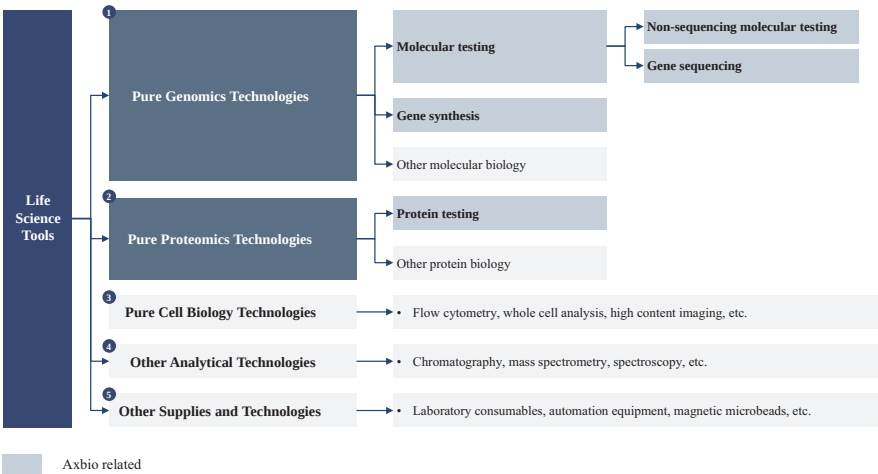


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Certain information and statistics set out in this section have been extracted from various official government publications, available sources from public market data providers and an independent third-party source, CIC. The report prepared by CIC and cited in this document was commissioned by us. The information from official government sources has not been independently verified by our Company, the Joint Sponsors, the [REDACTED], the [REDACTED], the [REDACTED], the [REDACTED], the [REDACTED], the [REDACTED], any of our or their respective affiliates, directors, officers, employees, agents or advisors or any other person or party involved in the [REDACTED], and no representation is given as to its accuracy, fairness and completeness. For discussion of the risks relating to our industry, see “Risk Factors.”

OVERVIEW OF LIFE SCIENCE TOOLS MARKET

Life science tools encompass a broad range of instruments, reagents, and consumables that serve as the foundation for advancements in genomics, proteomics, cell biology, analytics and other cutting-edge technologies. The life science tools market can be broadly segmented into several technical categories, each catering to distinct areas of scientific research and clinical practice. The chart below illustrates such segmentation of the overall life science tools market.



Source: CIC

Comparison of Molecular Testing and Protein Testing

Molecular testing (including non-sequencing molecular testing and gene sequencing) interrogates nucleic acids, uncovering inherited or acquired genetic alterations; by contrast, protein testing targets the downstream gene products, capturing dynamic biochemical changes that mirror real-time physiological states. Thus, molecular testing reveals static genomic information, whereas protein testing excels at functional status monitoring and biomarker discovery, making the two approaches scientifically distinct yet clinically complementary. The following table sets forth a comparison of the molecular testing and protein testing.

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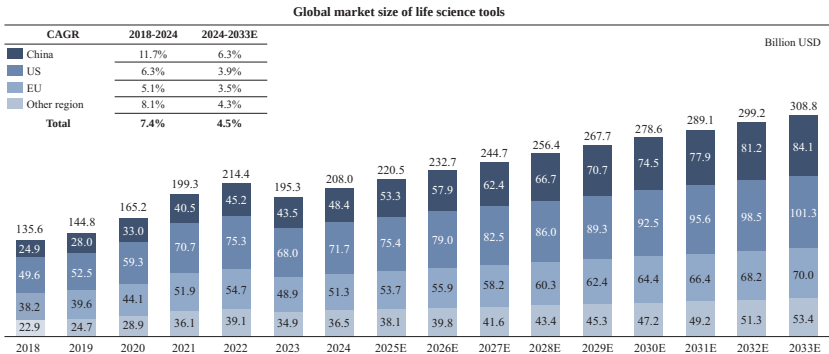
Testing type	Molecular testing		Protein testing
	Non-sequencing molecular testing	Gene sequencing	
Analyte	Specific molecular marker	Nucleic acids	Protein molecule
Technology Principle	PCR, FISH, gene chip	Sanger, NGS, Single molecular sequencing, EL-NGS	Elisa, CLIA, Western blot, Mass spectrometry, etc.
Output	Quantitative values (copy numbers, ratios) or qualitative results (positive/negative)	Genetic variants, mutations, and their clinical significance	Protein levels, expression patterns, and activity measurements
Reflection	Specific target status, mutation presence	Genetic profile and disease susceptibility	Protein expression and disease biomarker status
Level of sophistications*	+	+++++	+++
Purpose	Rapid pathogen detection, known mutation screening, companion diagnostics, etc.	Genetic variation detection, tumor mutation analysis, birth defect screening, etc.	Disease diagnosis, treatment monitoring, and biomarker analysis

* Level of sophistications refers to the inherent complexity of the testing technology, the requirements for laboratory infrastructure and equipment, the difficulty of data analysis and clinical interpretation, as well as the cost and skill level of the personnel involved.

Source: CIC

Global Life Science Tools Market

The global life science tools market has witnessed substantial growth in recent years, increasing from US\$135.6 billion in 2018 to US\$208.0 billion in 2024, with a CAGR of 7.4%. In the post-pandemic era, despite a slowdown in the overall growth rate of the life science tools market, this sector continues to present strong market potential and is expected to maintain steady growth, as driven by ongoing technological advancements, increased investment in research and development, and rising demand for innovative life science solutions across academic, clinical, and industrial sectors. The chart below illustrates the historical and forecast size of the global life science tools markets for the periods indicated.



Source: World Health Organization (WHO), Organization for Economic Co-operation and Development (OECD), National Bureau of Statistics of China (NBSC), General Administration of Customs of the People’s Republic of China (GACC), annual reports of listed companies, expert interviews, CIC

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Growth Drivers and Future Trends of Life Science Tools Market

The growth of the life science tools market is expected to be driven and shaped by the following factors:

- **National-level favorable policy support.** China has implemented a series of favorable policies to drive the growth of the life sciences tools industry. For example, the 14th Five-Year Plan for the Development of the Bioeconomy (《「十四五」生物經濟發展規劃》), issued on May 10, 2022, encourages better tools for gene testing and disease detection, and also supports new methods like synthetic biology and microfluidics, which can be used in medicine, farming, and environmental protection. The 14th Five-Year Plan for National Health (《「十四五」國民健康規劃》) released on April 27, 2022, emphasizes strengthening the development and deployment of advanced medical equipment and diagnostic tools to support national health objectives. On the reimbursement side, the National Healthcare Security Administration (NHSA) and provincial health authorities have introduced a series of reimbursement reforms to expedite market access for innovative life science tools, including fast-track insurance inclusion and procurement policies for devices approved under the innovation pathway and enhanced DRG/DIP payment incentives across multiple provinces. The U.S. has also launched the National Biotechnology and Biomanufacturing Initiative on September 12, 2022, which supports the development of new diagnostic technologies and aims to improve the regulatory environment to drive bioeconomy growth.
- **Expansion of downstream market demand.** The growing focus on genetic research and patient needs is driving the expansion of personalized and precision medicine, which relies on advanced life science tools for quick biomarker identification and high-throughput screening, thereby fueling market demand. Beyond healthcare, the adoption of high-throughput sequencing in non-medical sectors, such as crop and livestock breeding, animal disease monitoring, and food safety testing, also contributes to the rising demand for life science tools.
- **Technological innovation and AI integration.** Technological advancements, especially automation in high-throughput applications, spatial multi-omics and artificial intelligence, have significantly accelerated experimental processes while driving the development of more advanced life science tools and analytical platforms. The integration of automation with AI and big data analytics enables high-quality, large-scale, and highly accurate data generation and analysis, significantly enhancing efficiency, accelerating scientific discoveries, and expanding the applications of life science tools across diverse fields.
- **Transnational cooperation and technical standardization.** Given the acceleration of collaboration between multinational pharmaceutical companies and research institutions, the standardization and regulation of life science tools have become essential to ensuring the quality and consistency of processes, driving the worldwide expansion of the life science tools market.

OVERVIEW OF MOLECULAR TESTING MARKET

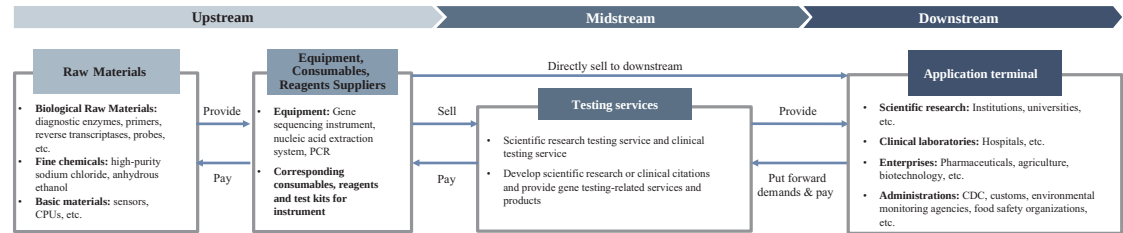
Molecular testing comprises a spectrum of advanced techniques designed to detect and analyze nucleic acids, including DNA and RNA, to identify genetic mutations, gene expression patterns, and epigenetic modifications at the molecular level. As a transformative segment within the life science tools industry, it broadly encompasses two categories — non-sequencing molecular testing and gene sequencing — each serving distinct functional purposes based on differences in detection principles, information depth, and cost structure.

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Non-sequencing molecular testing is primarily used for the rapid detection of specific targets. It offers advantages such as simplicity, cost-effectiveness, and operational efficiency, making it well-suited for large-scale screening and companion diagnostics. In contrast, gene sequencing excels at providing comprehensive genetic information, enabling in-depth analysis of complex genomic variations, though it typically involves higher costs and greater data processing requirements.

Industrial Chain and Workflow of Molecular Testing

The molecular testing industry is built around a value chain that includes upstream suppliers, midstream service providers, and downstream users. The following diagram sets forth the industrial chain of the molecular testing market.

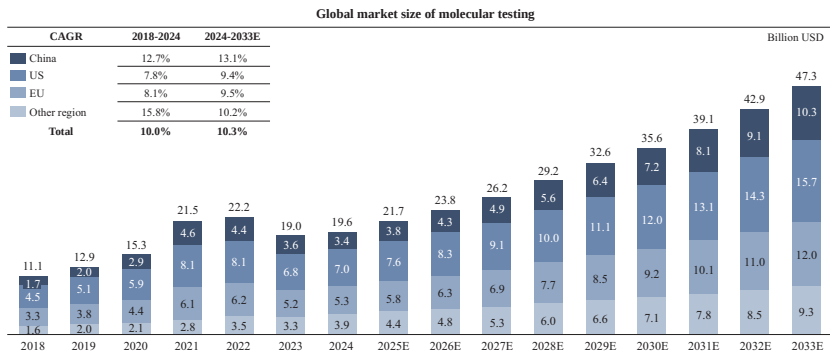


Source: CIC

Molecular testing instruments, as the core of diagnostic and research platforms, support a standardized yet highly adaptable workflow across a wide range of applications. These instruments and their associated consumables are typically designed as general-purpose platforms, enabling broad applicability in both clinical and research settings. In clinical settings, the typical workflow proceeds from patient assessment and test kit selection, through sample collection and laboratory analysis, to data interpretation and report generation for the patient and physician.

Molecular Testing Market Size

The broad applications of molecular testing have driven substantial growth and innovation in this sector. The chart below illustrates the historical and forecast size of the global molecular testing market for the periods indicated.



Note:

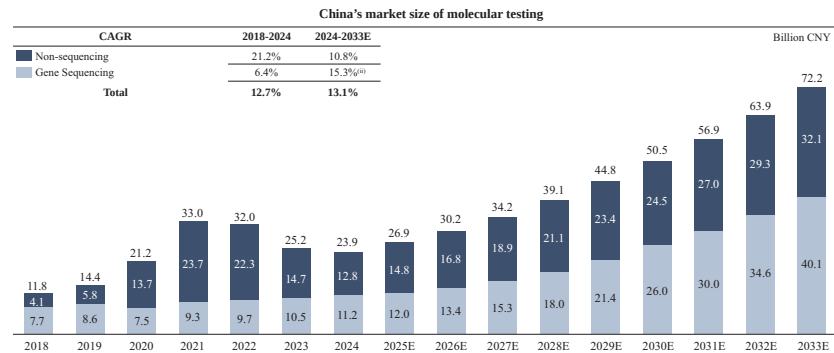
- (i) This market size includes molecular testing instruments, consumables, and clinical test kits across all applications.

Source: WHO, FDA, NMPA, annual reports of listed companies, expert interviews, CIC

In China’s molecular testing market, gene sequencing method was the leading segment before the COVID-19 pandemic and is projected to regain its dominant position in the next

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few years. The chart below illustrates a breakdown of the China’s molecular testing market by molecular testing technology, including non-sequencing molecular testing and gene sequencing, for the periods indicated.



Notes:

- (i) This market size includes molecular testing instruments, consumables, and clinical test kits across all applications.
- (ii) The forecasted CAGR of 15.3% in China’s gene sequencing market between 2024 and 2033 reflects the accelerating adoption of NGS technology in both clinical and research settings. Key drivers include its broader inclusion in clinical guidelines for liquid biopsy, hereditary disease testing, and oncology companion diagnostics; a significant reduction in sequencing costs driven by technology localization and supply chain maturity; rising cancer incidence and the wider acceptance of genomic profiling; and increasing investment in translational research, biobanks, and precision medicine pilot programs. Furthermore, domestic innovation in sequencing platforms is expected to broaden access beyond top-tier academic centers, supporting sustained market growth from a relatively low base of clinical penetration.

Source: NMPA, Chinese Medical Association (CMA), NBSC, GACC, annual reports of listed companies, expert interviews, CIC

OVERVIEW OF NON-SEQUENCING MOLECULAR TESTING MARKET

Non-sequencing molecular testing relies on targeted methods that amplify or detect specific nucleic acid sequences to identify genetic variations, mutations, or the presence of pathogens, without sequencing the entire genome. The widely employed technologies in non-sequencing molecular testing include polymerase chain reaction (PCR), fluorescence in situ hybridization (FISH) and gene chips. The following chart provides a comparative analysis of these three non-sequencing molecular testing techniques in terms of their fundamental principle, technology maturity, and applications.

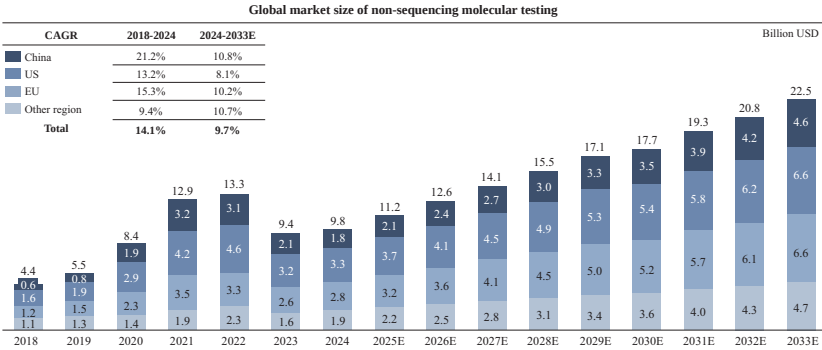
	Principle	Technology maturity			Application
		Operation requirement	Time efficiency	Cost efficiency	
PCR	DNA becomes single strand at high temperature and complements each other at low temperature.	Low to moderate operation requirement	- Moderate throughput - Relatively shorter experiment duration	Relatively lower cost	- Infectious diseases diagnosis - Tumor early detection and companion diagnostics - Genetic diseases
FISH	The process of hybridizing the labeled known sequencing nucleic acid with the nucleic acid in the cell or tissue section, so as to accurately locate the specific nucleic acid.	Low to moderate operation requirement	Moderate time consumption with the rather cumbersome experiment process	Low cost with mature technology	- Virus detection - Disease classification, prognosis and medication guidance of tumors
Gene chip	Known DNA sequences are integrated and hybridized with sample molecules on the same chip to obtain sample sequence information.	High operation difficulty	- High throughput - Relatively longer experiment duration	High test cost	- High-throughput disease screening and multi-target genetic analysis - New drug development

Source: Literature review, CIC

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Non-Sequencing Molecular Testing Market Size

The non-sequencing molecular testing market currently serves over 110 million target individuals and eligible users worldwide. The chart below illustrates the historical and forecast size of the global non-sequencing molecular testing market for the periods indicated.

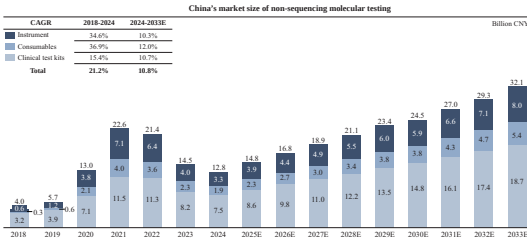


Note:

- (i) This market size includes non-sequencing molecular testing instruments, consumables, and clinical test kits across all applications.

Source: WHO, FDA, NMPA, annual reports of listed companies, expert interviews, CIC

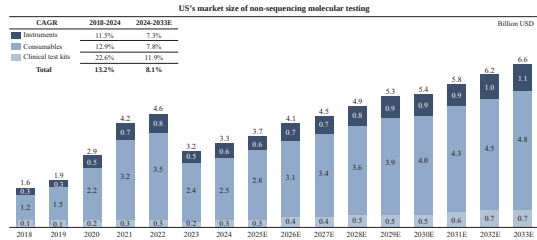
The charts below further illustrate the breakdown of non-sequencing molecular testing markets in China, the U.S. and the EU, respectively, by product type, including instruments, consumables and clinical test kits, for the periods indicated.



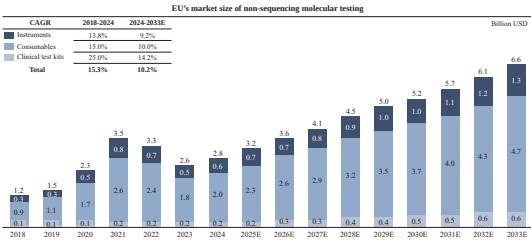
Note:

- (i) This market size includes non-sequencing molecular testing instruments, consumables, and clinical test kits across all applications.

Source: NMPA, CMA, NBSC, GACC, annual reports of listed companies, expert interviews, CIC



Source: Annual reports of listed companies, expert interviews, CIC

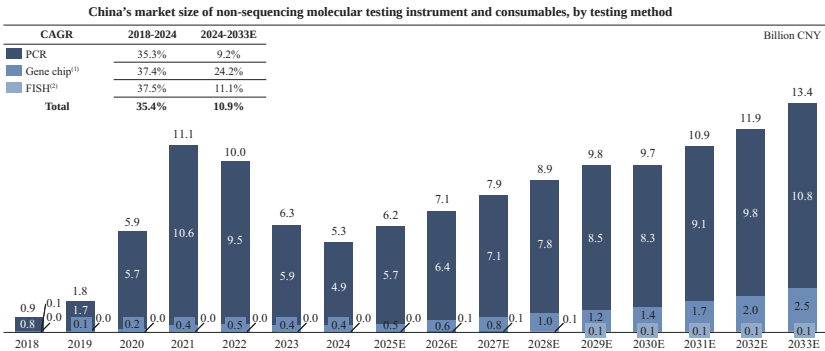


Source: Annual reports of listed companies, expert interviews, CIC

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Non-Sequencing Molecular Testing Instrument and Consumables Market Size

Technologies used in non-sequencing molecular testing instrument and consumables include PCR, FISH, and gene chips. The chart below sets forth a breakdown of China’s non-sequencing molecular testing instrument and consumables market by testing method for the periods indicated.

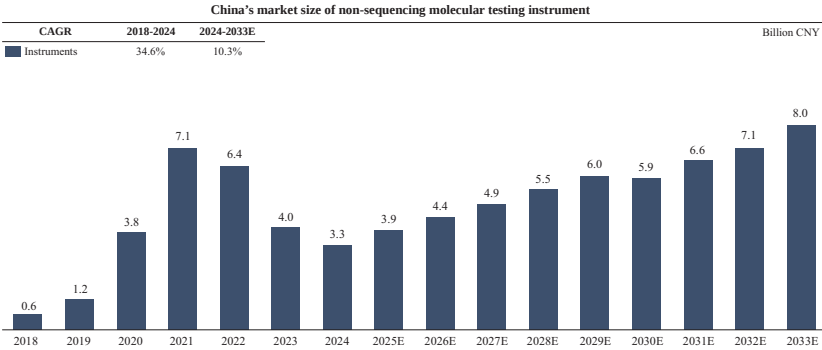


Notes:

- (1) While conventional gene chip rely solely on hybridization-based detection, technological advances have introduced nucleic-acid-amplification-enhanced formats to improve analytical performance. In particular, multiplex PCR-microarray, a sub-type of gene chip, combine upstream PCR-based amplification with downstream microarray readout to enable multi-target detection. Depending on system architecture, amplification may occur independently prior to hybridization or be integrated within a unified workflow.
- (2) FISH is a commonly used laboratory technique and has become an important tool in clinical settings, especially in oncology. The FISH detection technique uses fluorescent probes to visualize microscopic molecular pathological phenomena. By using a fluorescence microscope, fluorescent signals can be observed at the target locations. Since FISH testing does not require specialized instruments and only needs a fluorescence microscope for observation, FISH itself is considered test kit only. We have included some common consumables related to FISH, such as fluorescent probes and buffer solutions in the market size.

Source: NMPA, CMA, NBSC, GACC, annual reports of listed companies, expert interviews, CIC

The chart below sets forth China’s non-sequencing molecular testing instrument market for the periods indicated.

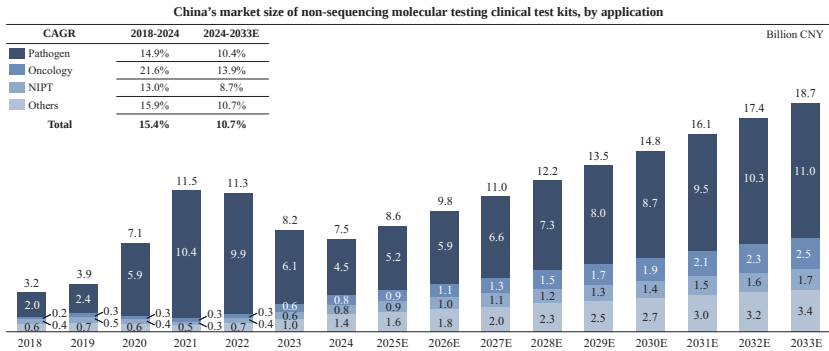


Source: Annual reports of listed companies, expert interviews, CIC

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Non-Sequencing Molecular Testing Clinical Test Kits Market Size

Clinical test kits are typically used alongside corresponding instruments and consumables, with primary applications in pathogen detection, oncology diagnostics, and non-invasive prenatal testing (NIPT). The chart below presents the market breakdown of China’s non-sequencing molecular testing clinical test kits by application for the periods indicated.



Source: NMPA, CMA, NBSC, GACC, annual reports of listed companies, expert interviews, CIC

Competitive Landscape of Non-Sequencing Molecular Testing Market

The global non-sequencing molecular testing instrument and consumables market is highly competitive and fragmented. Key players, including bioMérieux, Bio-Rad Laboratories, Danaher Corporation, Qiagen N.V., and Roche Diagnostics, maintain their positions through broad product portfolios, ongoing innovation, and global distribution networks. China’s market mirrors this fragmentation, with the same multinational players competing alongside a rapidly growing cohort of domestic players such as Axbio and Daan Gene. As of December 31, 2025, there were a total of 155 PCR instruments, 1,049 PCR kits, four FISH instruments (all of which were automated platforms instead of testing devices), 35 FISH kits, 80 multiplex PCR-microarray testing instruments, and 57 multiplex PCR-microarray testing kits that have been approved for market entry by the NMPA in China.

The table below sets forth the top five players in the China’s non-sequencing molecular testing instrument and consumables market, as well as their revenues and corresponding market shares in 2024.

	Revenue (billion RMB)	Market share (%)
Company A ⁽¹⁾	0.7	13.2%
Company B ⁽²⁾	0.6	11.8%
Company C ⁽³⁾	0.6	11.7%
Company D ⁽⁴⁾	0.5	9.0%
Company E ⁽⁵⁾	0.4	8.3%

Source: Annual report, expert interview, CIC

Notes:

- (1) Company A was established in 2006 through the merger of several entities, with its headquarters located in Massachusetts, USA. It provides scientific instruments, reagents, and services to laboratories worldwide and was listed on the NYSE in 2006.
- (2) Company B is a provider of genetic testing and molecular diagnostic technologies. Founded in 1997 and headquartered in Xi'an, China, it supplies PCR instruments, in-vitro diagnostic reagents, and automated solutions to medical institutions.

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- (3) Company C is a specialized manufacturer of medical PCR analysis systems. Established in 2003 and based in Shanghai, China, it offers fully automated nucleic acid detection equipment to diagnostic laboratories.
- (4) Company D is a comprehensive supplier of end-to-end molecular testing products. Founded in 2002 with headquarters in Hangzhou, China, it provides fully automated real-time PCR systems, nucleic acid processing workstations, and matching reagents to healthcare institutions and research organizations.
- (5) Company E is an enterprise focused on the molecular diagnostics industry. Established in 2010 and headquartered in Suzhou, China, it delivers integrated PCR technology solutions for pathogen detection.

Within the broader non-sequencing molecular testing segment, related instruments, consumables and matching clinical test kits can also be subdivided into two functional categories, including single-plex assays that detect one target at a time, and multiplex nucleic acid tests that read many targets simultaneously. Today, multiplex capability is delivered mainly by multiplex PCR and multiplex PCR microarray platforms. The table below sets forth the major multiplex nucleic acid detection instruments globally as of December 31, 2025.

Company	Product/Series	Testing technology	Detection method	Description	Development stage
Biofire (bioMérieux)	Filmarray	Multiplex PCR	Optical	Fully enclosed cartridge-based multiplex PCR platform with integrated sample-to-result workflow, commonly used for respiratory, bloodstream, and GI panel	NMPA approved FDA approved
	Spotfire	Multiplex PCR	Optical	Desktop multiplex PCR instrument for rapid pathogen detection	CE mark FDA approved
Cepheid (DanaHER)	GeneXpert	Multiplex PCR	Optical	Modular sample-to-result system widely used for tuberculosis, respiratory pathogens, and drug resistance gene detection	NMPA approved FDA approved CE mark
Bio-Rad	CFX	Multiplex PCR	Optical	Multi-channel real-time PCR detection systems supporting up to 5-target multiplexing with advanced optical technology and precise thermal control	NMPA approved FDA approved CE mark
GenMark (Roche)	eSensorXT-8	Multiplex PCR Microarray	Electrochemical	Automated system for multiplex detection on electrochemical probe microarrays after PCR amplification	FDA approved
	ePlex	Multiplex PCR Microarray	Electrochemical	Multi-target detection through PCR amplification combined with electrochemical chip hybridization probes	FDA approved CE mark
Affymetrix (Thermo Fisher)	GeneChip System	Hybridization-based Microarray	Optical	Solid-phase oligonucleotide microarray platform that relies on labeled nucleic acid-hybridization	NMPA approved FDA approved CE mark
Agilent	SurePrint Microarray	Hybridization-based Microarray	Optical	High-throughput oligonucleotide hybridization platform for gene expression and multi-target analysis	NMPA approved CE mark
Illumina	Infinium/BeadChip	Hybridization-based Microarray	Optical	Solid-phase microbead-based genotyping microarray platform that utilizes whole-genome amplification and hybridization with single-base extension chemistry	RUO
CapitalBio	BioMixer/ LuxScan Series	Multiplex PCR Microarray	Optical	Early domestic chip detection instruments for respiratory pathogens and tumor marker detection	NMPA approved
Axbio	EL-100	Multiplex PCR Microarray	Electrochemical	Electrochemical biochip analyzer for multi-target analysis through microarray electrochemical signal detection after PCR amplification	NMPA approved
Atlas Genetics/ binx health	IO	Multiplex PCR Microarray	Electrochemical	Isothermal nucleic-acid amplification platform with microfluidic cartridge and electrochemical detection	FDA approved
	Callisto	Multiplex PCR Microarray	Electrochemical	automated microfluidic sample-preparation system for nucleic acid extraction and library preparation	RUO
Daan gene	DA9100	Multiplex PCR Microarray	Electrochemical	Electrochemical gene chip detector with 72 electrodes on each chip, capable of multi-locus and multi-allelic gene analysis	NMPA approved
One-chip	/	Multiplex PCR Microarray	Electrochemical	/	Under development

Source: Company official websites, literature review, CIC

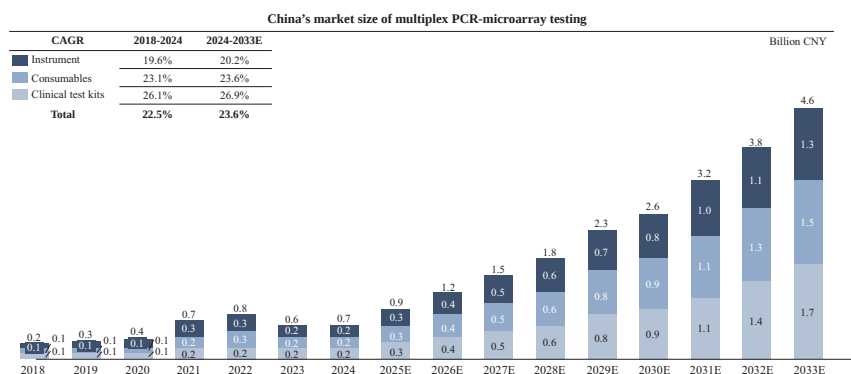
Overview of Multiplex PCR-Microarray Testing

Multiplex PCR-microarray testing integrates the amplification capability of multiplex PCR with the high-throughput screening capacity of microarray technology, enabling simultaneous analysis of multiple targets in a single sample while offering significant economic advantages through streamlined detection processes, reduced instrumentation costs, and shorter turnaround time. As of December 31, 2025, there were 80 multiplex PCR-microarray testing instruments approved in China and five in the U.S.; there were one multiplex PCR-microarray testing instruments in clinical stage or for RUO in China, two in the U.S., and three in the EU. As of the same date, there were 57 multiplex PCR-microarray testing kits approved in China and 15 in the U.S.; there were five multiplex PCR-microarray testing kits in clinical stage or for RUO in China, nil in the U.S., and three in the EU.

In particular, China’s multiplex PCR-microarray testing market is expanding rapidly as the technology gains broader clinical adoption for syndromic testing and high-multiplex pathogen detection. This growth is supported by increasing penetration into tier-2 and tier-3 hospitals, the expansion of test menus beyond respiratory pathogens to include

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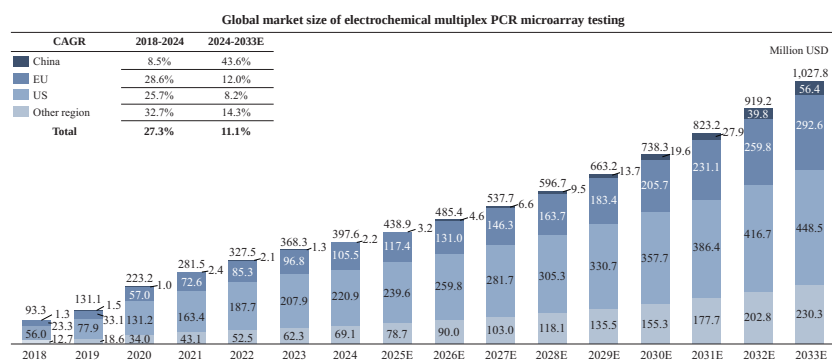
gastrointestinal, CNS, and antimicrobial resistance panels, and continued investment in molecular diagnostics infrastructure by public hospitals and independent clinical laboratories. The chart below illustrates a breakdown of the China’s multiplex PCR-microarray testing market by product type, including instruments, consumables and clinical test kits, for the periods indicated.



Source: NMPA, CMA, NBSC, GACC, annual reports of listed companies, expert interviews, CIC

Electrochemical Multiplex PCR-Microarray Market Size

Among existing multiplex PCR-microarray instruments, the majority are fluorescence-based; electrochemical platforms, though fewer in number, offer greater multiplexing capacity, lower costs, more compact instrumentation, and a streamlined workflow. The chart below illustrates the historical and forecast size of the global electrochemical multiplex PCR microarray testing market for the periods indicated.



Note:

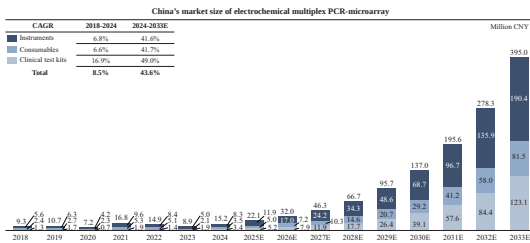
- (i) As China’s electrochemical multiplex PCR microarray segment is still at an early stage, with only two companies and two products currently commercialized, historical growth has been relatively modest and the market remains small in scale, which creates a low base for future expansion. As a result, even a moderate absolute increase in market size translates into a large percentage increase, resulting in a higher implied CAGR, particularly during early commercialization when penetration is building from a low installed base.

Looking ahead, adoption is expected to accelerate as electrochemical microarray detection offers higher multiplexing capacity, lower testing costs, simpler and more compact instrumentation, and a more streamlined workflow compared with fluorescence based systems. In addition, multiple overseas players have already commercialized electrochemical platforms, demonstrating the technology’s feasibility and commercial potential. As more companies enter the market and additional products are launched in China, broader clinical uptake and faster market expansion should follow, supporting the higher forecast CAGR.

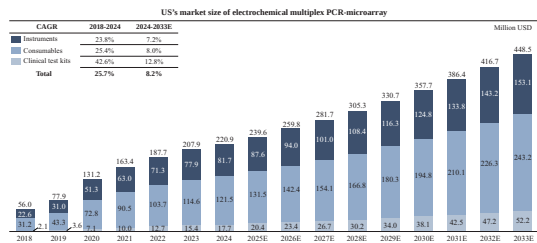
Source: Annual reports of listed companies, expert interviews, CIC

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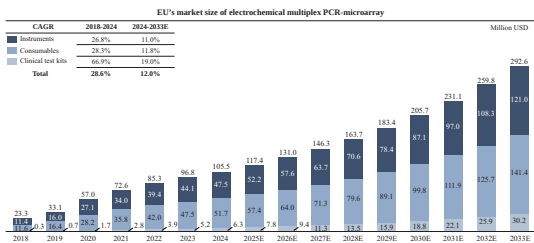
The charts below further illustrate the breakdown of electrochemical multiplex PCR microarray testing markets in China, the U.S. and the EU, respectively, by product type, including instruments, consumables and clinical test kits, for the periods indicated.



Source: Annual reports of listed companies, expert interviews, CIC



Source: Annual reports of listed companies, expert interviews, CIC



Source: Annual reports of listed companies, expert interviews, CIC

As of December 31, 2025, there were two electrochemical multiplex PCR-microarray testing instruments approved in China and three in the U.S.; there were nil electrochemical multiplex PCR-microarray testing instruments in clinical stage or for RUO in China and one in the U.S. and EU. As of the same date, there were two electrochemical multiplex PCR-microarray testing kits approved in China and ten in the U.S.; there were nil multiplex PCR-microarray testing kits in clinical stage or for RUO in China, nil in the U.S., and one in the EU.

Competitive Landscape of Multiplex PCR-Microarray Testing Instrument Market

In general, the multiplex PCR-microarray testing instrument market remains fragmented and still reflects the characteristics of an emerging industry, with a small number of leading domestic players achieving broader hospital penetration and more extensive test menus, while many newer entrants focus on specific regions or niche panels. Competition centers on menu breadth and clinical validation, workflow simplicity and automation, reagent economics, and hospital tender access and service capability. Although fluorescence-based systems currently dominate, electrochemical platforms represent an alternative technological route. As clinical adoption advances, platforms are expected to differentiate increasingly based on throughput, ease of use, and total economic value.

As of December 31, 2025, among the 80 multiplex PCR-microarray testing instruments developed by 58 companies and approved by the NMPA or its local counterparts, only two were electrochemical platforms, including our Core Product AxiLona EL-100, and the remaining 78 were fluorescence-based systems. The chart below illustrates the competitive landscape of China's multiplex PCR microarray analyzer market.

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Indicator	Multiplex PCR + Fluorescence Microarray Detection	Multiplex PCR + Electrochemical Microarray Detection
Sensitivity	• ≥200 Copies/mL	• Can be as low as 100 Copies/mL
Specificity	• ~97% (only specific primers for amplification 90%~95%)	• >99.9% (The combination of specific primers for amplification and highly specific probes for hybridization significantly improves specificity)
Testing Cycle	• Total turnaround time around 5-8 hrs	• Total turnaround time < 2 hrs
Sample Throughput per Unit Time	• Relatively low	• High
Instrument Cost	• High, complex optical components lead to high instrument cost	• Low, no complex optical components, 1/3-1/2 the cost of a fluorescent quantitative PCR instrument
Reagent Cost	• Relatively high (signal detection requires multiple fluorescent-labeled probes like TaqMan probes, increasing production cost)	• Low, about 1/2 the cost of fluorescent detection reagents (only one electrochemical group is needed per signal detection; thus only one type of label is needed, resulting in lower production cost)
Number of NMPA approval product	• 78	• 2
Key Players	• CapitalBio • Affymetrix • Agilent	• Axbio • Daan Gene

Note:

- (1) Specificity refers to the probability that the test correctly identifies true-negative samples. High specificity minimizes false positives and therefore avoids inappropriate antimicrobial use, unnecessary follow-up testing, and clinical mis-classification. Specificity for multiplex PCR-microarray assays is kit-dependent and influenced by probe design, primer specificity, target sequence diversity, specimen type, reference method, and laboratory workflow.

Source: NMPA, public information, literature review, CIC

The chart below sets forth the analysis of comparison between Axbio EL-100 and Daan Gene DA9100.

Indicator	Axbio EL-100	Daan Gene DA9100
Limit of Detection	• Can be as low as 100 Copies/mL	• NA
Speed	• On-instrument testing takes just 3 mins, total turnaround time < 2 hrs	• Complete at least 100 tests within 3 hrs
Single chip electrodes	• Up to 54	• Up to 72
Dimensions (mm)	• 370(L)×242(W) ×148(H)	• 840(L) × 545(W) × 665(H)
Weight	• 6.15kg	• 60kg

Given the notable differences in product positioning, intended application scenarios, and commercialization strategies, the two products are not directly comparable. DA9100 is designed primarily for centralized, high-throughput testing environments, such as third-party laboratories, and is significantly larger in size and weight. In contrast, AxiLona EL-100 is a compact and portable microarray analyzer suitable for both centralized and decentralized testing scenarios. Crucially, both systems require prior PCR amplification before detection.

Growth Drivers and Future Trends of Non-Sequencing Molecular Testing Market

The growth of the non-sequencing molecular testing market is expected to be driven and shaped by the following factors:

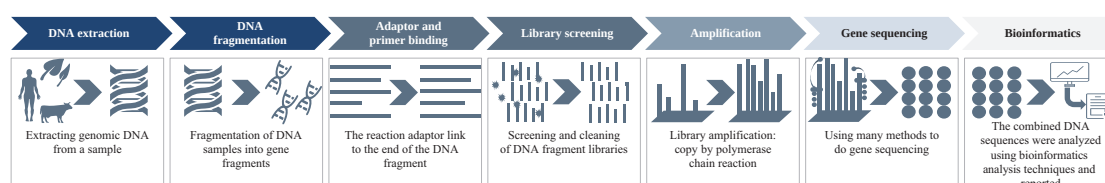
- **Increasing respiratory infection burden and heightened clinical awareness.** RSV, influenza, and other respiratory pathogens remain leading causes of acute respiratory infections, driving significant healthcare utilization particularly among infants and individuals with underlying cardiopulmonary conditions. According to CIC, China reported 10.2 million cases of notifiable infectious diseases in 2019, rising to 18.7 million cases in 2023 (excluding COVID-19), underscoring a growing diagnostic demand. This burden, combined with the need for early diagnosis and infection-control decision-making, continues to drive demand for rapid molecular respiratory testing — particularly in pediatric and emergency-care settings.

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- Growing demand for cost-effective diagnostics and broader applications.** Advances in domestic manufacturing have reduced the costs of non-sequencing molecular testing instruments and reagents, improving affordability and accessibility within China’s hierarchical diagnosis and treatment system. Non-sequencing molecular testing is also being increasingly applied in food safety and traceability, including genetically modified ingredient detection, allergen screening and contaminant traceability, as well as in prenatal screening, where nonsequencing methods offer advantages for NIPT.
- Technological advancement and personalized medicine.** enables high-throughput processing of complex biological samples, reducing turnaround times and lowering costs in molecular diagnostics. AI-powered microfluidic devices are also expected to support further miniaturization and automation of non-sequencing tests. In addition, non-sequencing technologies, particularly those designed for high-throughput and point-of-care diagnostics, are expected to support personalized medicine by enabling rapid identification of genetic variations and microbial compositions to guide targeted treatment decisions.
- Policy support.** The Chinese government actively promotes non-sequencing diagnostic technologies through favorable policies. For example, the 14th Five-Year Plan for Medical Equipment Industry Development (《「十四五」醫療裝備產業發展規劃》), issued on December 21, 2021, emphasizes advancements in *in vitro* diagnostics, high-throughput intelligent testing, and multifunctional diagnostic tools, with a clear emphasis on non-sequencing technologies. The NMPA has also streamlined approvals for innovative non-sequencing diagnostic products, accelerating market entry.

OVERVIEW OF GENE SEQUENCING MARKET

Gene sequencing technology refers to the methods used to determine the order of nucleotides in a DNA or RNA molecule, which plays a crucial role in genomics, enabling the analysis of genetic information for applications in research, diagnostics, and other fields. Gene sequencing fundamentally involves extracting sequence information from DNA samples, capturing signals via electrochemical or optical detection, and processing the data computationally. Depending on the technology, additional steps such as DNA fragmentation or PCR amplification may be required. The below chart illustrates the typical workflow of NGS, including DNA extraction, DNA fragmentation, adaptor and primer binding, library screening, amplification, gene sequencing and bioinformatics.



Source: Literature review, CIC

INDUSTRY OVERVIEW

Types of Gene Sequencing Technology

The below table illustrates the capabilities, advantages and limitations of the four main types of gene sequencing.

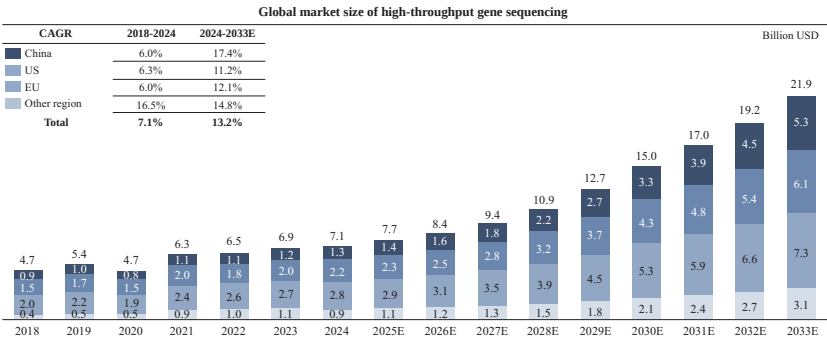
Technology	Capabilities	Advantages	Limitations
Sanger sequencing	- High precision (error rate 0.001-0.01%) - Moderate sequencing length (1kbp) - Low throughput (<1kb) - cDNA sequencing method	- Fast and cost-effective for low target number - Well-established workflow - Simple data analysis	- Low sensitivity (15-20% detection limit) - Low discovery power - Low scalability due to increasing sample input requirements
Next-generation sequencing (NGS)	- Sequencing length 50-300bp 0.1% error rate - Low cost per base, high cost per run	- Multiplexing/sample pooling to lower unit cost - High throughput	- Complex data analysis - Higher error rate than Sanger - Short read
Single molecule sequencing	- Fluorescent signal-based - Medium throughput - Sequencing length 10k-100kbp	Extremely high accuracy (<0.01%)	- High error rate at single pass (~15%) - Expensive sequencer
Electrochemistry long-reading next-generation sequencing (EL-NGS)	- Electrical signal-based - Ultra-long read length (>100kb)	- Really (ultra-) long reads - Portability	- High overall error rate (~10%) - Systematic errors
	- Electrical signal-based 1 million individual sensing channels; targeting 10 million individual sensing channels in the future - High throughput 100Gb; 1,000Gb expected in the future	- Long read capabilities - High sequencing accuracy - Scalable to high throughput - Extremely low cost per sample - Portable and low instrument cost	Require advanced algorithms for signal/data processing

Source: Literature review, CIC

Among these technologies, EL-NGS stands out by combining long-read sequencing, electrochemical detection, and SBS with nanopore technology. Modified dNTP biomarkers produce distinct electrical signals through nanopores, enabling real-time detection during DNA synthesis. By eliminating optical systems and complex sample preparation, EL-NGS reduces costs and simplifies workflows, while its scalable electronic sensors support higher throughput — advancing applications from basic research to clinical diagnostics and personalized medicine.

High-Throughput Gene Sequencing Market Size

The global gene sequencing market has been driven by the shift from traditional Sanger sequencing — limited by low throughput and a single sequence per reaction — to high-throughput sequencing platforms that enable parallel sequencing of millions of DNA molecules, significantly expanding the scale and efficiency of genomic research and clinical applications. Currently, the high-throughput gene sequencing market serves over 20 million target individuals and eligible users worldwide. The high-throughput gene sequencing segment has experienced robust growth in recent years and is projected to accelerate further, positioning itself as one of the most dynamic drivers within the broader gene sequencing landscape. The chart below illustrates the historical and forecast size of the global high-throughput gene sequencing markets for the periods indicated.



Notes:

- (i) This market size includes high-throughput gene sequencing instruments, consumables, and clinical test kits (excluding the products employing Sanger sequencing technologies) across all applications.

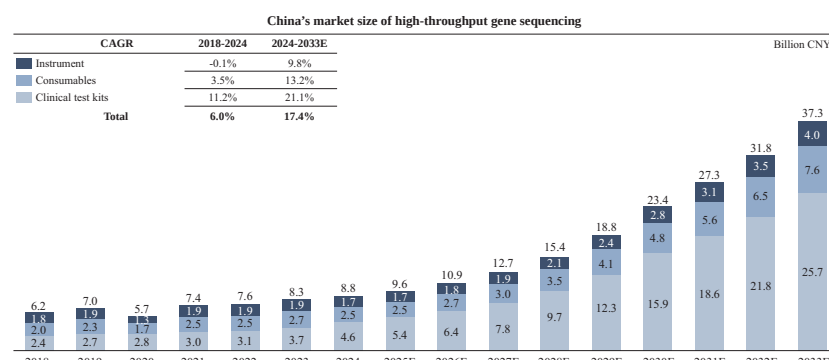
INDUSTRY OVERVIEW

- (ii) High-throughput sequencing markets across China, the U.S., and the EU exhibit differentiated growth curves that reflect their respective levels of baseline penetration and reimbursement maturity. The forecasted CAGR of 17.4% in China’s high-throughput gene sequencing market between 2024 and 2033 is driven by lower starting penetration, strong national policy support, and the rapid expansion of sequencing capacity into provincial and municipal hospitals. The forecasted CAGR of 11.2% in US’s high-throughput gene sequencing market between 2024 and 2033 reflects a more mature installed base with established reimbursement pathways and stable utilization in oncology and hereditary testing. Incremental growth is primarily tied to the adoption of liquid biopsy, MRD tracking, and the expansion of population genomics programs. The forecasted CAGR of 12.1% in EU’s high-throughput gene sequencing market between 2024 and 2033 benefits from continued public investment in large-scale genomic medicine initiatives and the harmonization of clinical pathways under national genomic strategies. Its growth rate is slightly slower than China’s due to a higher baseline penetration and more gradual procurement cycles.

Across all regions, falling technology costs, the progressive integration of sequencing into standard treatment algorithms, and the expansion of clinically validated assays provide long-term structural support for the market, while China’s market growth is particularly distinguished by significant infrastructure build-out and the accelerating localization of sequencing platforms and consumables.

Source: WHO, FDA, NMPA, annual reports of listed companies, expert interviews, CIC

The chart below illustrates a breakdown of China’s high-throughput gene sequencing market by product type, including instrument, consumables and clinical test kits, for the periods indicated.



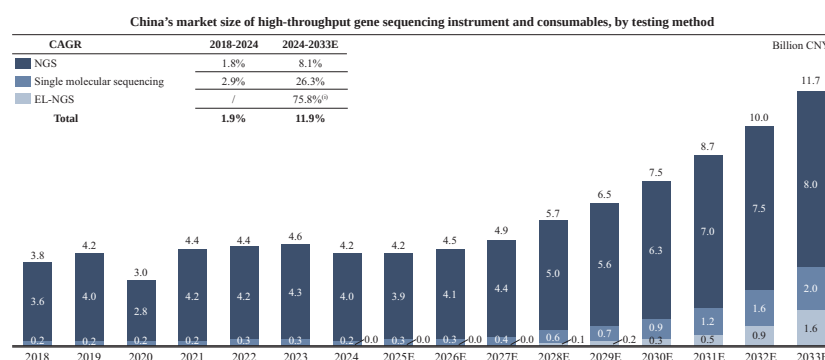
Note:

- (i) This market size includes high-throughput gene sequencing instruments, consumables, and clinical test kits (excluding the products employing Sanger sequencing technologies) across all applications.

Source: NMPA, National Health Commission (NHC), NBSC, GACC, annual reports of listed companies, expert interviews, CIC

High-Throughput Gene Sequencing Instrument and Consumables Market

The chart below illustrates a breakdown of China’s high-throughput gene sequencing instrument and consumables market by testing method for the periods indicated.



INDUSTRY OVERVIEW

Note:

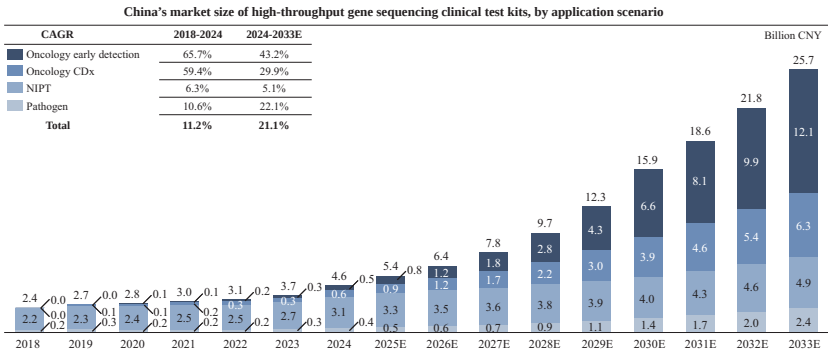
- (i) The forecasted CAGR of 75.8% for China’s high-throughput gene sequencing testing instrument market using EL-NGS technology between 2024 and 2033 is driven by a growing clinical and research demand for higher-resolution variant detection, long-read capabilities, and integrated methylation information, particularly in oncology, hereditary disease, and infectious pathogen genomics. The electrochemical nanopore architecture of EL-NGS enables long-read sequencing using smaller, modular, and more cost-efficient instruments. This design facilitates faster diffusion of the technology beyond top-tier hospitals and supports a rapid scale-up of recurring consumables demand as utilization increases.

Before 2024, there were essentially no mature commercial EL-NGS products, with only scattered RUO placements and pilot evaluations. The market’s trajectory changes from 2024 onwards with the launch of the first commercial-ready EL-NGS platforms in China, initially for RUO applications. As instrument installations accelerate, clinical validation data accumulates, and test menus broaden, the market naturally exhibits a steep early-stage ramp, which is consistent with other advanced testing modalities when they first moved from RUO into clinical use in China.

Source: CIC

High-Throughput Gene Sequencing Clinical Test Kit Market

Clinical test kits are typically used alongside corresponding instruments and consumables, with primary applications in oncology early detection, oncology CDx, NIPT and pathogen detection. The chart below presents the market breakdown of China’s high-throughput gene sequencing clinical test kits by application for the periods indicated.



Source: CIC

Competitive Landscape of High-Throughput Gene Sequencing Market

The global high-throughput gene sequencing instrument and consumables market is highly concentrated and dominated by a few multinational biotechnology companies. In 2024, the top five players accounted for an aggregate market share of 94.9%, with Illumina alone capturing a significant share of 71.8%, in terms of their respective revenue in the same year. The table below sets forth the top five players in the global high-throughput gene sequencing instrument and consumables market, as well as their revenues and corresponding market shares in 2024.

Company	Revenue (billion USD)	Market share (%)
Illumina	3.5	71.8%
Thermo Fisher Scientific	0.4	8.3%
MGI	0.3	7.1%
Oxford Nanopore Technologies	0.2	4.6%
Pacific Biosciences	0.1	3.0%

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Note:

- (i) Market share represents each company’s revenue from gene sequencing instruments, compatible consumables, and after-sales maintenance service in the global high-throughput gene sequencing instrument and consumables market.

Source: Annual reports of listed companies, JPM conference, expert interviews, CIC

China’s market mirrors the global pattern in concentration, with the top five players collectively capturing 95.8% of the market share by revenue in 2024. While Illumina leads both globally and in China, the market share distribution in China is more balanced than that globally due to MGI’s significant presence as a prominent local player. The table below sets forth the top five players in China’s high-throughput gene sequencing instrument market, as well as their revenues and corresponding market shares in 2024.

Company	Revenue (billion RMB)	Market share (%)
Illumina	2.0	47.0%
MGI	1.7	39.0%
Thermo Fisher Scientific	0.2	4.3%
Oxford Nanopore Technologies	0.1	3.2%
Pacific Biosciences	0.1	2.2%

Note:

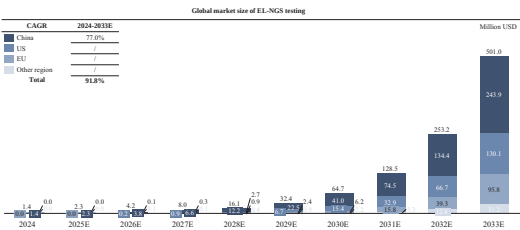
- (i) Market share represents each company’s revenue from gene sequencing instruments, compatible consumables, and after-sales maintenance service in China’s high-throughput gene sequencing instrument and consumables market.

Source: Annual reports of listed companies, JPM conference, expert interviews, CIC

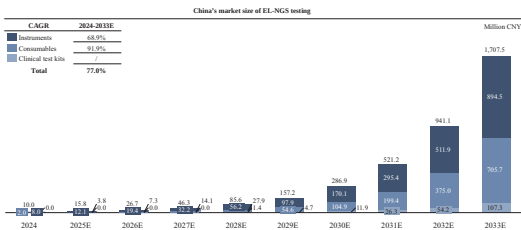
In China, there were 38 high-throughput gene sequencing instruments approved and four in clincial stage or for RUO, as of December 31, 2025. As of the same date, there were 45 high-throughput gene sequencing clinical test kits approved and six in clinical stage or for RUO.

Overview of EL-NGS Testing

EL-NGS pairs massively parallel sequencing with optimized chemistry to deliver higher throughput, lower cost, and superior accuracy than Sanger sequencing, early-generation NGS, or single-molecule platforms. Its integrated instruments and clinical test kits create a true sample-to-answer workflow that scales easily for routine genomic diagnostics. The charts below illustrate the historical and forecast size of the global and China’s EL-NGS testing market for the periods indicated.



Source: Annual reports of listed companies, expert interviews, CIC



Source: NMPA, CMA, NBSC, GACC, annual reports of listed companies, expert interviews, CIC

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As of December 31, 2025, all gene sequencing instruments adopting EL-NGS technology are still in development or categorized as research use only (RUO), and no related clinical test kits have yet progressed to clinical trials. In China, there were nil EL-NGS testing instrument approved and only two currently in clinical stage or for RUO; there were nil EL-NGS testing kits approved, in clinical stage, or for RUO, as of December 31, 2025. The table below sets forth the major EL-NGS gene sequencing instruments globally as of December 31, 2025.

Major EL-NGS gene sequencing instruments

Company	Product name	Technical Approach	Development stage
Axbio	AXP-100	Single-Base Nanopore Sequencing Technology (Nanopore Sequencing-by-Synthesis)	RUO
Geneus Technologies	G-seg500 G-seg1M	Single-Base Nanopore Sequencing Technology (Nanopore Sequencing-by-Synthesis)	RUO
Roche	Genia Technologies Stratos Genomics	/	Sequencing by expansion (SBX)
			Under development
	INanoBio Inc.	/	Semiconductor nanopore technology for sequencing
			Under development
	Electronic BioSciences (EBS)	/	Low noise electronics design and novel nanopore platforms
			Under development

Source: Company official websites, literature review, CIC

Growth Drivers and Future Trends of Gene Sequencing Market

The growth of the gene sequencing market is expected to be driven and shaped by the following factors:

- Continuous technological advancements and AI integration.** Rapid advancements in sequencing technologies have enhanced accuracy, speed and cost-effectiveness, and the emergence of more affordable platforms is supporting broader adoption of genetic testing. AI integration is also expected to enhance accuracy, reduce errors and optimize sequencing processes.
- Regulatory and investment support.** Governments and regulatory bodies are increasingly recognizing the importance of genetic testing in healthcare. For example, China’s 14th Five-Year Plan (《「十四五」規劃》) identifies gene sequencing as a strategic industry, while the 21st Century Cures Act in the U.S. supports the development of genomic technologies through policies and funding. In addition, investment from governments, private organizations and academic institutions continues to advance sequencing precision, affordability and innovation.
- Rising demand for personalized medicine and broader clinical adoption.** By enabling the comprehensive identification of genetic variants in both monogenic and polygenic diseases, gene sequencing technologies are playing an important role in personalized medicine, driving adoption and supporting market expansion. The expansion of the POCT market is also supporting the adoption of portable, cost-effective and efficient sequencing technologies across diverse healthcare settings.
- Expansion on bioinformatics, cloud solutions and EL-NGS adoption.** Leading companies are expanding beyond sequencing equipment to include reagents, consumables and bioinformatics tools, while advances in sequencing and the broader adoption of NGS and omics technologies are generating large datasets that support the development of cloud-based sequencing solutions. EL-NGS also offers advantages in resolving repetitive genetic regions and reducing sequencing costs, and its integration with biochip technology may support further miniaturization and portability.

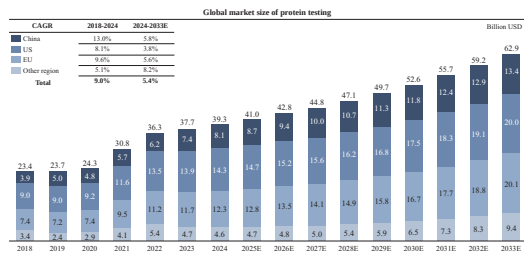
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OVERVIEW OF PROTEIN TESTING MARKET

Protein testing technology refers to a range of techniques used to measure and analyze protein levels in biological samples, such as blood, plasma, serum, or urine, providing insights into disease mechanisms and enabling more accurate diagnosis and personalized treatment. Widely utilized techniques include enzyme-linked immunosorbent assay (ELISA), chemiluminescence, immunofluorescence, Western blot, mass spectrometry, and protein-microarray.

Protein Testing Market Size

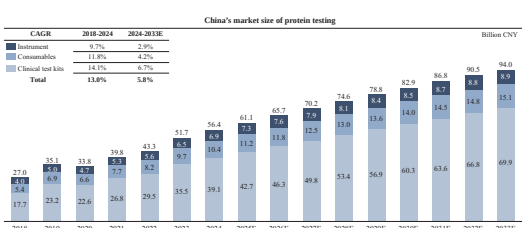
The global protein testing market grew from US\$23.4 billion in 2018 to US\$39.3 billion in 2024, reflecting a CAGR of 9.0%, which is expected to reach US\$62.9 billion in 2033, with a CAGR of 5.4% between 2024 and 2033. The charts below illustrate the historical and forecast size of the global and China’s protein testing markets for the periods indicated.



Note:

- (i) This market size includes protein testing instruments, consumables, and clinical test kits across all applications.

Source: WHO, FDA, NMPA, annual reports of listed companies, expert interviews, CIC

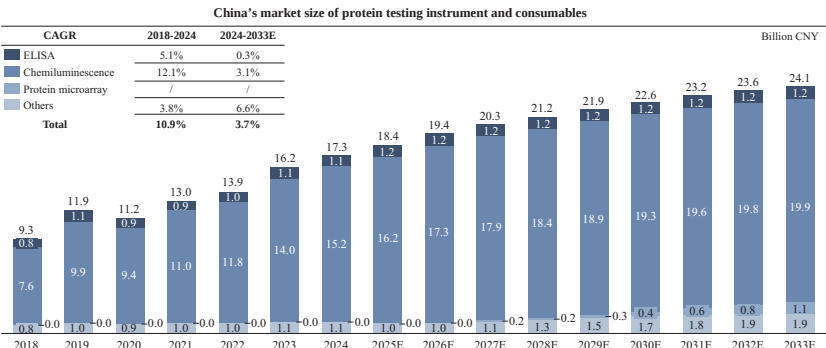


Note:

- (i) This market size includes protein testing instruments, consumables, and clinical test kits across all applications.

Source: NMPA, NHC, annual reports of listed companies, expert interviews, CIC

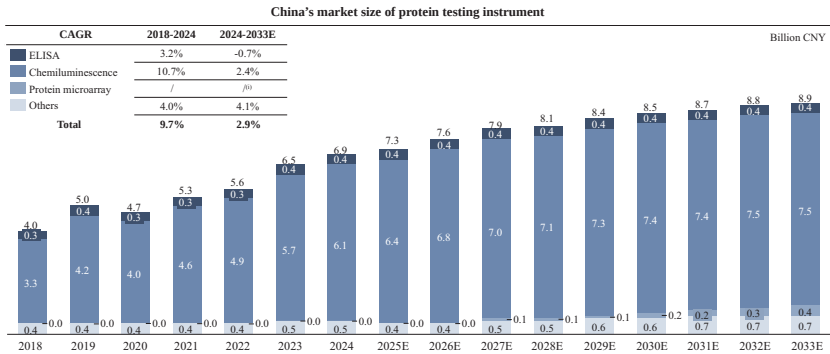
By testing method, chemiluminescent immunoassays dominate China’s protein testing instrument and consumables market, with ELISA as a sizeable but smaller segment, and protein microarrays currently occupying only a small share. The chart below illustrates a breakdown of China’s protein testing instrument and consumables market by testing method for the periods indicated.



Source: WHO, FDA, NMPA, annual reports of listed companies, expert interviews, CIC

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The chart below illustrates a breakdown of China’s protein testing instrument market by testing method for the periods indicated.



Note:

- (i) The forecasted CAGR for China’s protein testing instrument market using protein microarray technology between 2027 and 2033 is 38.2%. The protein testing market is relatively mature and is currently dominated by chemiluminescence-based methods, whereas protein microarray testing is expected to begin commercial penetration around 2027. Compared with chemiluminescence, protein microarray testing can directly convert antigen-antibody binding events into quantifiable signals, reducing reliance on enzyme-driven luminescent substrates and optical signal-acquisition chains. This shortens the signal-transduction pathway, enhances compatibility and anti-interference performance in complex matrices such as serum, supports real-time kinetic monitoring to generate dynamic data, and is more conducive to miniaturization and system integration. Compared with ELISA, protein microarrays are better suited for early screening of ultra-low-abundance biomarkers, and are expected to enable rapid testing and broader deployment in rapid testing settings through portable implementations. In single-cell profiling and in situ monitoring for research and drug development, they can also provide dynamic and single-cell-level information that is difficult to obtain with ELISA.

Building on these differentiated capabilities, protein microarray testing is expected to expand into a broad range of scenarios, including home-based chronic disease management and sports health monitoring, rapid multi-marker testing for emergency triage and screening, and research and clinical applications such as immunotherapy target screening and stem cell differentiation monitoring, and further extend to use cases with higher requirements for portability and environmental adaptability, such as battlefield rescue, field research and screening in remote areas. As a result, it is positioned as a solution that combines high sensitivity, rapid testing, low sample-volume requirements and potential cost advantages at scale, thereby supporting rapid penetration and a high forecast CAGR.

Source: Annual reports of listed companies, expert interviews, CIC

Growth Drivers and Future Trends of Protein Testing Market

The growth of the protein testing market is expected to be driven and shaped by the following factors:

- Growing prevalence of chronic diseases.** Chronic diseases associated with elevated C-reactive protein levels, such as rheumatoid arthritis, inflammatory bowel disease, cancer, and cardiovascular conditions, are becoming increasingly prevalent. The growing incidence is driving the use of proteomic profiling for the discovery and validation of disease-specific biomarkers, thereby fueling demand for advanced protein testing technologies.
- Technological advancements and multi-omics integration.** Advances in bioinformatics, artificial intelligence and big data technologies are improving the accuracy of protein analysis and streamlining protein structure prediction and functional analysis, thereby shortening research and development timelines. At the same time, the integration of proteomics with genomics, transcriptomics, epigenetics and metabolomics is enabling a more comprehensive molecular understanding of disease and supporting the development of precision medicine.
- Pursue of sustainable development.** Degradation enzymes play a key role in sustainable development by offering great potential to address plastic waste. Environmental microbial protein sequencing is essential for identifying and optimizing novel degradation enzymes and enhancing the recycling process.

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Protein Sequencing

As a specialized approach within the broader protein testing segment, protein sequencing is the process of determining the amino acid sequence of all or part of a protein or peptide, which has become an essential tool to advance both medicine and biology. Key protein sequencing methods include Edman degradation sequencing, mass spectrometry-based sequencing, next-generation protein sequencing, and electrochemical long-read next-generation protein sequencing. The following table provides an overview of the principles of these methods.

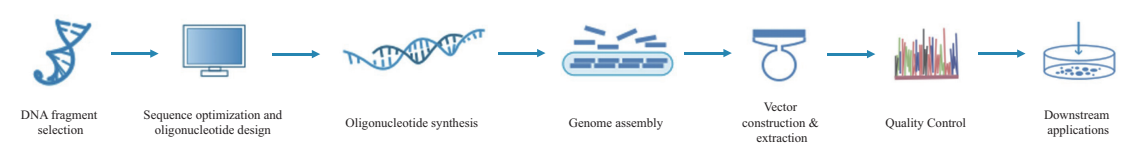
Classification	Edman Degradation Sequencing	Mass Spectrometry-based Sequencing	Next-generation Protein Sequencing	Electrochemistry long-reading Next-generation protein sequencing
Working principles	The Edman degradation method sequentially identifies amino acids from a protein's N-terminus. It uses phenyl isothiocyanate (PITC) to form a phenylthiocarbamoyl derivative, which is then cleaved to release the N-terminal amino acid as a phenylthiohydantoin for identification. This cycle repeats to determine the protein sequence	Mass Spectrometry-based Sequencing ionizes molecules, generating charged ions. These ions are separated by their mass-to-charge ratio in an electric or magnetic field. The resulting mass spectrum is analyzed to determine the molecular weight and structure of the analytes, enabling sequence determination	Capture the fluorescent signal from each N-terminal amino acid (NAA) binding event. Aminopeptidases cleave each N-terminal amino acid, exposing the next N terminal amino acid for recognition. The process repeats until the entire peptide is sequenced	Electrochemistry long-reading Next-generation protein sequencing Involves threading modified single molecule protein strands into a nanopore and using electrophoresis to control their movement. The ionic current changes as each amino acid passes through the pore are detected and analyzed to determine the protein sequence
Applications	Protein structure and function studies, biopharmaceutical development, and protein engineering and mutation analysis	Used for identifying proteins, sequencing novel ones, discovering biomarkers, and diagnosing diseases like dementia, diabetes, multiple myeloma, and celiac disease	Used for high-throughput sequencing single-cell proteomics, dynamic proteomics, and disease diagnosis, but its application is still low due to challenges such as sensitivity and cost	Protein sequencing high-throughput drug development Biomarkers discovery Longevity evaluation

Source: Literature review, CIC

OVERVIEW OF GENE SYNTHESIS MARKET

Overview of Gene Synthesis

Gene synthesis is the process of artificially creating a gene or a DNA sequence in the laboratory using chemical or enzymatic methods. This technique allows for the design and construction of custom genes with precise nucleotide sequences, enabling applications across various fields, including basic research, biotechnology, gene therapy, and synthetic biology. The following chart illustrates the process of gene synthesis.



Source: Literature review, CIC

Type of Gene Synthesis

The major types of gene synthesis include column-based synthesis, microarray-based synthesis, and enzymatic synthesis. The following table illustrates a comparison of different types of gene synthesizer.

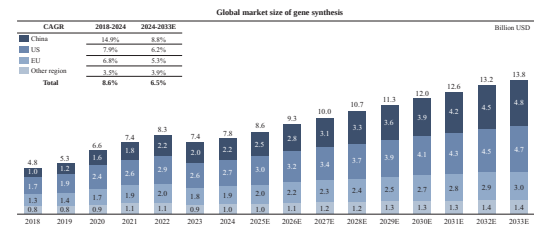
Type of synthesizer	Technical principle	Error rate	Flexibility	Scalability	Cost	Toxic chemicals	Development constraints
Column-based synthesizer	Phosphoramidite	🕒	🕒	🕒	🕒	🕒	High synthesis cost; difficult to develop synthesis instruments
Microarray-based synthesizers	Photolithography	🕒	🕒	🕒	🕒	🕒	High technology threshold; patent threshold
	Electrochemical						
	Ink-jet printing						
Enzymatic Synthesizers	Enzyme catalysis	🕒	🕒	🕒	🕒	🕒	Low technology maturity

Source: Literature review, CIC

INDUSTRY OVERVIEW

Gene Synthesis Market Size

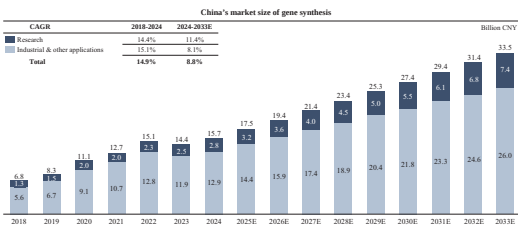
The global market size of gene synthesis grew from US\$4.8 billion in 2018 to US\$7.8 billion in 2024, reflecting a CAGR of 8.6%, which is expected to reach US\$13.8 billion in 2033, with a CAGR of 6.5% between 2024 and 2033. The charts below illustrate the historical and forecast size of the global and China’s gene synthesis markets for the periods indicated.



Note:

- (i) This market size includes global oligo synthesis, gene synthesis, and gene synthesis sequencing.

Source: Annual reports of listed companies, expert interviews, CIC



Note:

- (i) This market size includes global oligo synthesis, gene synthesis, and gene synthesis sequencing.

Source: Annual reports of listed companies, expert interviews, CIC

Growth Drivers and Future Trends of Gene Synthesis Market

The growth of the gene synthesis market is expected to be driven and shaped by the following factors:

- **Technology innovation.** Innovations such as gene editing technologies, standardization of genetic components, microbial chassis engineering, and the development of cell factories are expanding the capabilities of gene synthesis. The integration of AI and machine learning is significantly reducing design time and accelerating progress in synthetic biology, enabling more precise and efficient gene synthesis methods.
- **Policy support.** China has implemented a series of supportive policies for the gene synthesis industry, including national-level programs such as the “Synthetic Biology” special research initiative and key projects, as well as provincial-level support for synthetic biology enterprises.
- **Rising demand from research and industrial market.** The growing application of biotechnologies like synthetic biology, liquid biopsy, and cell immunotherapy is driving an industrial shift. Simultaneously, the needs of pharmaceutical companies for gene therapy and vaccine development are boosting demand, particularly for vector and gene fragment design.

SOURCE OF INFORMATION

We engaged CIC, a market research consultant, to prepare the CIC Report for use in this document. The information from CIC disclosed in this document is extracted from the CIC Report and is disclosed with the consent of CIC. In preparing the CIC Report, CIC collected and reviewed publicly available data such as government-derived information, annual reports, trade and medical journals, industry reports and other available information gathered by not-for-profit organizations as well as market data collected by conducting interviews with industry key opinion leaders. The CIC Report assumes a stable regulatory environment and presumes that no major geopolitical events will significantly disrupt global supply chains during the forecast period. CIC further assumes stable economic growth in China and worldwide and presumes that no pandemic or similar public health emergency will occur during the forecast period. We agreed to pay CIC a fee of RMB780,160 for the preparation and update of the CIC Report, which is not contingent on the [REDACTED] proceeding.