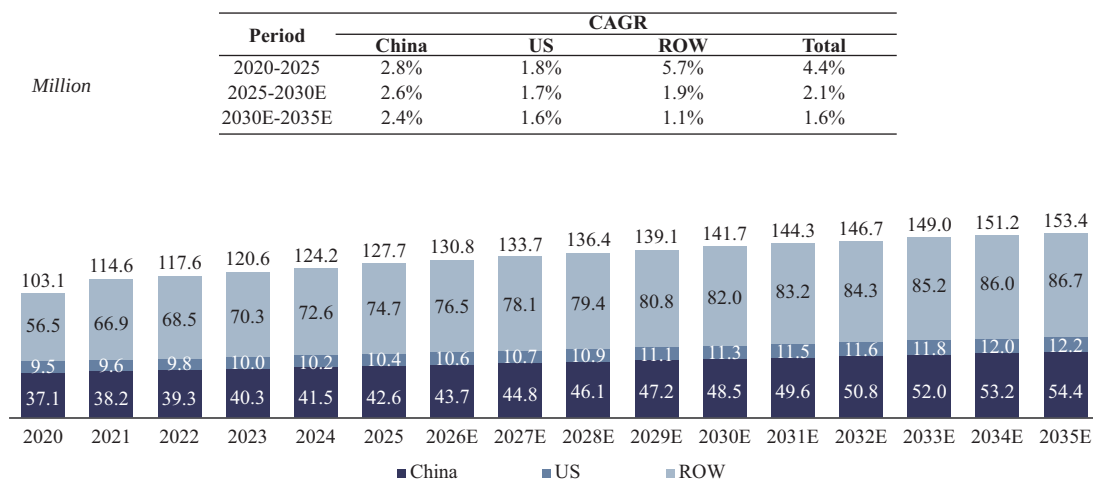
DR is a microvascular and neurodegenerative complication of diabetes mellitus, characterized by pericyte loss, basement membrane thickening, microaneurysm formation, neovascularization, and blood–retinal barrier disruption. Diabetes affects approximately 14% of the global population, and DR occurs in roughly 27% of diabetic patients, according to generally accepted and relatively stable epidemiological prevalence assumptions for diabetes and diabetic retinopathy. DR is typically diagnosed through ophthalmic examinations supported by dilated fundus assessment and retinal imaging modalities (e.g., fundus photography), with OCT and fluorescein angiography used where clinically indicated to evaluate macular involvement and retinal vascular abnormalities. DR progresses through distinct stages, primarily categorized as non-proliferative DR (“NPDR”) and proliferative DR (“PDR”). NPDR represents the earlier, non-sight-threatening stage, characterized by weakened retinal blood vessels that may leak, causing swelling or edema. In contrast, PDR is the advanced, sight-threatening stage defined by the growth of abnormal, fragile new blood vessels on the retina which can lead to severe bleeding and retinal detachment.

Based on publicly available information relating to epidemiology studies and clinical practice patterns, the diagnosis rates are estimated at approximately 11% for DR.

INDUSTRY OVERVIEW

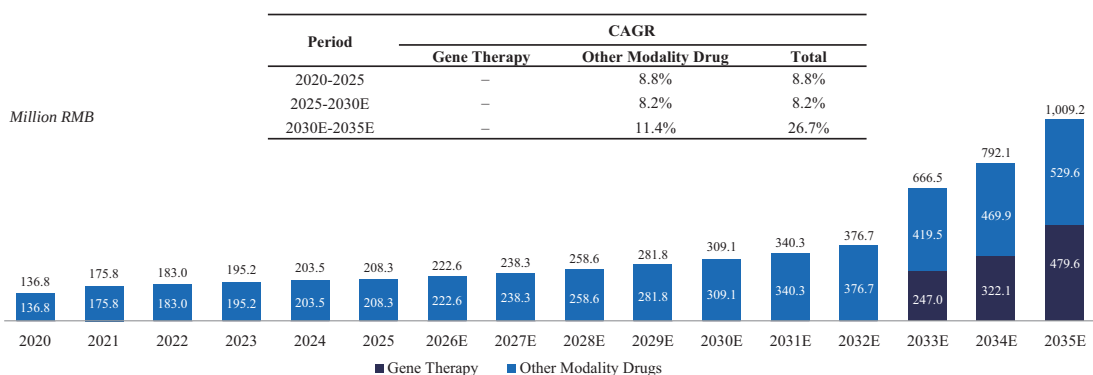
The number of patients with DR globally reached 127.7 million in 2025, and is expected to reach 153.4 million in 2035. In China, the number of patients with DR was 42.6 million in 2025, and is expected to reach 54.4 million in 2035. In the United States, the number of patients with DR was 10.4 million in 2025, and is forecasted to reach 12.2 million in 2035. The global incidence of DR was 3.5 million in 2025 and is expected to be 2.2 million in 2035. The incidence of DR in China was 1.1 million in 2025 and is expected to be 1.2 million in 2035. The incidence of DR in the US was 0.2 million in 2025 and is expected to remain at 0.2 million in 2035. The following chart sets forth certain additional details regarding the prevalence of DR globally.

Global Prevalence of DR, 2020-2035E



Source: Frost & Sullivan Report

China DR Treatment Drug Market, 2020-2035E



Source: Frost & Sullivan Report

INDUSTRY OVERVIEW

While NPDR is generally managed with close observation and control of blood glucose, blood pressure and lipids, PDR requires more targeted treatment methods, including panretinal photocoagulation (“PRP”), the core and standard treatment for high-risk PDR, pars plana vitrectomy (“PPV”), and anti-VEGF therapy. DR treatment is generally determined based on disease severity and the presence of retinal edema or abnormal blood vessel growth. In early-stage DR, treatment mainly focuses on controlling blood glucose, blood pressure and blood lipid levels to slow disease progression. For more advanced stages, laser treatment and anti-VEGF therapies are commonly used to reduce abnormal blood vessel growth and prevent vision loss. The table below summarizes the general treatment paradigm for DR.

Disease Features	First-Line Recommendation	Second-Line/Alternative Options
NPDR	<ul style="list-style-type: none"> • Systemic Management: Strict control of blood glucose, blood pressure, and lipids. 	<ul style="list-style-type: none"> • Close Observation: For mild/moderate NPDR without macular edema.
PDR	<ul style="list-style-type: none"> • PRP: The core, standard treatment for high-risk PDR. 	<ul style="list-style-type: none"> • PPV: For sight-threatening complications such as non-clearing vitreous hemorrhage or tractional retinal detachment. • Anti-VEGF Therapy: Used for active neovascularization, vitreous hemorrhage, or as pre-operative adjunct.

Source: Literature Review, Frost & Sullivan Report

There are significant medical needs that remain unmet by existing treatment options. Neither PRP, PPV nor anti-VEGF therapy offers a cure for DR. Patients require long-term, in many cases lifelong, treatment and monitoring. Frequent intravitreal injections and follow-ups impose significant time, financial and psychological burdens, resulting in undertreatment and suboptimal outcomes in the long run. In addition, PRP, the standard treatment for PDR, works by ablating hypoxic retinal tissue to inhibit neovascularization. This is a destructive approach that often leads to irreversible side effects such as peripheral visual field loss and impaired night vision.

As of the Latest Practicable Date, there were three approved drugs for DR treatment globally and 20 drugs for DR treatment under clinical development globally, including three rAAV gene therapy drugs while other pipeline products include various modalities such as antibodies, traditional Chinese medicine, peptides and small molecule therapies. The following table summarizes the competitive landscape of approved drugs for DR treatment globally.

Route of Administration	Brand Name	Drug Name	Company	Target	Modality	First Approved Date	Dosage	Strength	Price	Annual Treatment Cost	2025 Annual Sales (USD Million)
Intravitreal	Lucentis®	Ranibizumab	Roche; Genentech	VEGFA	Monospecific antibody	US : 2017-04-15 China: 2021-08-12 Korea : 2025-10-20	0.3 mg (0.05 mL of 6 mg/mL solution) is recommended to be administered by intravitreal injection once a month (approximately 28 days).	US: 0.05ml:0.3mg China: 0.2ml:2mg	USD 1,150.8 RMB 3,673.5	USD 14,960	712.8
	Eylea®						Eylea®: 2 mg administered by injection every 4 weeks (approximately every 28 days) for the first 5 injections followed by 2 mg via injection once every 8 weeks	Eylea®: US: 0.05ml:2mg China: 0.1ml:4mg	Eylea®: USD 1,962.1 RMB 2,935.3	Eylea: USD17,659 Eylea HD: USD19,289-22,045	11,875.1
	Eylea HD®	Aflibercept	Regeneron/ Bayer/ Santen	VEGF	Monospecific antibody	US : 2015-03-25	Eylea HD®: 8 administered by injection every 4 weeks (approximately every 28 days +/- 7 days) for the first three doses, followed by 8 mg injection once every 8 to 12 weeks, +/- 1 week.	Eylea HD®: US: 0.07ml:8mg			
	BEOVU®	Brolucizumab	Novartis	VEGFA	Monospecific antibody	Japan: 2025-11-20 China: 2026-06-10	N/A	N/A	N/A	N/A	N/A

INDUSTRY OVERVIEW

Note: As this drug was approved in late 2025, publicly available information regarding its dosage, strength and pricing for the DR indication has not yet been disclosed in Japan; therefore, such information is presented as “N/A” herein. Annual sales data for Brolucizumab is not publicly available in the relevant company’s annual report or other public filings and are therefore presented as N/A. Ranibizumab, Aflibercept and Brolucizumab have each been approved for multiple indications; accordingly, as indication-specific sales and prescription-level data are generally not publicly disclosed, annual sales attributable solely to DR are not publicly available.

Source: Prescribing Information, Clinicaltrial.gov, CDE, Frost & Sullivan Analysis

The following table summarizes the competitive landscape of pipeline gene therapy drugs for DR treatment globally.

Route of Administration	Drug Name	Company	Target	Vector Type	Phase	Country	First Posted Date	Manufacturing System
Subretinal	Surabgene Iomparvovec (Sura-vec, ABBV- RGX-314)	Clearside Biomedical	VEGF	AAV8	Phase II/III	US, Puerto Rico	2026/5/18	NA
	RRG001	Shanghai Refreshgene Therapeutics	VEGF	AAV	Phase I	China	2024/5/14	NA
Suprachoroidal	AL-001	Beijing Anlong Biopharmaceutical Co., Ltd	VEGF	AAV	Phase II	China	2026/5/19	Bac/Sf9

Note:

* “NA” indicates that the manufacturing system of the corresponding product has not been publicly disclosed.

Source: Clinicaltrial.gov, CDE, Frost & Sullivan Analysis

The RPE65-related IRD Market

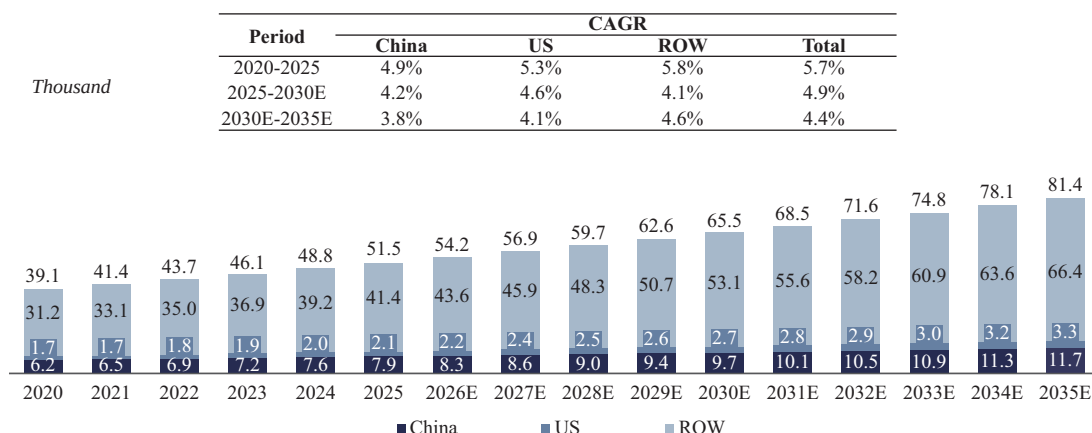
RPE65-related IRD is an autosomal recessive retinal dystrophy caused by biallelic pathogenic variants in the RPE65 gene. LCA is a form of IRD, meaning a group of heterogeneous disorders caused by gene mutations primarily affecting retinal photoreceptors. LCA is characterized by severe visual impairment from birth or the first few months of life, roving eye movements or nystagmus, poor pupillary light responses, oculodigital sign, and undetectable or severely abnormal full-field electroretinogram. The primary pathogenic genes of LCA include CEP290, GUCY2D, and RPE65, among others. Like LCA, RP is also a form of IRD and refers to a group of rare eye diseases that are characterized by the gradual breakdown of cells in the retina, causing progressive vision loss. RP can be caused by mutations in the RPE65 gene, among other factors.

Based on publicly available information relating to epidemiology studies and clinical practice patterns, the diagnosis rates are estimated at approximately 70% for RPE65-related IRD.

INDUSTRY OVERVIEW

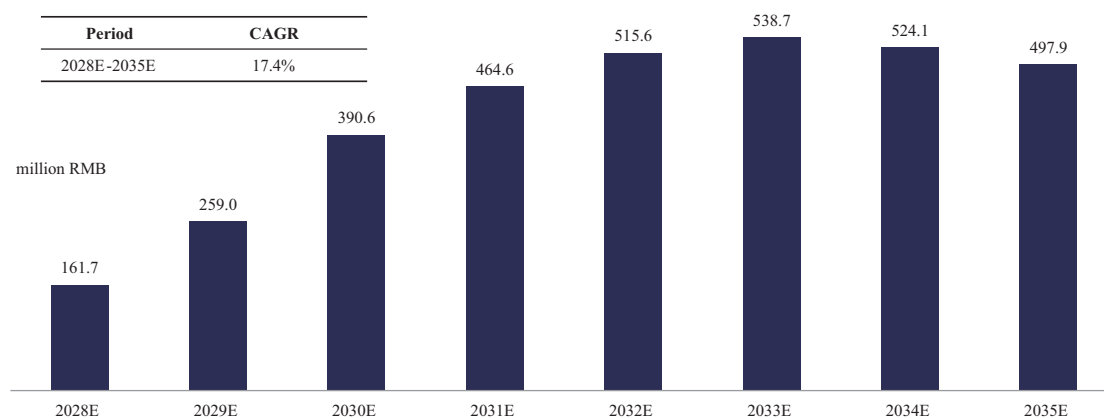
The number of patients with RPE65-related IRD globally had reached 51.5 thousand in 2025, and is expected to reach 81.4 thousand in 2035. The number of patients with RPE65-related IRD in China had reached 7.9 thousand in 2025, and is expected to reach 11.7 thousand in 2035. The number of RPE65-related IRD patients in the US reached 2.1 thousand in 2025, and is forecasted to reach 3.3 thousand in 2035. The global incidence of RPE65 related IRD was 2.7 thousand in 2025 and is expected to be 3.3 thousand in 2035. The incidence of RPE65 related IRD in China was 0.3 thousand in 2025 and is expected to be 0.4 thousand in 2035. The incidence of RPE65 related IRD in the US was 0.1 thousand in 2025 and is expected to be 0.1 thousand in 2035.

Global Prevalence of RPE65-related IRD, 2020-2035E



Source: Frost & Sullivan Report

Global RPE65-related IRD Treatment Drug Market, 2028E-2035E



Source: Literature review, Frost & Sullivan Analysis

There is currently no universally established standard pharmacological treatment for RPE65-related IRD. Conventional therapies primarily focus on supportive care and temporary improvement of visual function, but generally do not address the underlying genetic defects and may have limited durability. Luxturna, an rAAV-based gene therapy, is currently the only approved drug globally for specifically RPE65-related IRD indication. Gene therapy has emerged as a promising treatment approach for RPE65-related IRD by targeting the root cause of the disease through gene replacement. The chart below summarizes the general treatment paradigm for RPE65-related IRD.

For RPE65-related IRD, the only approved gene therapy, Luxturna®, is priced at approximately US\$850,000 per treatment and has not yet been approved in China.

INDUSTRY OVERVIEW

As of the Latest Practicable Date, there was one rAAV gene therapy drug approved for RPE65-related LCA/RP treatment globally, and four rAAV gene therapy drugs in the clinical development stage for RPE65-related LCA/RP treatment globally. The following tables illustrate the competitive landscape of rAAV gene therapy drugs for RPE65-related LCA/RP treatment as of the Latest Practicable Date. Currently, therapies under development for RPE65-related IRD are all gene therapies.

Approved Drug

Brand Name	Drug Name	Company	Vector Type	Manufacturing System	Target	First Approved Date	Country	Route of Administration	Strength	Price	Annual sales in 2025 (million USD)
LUXTURNA®	Voretigene neparvovec	Roche	AAV2	HEK293	RPE65	2017-12-19	US	Subretinal	0.5 ml	850,000 USD	46.6
						2018-11-22	Europe				
						2023-06-01	Japan				

Source: Clinicaltrial.gov, CDE, Frost & Sullivan Report

Drugs under Development

Route of Administration	Drug Name	Company	Target	Vector type	Phase	First Posted Date	Country	Manufacturing System
Subretinal	LX101	Innostellar Biotherapeutics	RPE65	AAV2	Phase III	2024-10-10	China	NA
	FT-001	Frontera Therapeutics	RPE65	AAV	Phase III IND Approval	2025-09-26	China	Bac/Sf9
					Phase I IND Approval	2022-07-19	US	
	HG-004	HuidaGene Therapeutics Co., Ltd.	RPE65	AAV9	Phase I/II	2023-06-18	China, US	NA

Note:

* “NA” indicates that the manufacturing system of the corresponding product has not been publicly disclosed; the first posted date for FT-001 disclosed herein refers to the date on which the company obtained the IND approval.

Source: Clinicaltrial.gov, CDE, Frost & Sullivan Report

THE CARDIOVASCULAR DRUG MARKET

Overview of Cardiovascular Diseases

Cardiovascular disease is a group of diseases affecting the patients’ heart and blood vessels. Its signs and symptoms include chest pain, shortness of breath, dizziness, fatigue, and palpitation, among others. Typical indications include arrhythmia, coronary artery diseases, heart failures, peripheral artery diseases, congenital heart diseases, and deep vein thrombosis.

rAAV Gene Therapy in Cardiovascular Disease Treatment

Current drugs for congenital cardiovascular diseases, including ACE inhibitors, β-blockers, mineralocorticoid antagonists, as well as devices, are palliative in nature and do not correct the underlying genetic defect. As a result, they require long-term patient compliance. Gene therapy, on the other hand, offers curative potential to cardiovascular diseases and has received increasing attention.

Within gene therapy, rAAV gene therapy benefits from numerous advantages including targeted and efficient delivery and stable gene expression. Certain serotypes of AAV, especially AAV8 and AAV9, exhibit a natural tropism for cardiomyocytes, meaning they can efficiently cross the vascular endothelium and specifically transduce cardiomyocytes after injections via the vein. In addition, as cardiomyocytes are terminally differentiated cells that rarely divide, rAAV vectors, with their genomes existing as circular episomes within the cell

INDUSTRY OVERVIEW

nucleus, can continuously express therapeutic proteins throughout the target cell’s life cycle, with minimal dilutions due to cell division.

rAAV Gene Therapy Drugs under Development

As of the Latest Practicable Date, there were currently 17 rAAV gene therapy drugs for cardiovascular disease treatment under clinical development globally. The following table illustrates the competitive landscape of rAAV gene therapy drugs for cardiovascular disease treatment as of the Latest Practicable Date.

Drug Name	Company	Target	Indication	Country	Phase	First Posted Date
SRD-001	Eiger BioPharmaceuticals; Celladon; Medera; Sardocor	ATP2A2	Cardiac failure	Europe	Phase II	2007-09-26
			Duchenne Muscular Dystrophy Associated Cardiomyopathy	US	Phase I	2024-01-25
RGX 501	Regenxbio	LDLR	Homozygous familial hypercholesterolemia	US, Netherlands, Canada	Phase II	2019-09-06
AB-1002	Bayer AG; Asklepios Bio Pharmaceutical	PP1	Cardiac failure	US, Europe	Phase II	2022-10-28
LX2006	Adverum Biotechnologies; Lexeo Therapeutics	FXN	Cardiomyopathy Associated With Friedrich’s Ataxia	US	Phase II	2026-07-22
TN-201	Tenaya Therapeutics	MYBPC3	Hypertrophic cardiomyopathy	US	Phase I/II	2023-05-01
LX2020	Lexeo Therapeutics; Stelios Therapeutics	PKP2	Arrhythmogenic cardiomyopathy	US	Phase I/II	2023-10-31
TN-401	Tenaya Therapeutics	PKP2	Arrhythmogenic Right Ventricular Cardiomyopathy	US	Phase I/II	2024-01-29
ALXN2350	AstraZeneca	BAG3	Dilated cardiomyopathy	US	Phase I/II	2025-10-16
AFTX-201	Affinia Therapeutics	BAG3	Dilated cardiomyopathy	Unknown	Phase I/II	2026-02-23
NVC-001	Nuevoco	LMNA	Dilated cardiomyopathy (DCM)	US	Phase I/II	2026-06-16
GC304	Beijing Jinlan Gene	LPL	Hyperlipidemia	China	Phase I	2023-05-16
RP-A601	Rocket Pharmaceuticals; Renovacor	PKP2	Arrhythmogenic cardiomyopathy	US	Phase I	2023-06-02
NGGT006	Next Generation Gene Therapeutics	LDLR	Hyperlipidemia	China	Phase I	2023-11-09
NXL001	NeuExcell Therapeutics	NEUROD1	Ischemic Stroke	China	Phase I	2025-01-07
YAP-101	Medley Therapeutics	SAV1	Cardiac failure	US	Phase I	2025-02-18
RP-A701	Rocket Pharmaceuticals; Renovacor	BAG3	Dilated cardiomyopathy	US	Phase I	2025-08-22
SGT-501	Solid Biosciences	CASQ2	Catecholaminergic polymorphic ventricular tachycardia	US	Phase I	2025-08-29

Source: clinicaltrials.gov, Frost & Sullivan Report

Growth Drivers and Future Trend of the Cardiovascular Drug Market

The growth of the cardiovascular drug market is expected to be driven by the following factors:

- **Global Disease Burden and Unmet Medical Needs.** Cardiovascular diseases are the leading cause of death globally and impose a substantial disease burden worldwide, highlighting significant unmet medical needs. The number of cardiovascular disease deaths globally has increased markedly over recent decades, rising from approximately 13.1 million deaths in 1990 to around 19.2 million deaths in 2023. Despite the widespread use of established therapies, this sustained and growing disease burden underscores a persistent lack of effective treatment options, particularly for advanced and progressive cardiac conditions.
- **Favorable government policies.** In the United States, the FDA has taken disease-specific actions to support innovation in cardiovascular therapies, including issuing draft guidance on *Treatment for Heart Failure: Endpoints for Drug Development*, which allows improvements in symptoms or physical function to support regulatory approval and encourages the use of biomarkers and hospitalization outcomes in clinical trial design. In parallel, China has made sustained strategic investments under the “Healthy China 2030” initiative, adopting the *Cardiovascular and Cerebrovascular Disease Prevention and Treatment Action Implementation Plan (2023–2030)* to systematically reduce disease incidence and mortality.

INDUSTRY OVERVIEW

A defining future trend in the cardiovascular drug market is expected to be the paradigm shift from the lifelong management of refractory symptoms towards curative or disease-modifying genetic therapies. A prime example is the development of gene therapy for HCM caused by mutations in the MYBPC3 gene, a common genetic form of heart disease. Current standard care - β -blockers, implantable defibrillators, and surgery - only manages complications without correcting the underlying shortage of functional proteins. Pioneering gene therapies in development aim to introduce a functional copy of the MYBPC3 gene via a single intravenous infusion of a cardiotropic viral vector such as an rAAV vector, thereby treating HCM caused by mutations in the MYBPC3 gene.

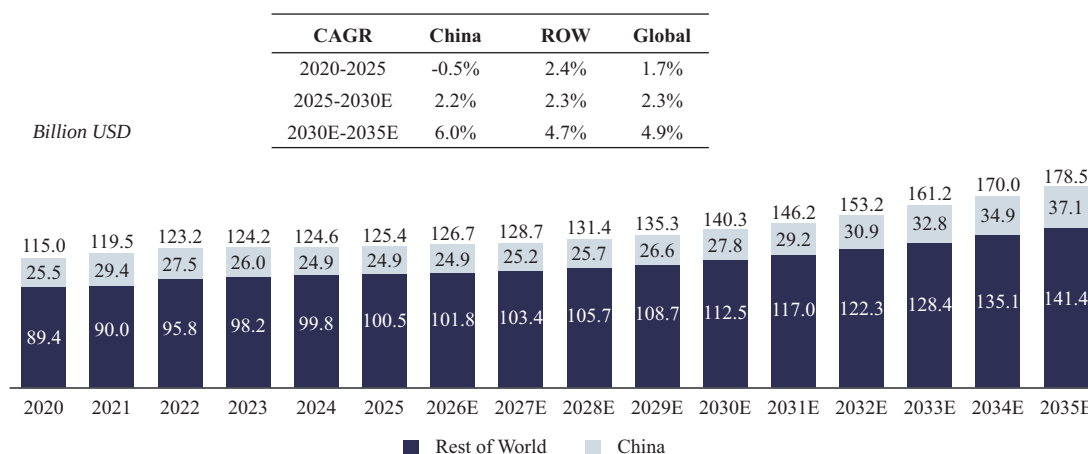
The Cardiovascular Drug Market Size

The global cardiovascular drug market grew moderately, increasing from USD115.0 billion in 2020 to USD125.4 billion in 2025, representing a CAGR of 1.7%. The market is expected to reach USD140.3 billion by 2030, with a CAGR of 2.3% from 2025 to 2030. From 2030 to 2035, the market is expected to expand rapidly, reaching USD178.5 billion by 2035, with a CAGR of 4.9%.

The cardiovascular drug market in China is expected to increase slightly from USD24.9 billion in 2025 to USD27.8 billion in 2030, representing a CAGR of 2.2%. From 2030 to 2035, the market is expected to expand rapidly, reaching USD37.1 billion by 2035, with a CAGR of 6.0%. The market size showed a slight decline from 2021 to 2025, primarily because centralized volume-based procurement (VBP) expanded coverage across almost all major cardiovascular small-molecule drugs.

The following diagram illustrates the growth of the global and China cardiovascular drug market.

Global Cardiovascular Drugs Market, 2020-2035E



Source: Frost & Sullivan Report

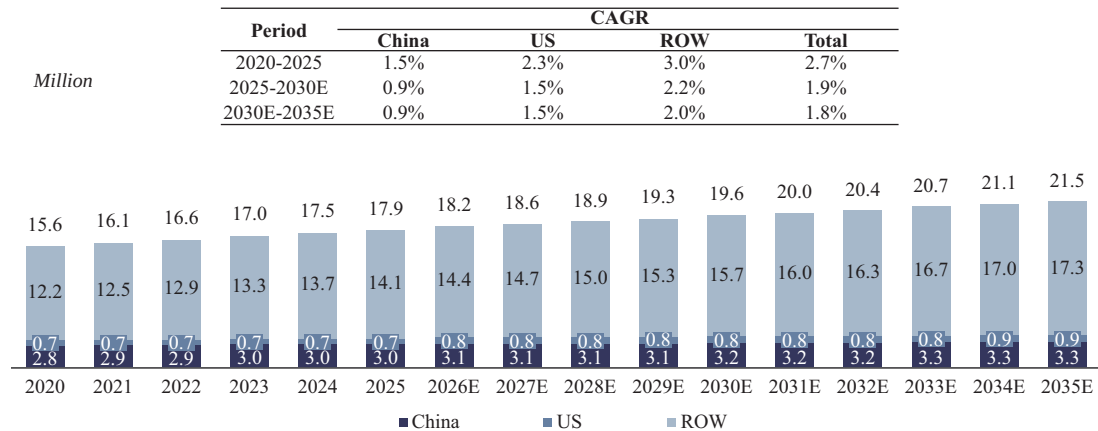
The HCM Market

HCM is a form of myocardial hypertrophy, usually left-ventricular, that is often due to sarcomere-gene variants. Its symptoms include exertional dyspnea, chest pain, palpitations, fatigue, and presyncope or syncope, among others.

INDUSTRY OVERVIEW

The number of patients with HCM globally reached 17.9 million in 2025, and is expected to reach 21.5 million in 2035. In China, the number of HCM patients was 3.0 million in 2025, which is expected to grow to 3.3 million in 2035. In the United States, the number of HCM patients was 0.7 million in 2025, which is expected to grow to 0.9 million in 2035. The following charts set forth certain additional details regarding the global prevalence of HCM.

Global Prevalence of HCM, 2020-2035E



Source: Frost & Sullivan Report

The recommended treatments for HCM are phenotype-based, meaning that therapies vary for obstructive HCM, non-obstructive HCM, and HCM with atrial fibrillation or ventricular arrhythmias. The chart below sets forth the treatment paradigm for HCM in the United States.

		Core Regimen	COR/LOE	Indication
Obstructive HCM (LVOTO ≥ 50 mmHg)	First Line	<ul style="list-style-type: none"> Non-vasodilating beta-blockers (Metoprolol, Atenolol) Verapamil/Diltiazem (if beta-blockers are intolerable) 	<ul style="list-style-type: none"> COR 1 LOE B-NR 	<ul style="list-style-type: none"> All symptomatic obstructive HCM patients
	Second Line	<ul style="list-style-type: none"> Myosin inhibitor Disopyramide Septal Reduction Therapy (SRT) 	<ul style="list-style-type: none"> COR 1/LOE B-NR (for drugs) COR 1/LOE B-NR (for SRT) 	<ul style="list-style-type: none"> Patients with persistent symptoms after first-line therapy
Nonobstructive HCM (LVOTO < 50 mmHg, LVEF ≥ 50%)	Preserved EF	<ul style="list-style-type: none"> β-blockers or nondihydropyridine calcium channel blockers Valsartan 	<ul style="list-style-type: none"> COR 1/LOE C-LD (for beta-blockers) COR 2 b/LOE B-R (for valsartan) 	<ul style="list-style-type: none"> Symptomatic patients; young patients with mild phenotype
	Advanced HF	<ul style="list-style-type: none"> GDMT for HF/Assessment for concomitant causes CEPT/Assessment for heart transplantation 	<ul style="list-style-type: none"> COR 1/LOE C-LD COR 1/LOE B-NR 	<ul style="list-style-type: none"> Patients with HCM and systolic dysfunction patients with nonobstructive HCM and advanced HF
HCM with Atrial Fibrillation (AF)/Ventricular Arrhythmias (VA)	First Line	<ul style="list-style-type: none"> Oral anticoagulation: Direct Oral Anticoagulants Rate control: Beta-blockers/Verapamil 	<ul style="list-style-type: none"> COR 1/LOE B-NR (for anticoagulation) COR 1/LOE B-NR (for rate control) 	<ul style="list-style-type: none"> All HCM patients with AF HCM patients with VF
	Second Line	<ul style="list-style-type: none"> Vitamin K antagonists Antiarrhythmic drug therapy 	<ul style="list-style-type: none"> COR 1/LOE B-NR (for vitamin K antagonists) COR 1/LOE B-NR* and C-LD† (for antiarrhythmic drug therapy) 	<ul style="list-style-type: none"> Suboptimal response to anticoagulation/rate control Adults with HCM and symptomatic VA, recurrent ICD shocks despite beta-blocker use

Source: Literature Review, Frost & Sullivan Report

Currently, only two drugs have been approved for the treatment of hypertrophic cardiomyopathy (HCM), both of which are chemical drugs. Given the limitations of existing treatment options, namely that they blunt symptoms and slow disease progression but do not correct the underlying defect, gene therapy has a potential to become a disruptive treatment method for HCM. Clinical development of rAAV gene therapy drugs for HCM is ongoing but

INDUSTRY OVERVIEW

relatively new. As of the Latest Practicable Date, only one rAAV gene therapy candidate for HCM treatment has entered clinical development globally. Its details, together with details of other gene therapy candidates with IND approvals, are set forth in the table below.

Route of Administration	Drug Name	Company	Modality	Target	Phase	Country	First Posted Date
Intravenous	TN-201	Tenaya Therapeutics	Gene Therapy	MYBPC3	Phase I/II	US	2023-05-01
	FT-017	Frontera Therapeutics	Gene Therapy	MYBPC3	Phase I/II IND Approval	China, US	2025-04-28
Intracoronary	KHN921	Chengdu Kanghong Pharmaceutical	Gene Therapy	MYBPC3	IND Approval	US	2026-04-20
					IND Approval	China	2026-07-23

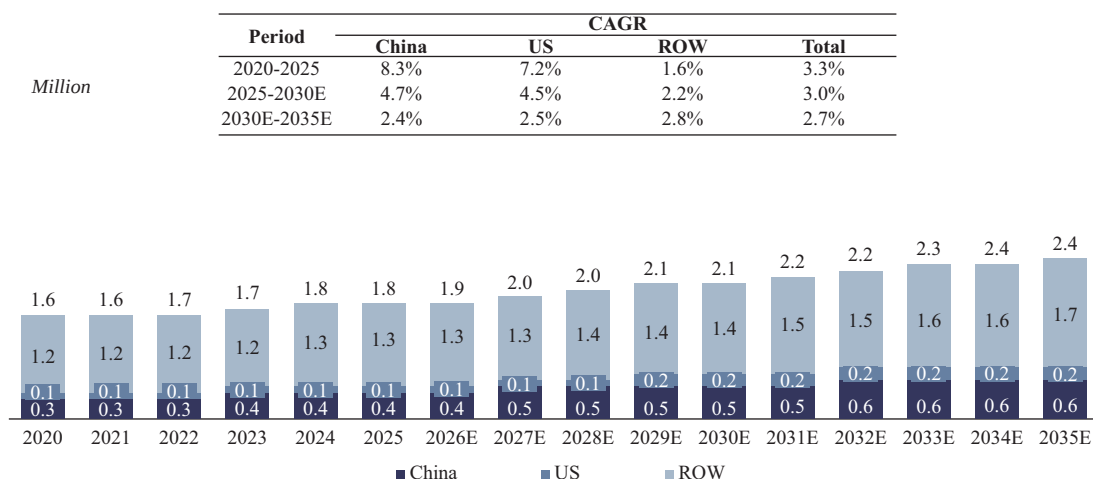
Source: Clinicaltrial.gov, CDE, Frost & Sullivan Report

The Arrhythmogenic Right Ventricular Cardiomyopathy (“ARVC”) Market

ARVC is a genetically determined heart muscle disease characterized by progressively fibrofatty replacement of the right ventricular myocardium. Patients may be asymptomatic, but symptomatic patients usually first present with ventricular tachycardia or ventricular fibrillation. Both symptomatic and asymptomatic individuals may experience sudden death. ARVC is responsible for approximately 10% of sudden deaths in young adults.

The number of patients with ARVC globally reached 1.8 million in 2025, and is expected to reach 2.4 million in 2035. The number of patients with ARVC in China was 0.4 million in 2025, and is expected to reach 0.6 million in 2035. The number of patients with ARVC in the United States was 0.1 million in 2025, and is expected to reach 0.2 million in 2035. The following charts set forth certain additional details regarding the global prevalence of ARVC.

Global Prevalence of ARVC, 2020-2035E



Source: Frost & Sullivan Report

There is currently no approved drug for ARVC. The management of ARVC primarily rests on the off-label use of β -blockers, amiodarone or sotalol to curb arrhythmia, retard remodeling and prevent sudden death. As of the Latest Practicable Date, there were three rAAV gene therapy drugs for ARVC under clinical development globally.

INDUSTRY OVERVIEW

SOURCE OF INFORMATION

In connection with the [REDACTED], we have engaged Frost & Sullivan to conduct a detailed analysis and prepare an industry report on the major markets for which our drug candidates are positioned. Frost & Sullivan is an independent global market research and consulting company which was founded in 1961 and is based in the United States. We have agreed to pay Frost & Sullivan a total fee of approximately RMB680,000 for the preparation of the Frost & Sullivan Report, and we believe that such fees are consistent with the market rate. The payment of such amount is not contingent upon our successful [REDACTED] or on the results of the Frost & Sullivan Report. Except for the Frost & Sullivan Report, we did not commission any other industry report in connection with the [REDACTED].

The market projections in the Frost & Sullivan Report were based on the following key assumptions: (i) the overall social, economic and political environment globally and in China is expected to remain stable during the forecast period; (ii) the economic and industrial development globally and in China is likely to maintain a steady growth trend over the next decade; (iii) related key industry drivers are likely to continue driving the growth of the market during the forecast period; and (iv) there is no extreme force majeure or industry regulation in which the market may be affected dramatically or fundamentally. The reliability of the Frost & Sullivan Report may be affected by the accuracy of the foregoing key assumptions.

The Directors have exercised reasonable care in selecting and identifying the named information sources, in compiling, extracting and reproducing the information, and in ensuring that there is no material omission of the information.