The information and statistics set forth in this section were extracted from official government publications, public market research and independent research. In particular, we engaged Frost & Sullivan, an independent market research and consulting company, to prepare an industry report, or the Frost & Sullivan Report, for the [**REDACTED**]. *Except as otherwise noted, all of the information contained in this section is derived from the Frost & Sullivan Report. We believe that the sources of the information set forth in this section are appropriate sources for such information and have taken reasonable care in extracting and reproducing such information. We have no reason to believe that such information is false or misleading or that any material fact has been omitted that would render such information false or misleading. The information from official government sources has not been independently verified by us, the Sole Sponsor,* [**REDACTED**]*, and* [**REDACTED**]*, any of the* [**REDACTED**]*, any of their respective directors, officers and advisors, or any other persons or parties involved in the* [**REDACTED**]*, except for Frost & Sullivan, and no representation is given as to its accuracy. Accordingly, the information from official governmental sources contained herein may not be accurate and should not be unduly relied upon.*

OVERVIEW OF PHARMACEUTICAL MARKET

Overview

The global pharmaceutical market, comprising chemical drugs and biologics, is projected to reach US$2,649.3 billion by 2035, at a CAGR of 5.1% from 2030 to 2035. In China, this market is projected to grow at a higher pace, outpacing global growth rate, and reach RMB3,103.4 billion by 2035, at a CAGR of 7.8% over the same period, driven by robust economic growth and rising healthcare demand.

Population aging continues to expand the patient base and sustain long-term demand. In addition, the PRC government has introduced supportive policies such as the Implementation Plan for Supporting Innovation Drugs Across the Whole Value Chain, and expanded medical insurance coverage to improve affordability and access to innovative drugs. Globally, similar factors, including demographic shifts and rising healthcare cost, are expected to accelerate demand for biologics and innovative treatments worldwide.

Future Trends and Growth Drivers of the Pharmaceutical Market

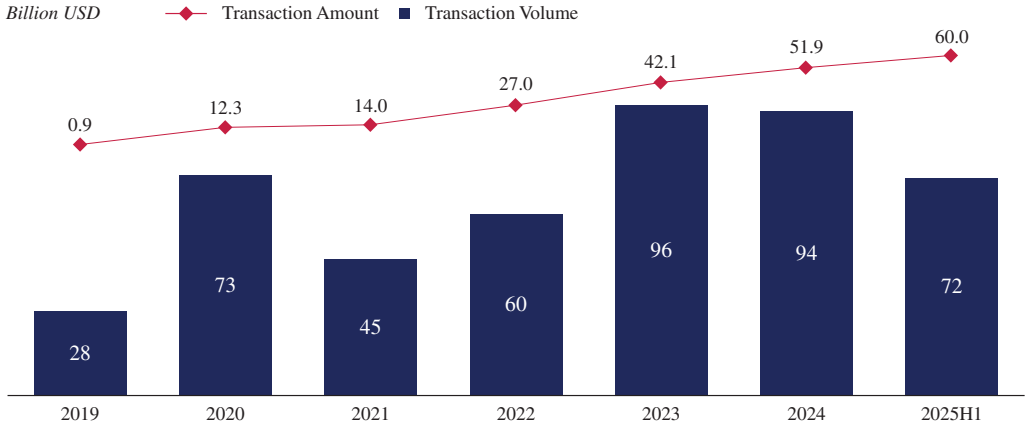
R&D intensity is a key indicator of a pharmaceutical company's sustained commitment to innovation. For innovative pharmaceutical companies, R&D is not only one of the largest cost items but also a core driver of pipeline development. Global pharmaceutical R&D expenditure increased from US$204.8 billion in 2020 to US$277.6 billion in 2024, at a CAGR of 7.9%, and is projected to reach US$392.9 billion by 2030, at a CAGR of 6.0% from 2024 to 2023, and further to US$495.8 billion by 2035, at a CAGR of 4.8% from 2030 to 2035. China's R&D expenditure increased from US$24.7 in 2020 to US$34.7 billion in 2024, at a

CAGR of 8.9%, and is projected to reach US$73.1 billion by 2030, at a CAGR of 13.2% from 2024 to 2030, and further to US$145.6 billion by 2035, at a CAGR of 14.8% from 2030 to 2035, significantly outpacing global growth.

We strategically focus on therapeutic areas with significant unmet medical needs and growth potential, including oncology, hematology and auto-immune disease. China's pharmaceutical market is expected to continue expanding, driven by advanced capabilities in complex small-molecule design and optimization, progress in innovative antibody therapies, development of global R&D capabilities and international partnerships, and supportive policy reforms and incentives for innovation.

Out-licensing activity in China has grown rapidly in recent years. In 2024 alone, there were 94 out-licensing deals in China, with a total disclosed deal value of US$51.9 billion. In the first half of 2025, 72 out-licensing deals in China were recorded, with a total disclosed value of US$60.0 billion, reflecting strong momentum.

Transaction Volume and Amount of Out-licensing Deals Between Chinese Biotech and Global Companies, 2019-2025H1



Source: NextPharma, Frost & Sullivan Analysis

Globally, pharmaceutical transaction trends show declining deal volumes but sustained growth in total transaction value — rising from US$177.5 billion in 2021 to US$187.4 billion in 2024, with the first half of 2025 reaching $130.4 billion. This shift reflects a strategic pivot in the industry toward value enhancement and quality-focused investments, driving a substantial increase in average transaction value. China plays a pivotal role in global licensing deals, accounting for approximately 25% of global deals exceeding $500 million in value.

PHARMACEUTICAL MARKETS BY THERAPEUTIC AREA

Oncology

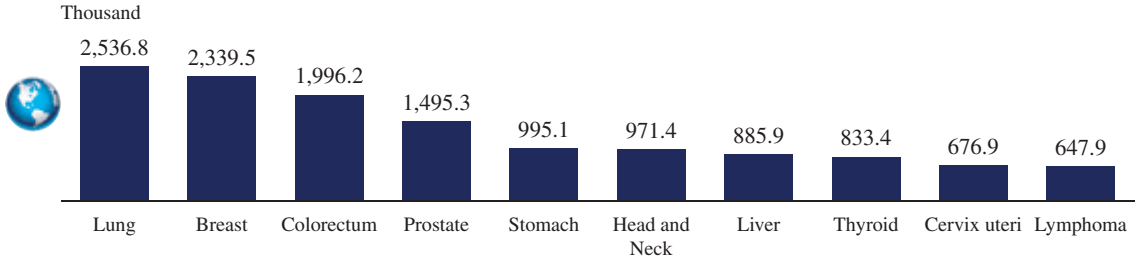
Overview

Cancer remains the leading cause of mortality worldwide, resulting in millions of deaths each year. Both globally and in China, cancer incidence continues to rise. The global incidence of cancer was 21.3 million cases in 2024 and is expected to reach 24.5 million cases by 2030, at a CAGR of 2.3% from 2024 to 2030. In China, the incidence of cancer was 5.0 million cases in 2024 and is expected to reach 5.5 million by 2030, at a CAGR of 1.6%.

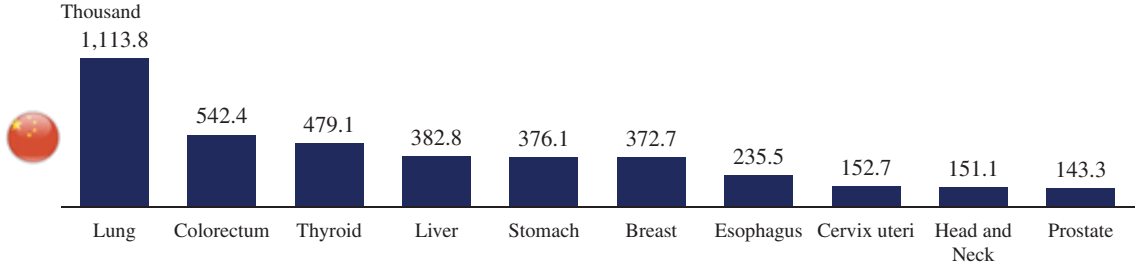
China accounts for a high share of global cancer burden, accounting for 23.6% of all new cancer cases globally in 2024. In 2022, there were nearly 2.6 million cancer deaths in China. The five-year survival rate of cancer patients in China is only 43.7%, compared to 69.0% in the U.S. This significant gap, compounded by China's high cancer incidence, demonstrates substantial unmet medical needs of China's cancer patients.

Among all cancer types, lung cancer, colorectal cancer, thyroid cancer, liver cancer and stomach cancer rank as the top five in China, collectively accounting for over 50% of new cases annually. The following charts set forth the top ten cancer types by incidence, globally and in China, respectively.

Top Ten Cancers by Incidence Globally, 2024



Top Ten Cancers by Incidence in China, 2024



Source: Globocan, IARC, NCCR, Frost & Sullivan analysis

Evolution of the Oncology Treatment Paradigm

Cancer treatment has undergone a profound transformation over the past century, driven by continuous scientific innovation and a deeper understanding of tumor biology. Modern oncologic care encompasses a broad spectrum of therapeutic modalities, including surgery, radiotherapy, systemic cytotoxic chemotherapy, endocrine therapy, targeted therapy, and multiple forms of immunotherapy, such as immune checkpoint inhibition, cytokine therapy and adoptive cell therapies. In addition, next-generation biologics, particularly bispecific and multispecific antibodies are rapidly reshaping treatment paradigms and improving patient outcomes.

The global oncology drug market grew from US$150.3 billion in 2020 to US$253.3 billion in 2024, at a CAGR of 13.9%, and is projected to reach US$452.5 billion by 2030, at a CAGR of 10.2% from 2024 to 2030, and further to US$702.7 billion by 2035, at a CAGR of 9.2% from 2030 to 2035. In China, the market grew from RMB197.5 billion in 2020 to RMB258.2 billion in 2024, at a CAGR of 6.9%, and is projected to reach RMB527.3 billion by 2030, at a CAGR of 12.6% from 2024 to 2030, and further to RMB1,042.0 billion in 2035, at a CAGR of 14.6% from 2030 to 2035.

Modern targeted oncology therapies generally fall into two major classes: small-molecule targeted agents and antibody-based targeted biologics. Small-molecule targeted agents primarily inhibit intracellular signaling pathways or mutant oncogenic proteins that drive tumor proliferation and survival. Their development increasingly focuses on improving target selectivity and overcoming resistance mechanisms through structure-guided design. In contrast, antibody-based therapeutics have evolved beyond traditional monospecific monoclonal antibodies into bispecific and multispecific antibody platforms, enabling simultaneous engagement of multiple tumor-associated antigens or immune effector molecules. Among these, T-cell–engaging bispecific antibodies (TCEs), which physically bridge cytotoxic T cells and malignant cells to induce targeted immune killing, have demonstrated strong clinical activity in hematologic malignancies and are being explored across an expanding range of solid tumors.

In parallel, rational combination approaches, pairing small-molecule inhibitors with bispecific or multispecific antibodies, are increasingly investigated to enhance antitumor efficacy, deepen response durability, and overcome mechanisms of therapeutic resistance.

Growth Drivers of Oncology Drug Market

- *Aging population and adoption of cancer screening technologies.* With the accelerating pace of population aging and changes in lifestyle-related risk factors, the global incidence of cancer continues to rise. This trend has led to a growing patient population and expanding clinical demand for oncology therapies, creating a stable and long-term foundation for market growth. In developing regions, the widespread adoption of cancer screening and diagnostic technologies has facilitated earlier detection and treatment, further boosting the uptake of oncology drugs.

- *Advances in antibody technology and combination strategies.* The evolution and maturation of antibody technology platforms have become a central engine for oncology R&D, enabling novel drug modalities, such as antibody-drug conjugates (ADCs) and bispecific antibodies (BsAbs), which significantly enhance treatment precision and efficacy through synergistic mechanisms. Furthermore, "immuno-oncology-plus" combination strategies — integrating these platforms with agents like chemotherapy or anti-angiogenic drugs — are emerging as mainstream therapeutic approaches to overcome drug resistance, expand responsive patient populations, and improve overall survival outcomes.

- *Precision medicine innovation.* With the rapid advancements in genomics, molecular diagnostics, and bioinformatics, precision medicine has become a key direction in oncology drug development. By identifying tumor-driving mutations and stratifying patient populations, researchers can design personalized treatment plans targeting specific genetic alterations or biomarkers, leading to enhanced efficacy and reduced toxicity. As technologies such as liquid biopsy and companion diagnostics mature, precision medicine will become more broadly integrated into clinical practice, accelerating the shift toward individualized cancer care.

- *Expansion of immunotherapy.* Immunotherapies have also shown remarkable success across various cancer types. With deeper insights into the tumor immune microenvironment and optimized of combination strategies, their application is expanding to include solid tumors and treatment-resistant cancers. Future research will focus on overcoming immune resistance, identifying predictive biomarkers, and developing synergistic combinations to improve response consistency. Immunotherapy is expected to evolve from a breakthrough option to a mainstream treatment modality, playing a central role in cancer management.

- *Improved affordability and access.* Governments worldwide are enhancing medical insurance coverage for major diseases, particularly cancer. An increasing number of innovative oncology drugs are being added to reimbursement lists, reducing financial burdens and improving accessibility. In some regions, diversified payment models such as commercial insurance and outcome-based pricing are being explored to facilitate the market entry of high-cost innovative therapies. These measures significantly improve affordability and support the expansion of the oncology drug market.

- *Shift toward chronic disease management.* As therapeutic approaches evolve, many cancers are transitioning from terminal illnesses to manageable chronic conditions. The widespread use of targeted therapies, immunotherapies, and oral treatment regimens enables patients to maintain a relatively good quality of life while extending survival. Future oncology drug development will emphasize sustained efficacy, safety, and quality-of-life improvements. This transformation will also drive healthcare systems to strengthen follow-up care, multidisciplinary collaboration, and patient support services — marking a shift from acute treatment toward long-term disease management.

Autoimmune Diseases

Overview

Autoimmune diseases comprise a heterogeneous group of disorders in which the immune system mounts an inappropriate response against self-antigens, leading to inflammation and tissue injury. Broadly, autoimmune diseases are classified into organ-specific and systemic forms.

Although the precise etiology has not been completely understood, current evidence indicates a multifactorial pathogenesis involving genetic susceptibility, environmental triggers, epigenetic alterations, and dysregulation of central and peripheral immune tolerance. Key mechanisms described in immunology literature include failures in T-cell and B-cell tolerance checkpoints, impaired regulatory T-cell function, aberrant activation of innate immune pathways, and the production of autoreactive antibodies and pathogenic cytokines. Together, these abnormalities lead to breakdown of immune self-tolerance, uncontrolled immune activation, and progressive tissue-specific or systemic damage.

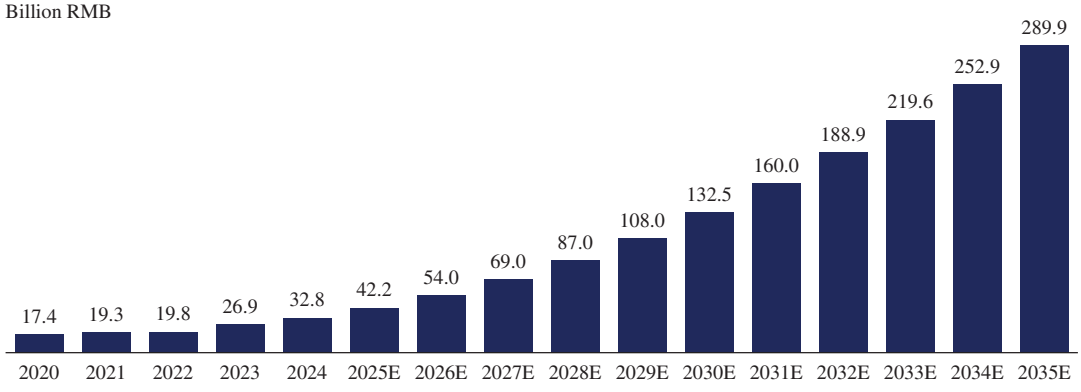
Modern treatment of autoimmune diseases has shifted from symptomatic control with corticosteroids and nonspecific immunosuppressants to targeted immunotherapies that modulate core pathogenic pathways. Cytokine-directed biologics like anti-TNF and anti-IL-6, and JAK inhibitors, which block JAK/STAT signaling downstream of multiple inflammatory cytokines, have demonstrated efficacy across a range of autoimmune disorders by suppressing pathogenic immune activation, improving physical functioning, and preventing irreversible tissue damage. Collectively, these targeted modalities offer deeper and more durable control of autoimmune pathology than traditional symptomatic therapies.

From 2020 to 2024, the global autoimmune disease drug market increased from US$120.6 billion to US$143.1 billion, at a CAGR of 4.4%, and is expected to reach US$194.8 billion and US$234.8 billion by 2030 and 2035, at a CAGR of 5.3% and 3.8% from 2024 to 2030 and from 2030 to 2035, respectively.

From 2020 to 2024, China's autoimmune disease drug market increased from RMB17.4 billion to RMB32.8 billion, representing a CAGR of 17.1%, and is projected to reach RMB132.5 billion and RMB289.9 billion by 2030 and 2035, at a CAGR of 26.2% and 16.9% from 2024 to 2030 and from 2030 to 2035, respectively.

China Autoimmune Diseases Pharmaceutical Market, 2020-2035E

Period	CAGR
2020-2024	17.1%
2024-2030E	26.2%
2030E-2035E	16.9%



Source: Frost & Sullivan analysis

Future Trends and Growth Drivers of Autoimmune Disease Drug Market

China's autoimmune disease drug market is experiencing robust and sustained growth, primarily driven by advancements in diagnostic technologies. As diagnostic capabilities continue to develop, earlier and more accurate detection of autoimmune conditions will improve patient outcomes, and enhanced effectiveness of treatments will also foster greater patient adherence and satisfaction. Consequently, the demand for innovative therapies is expected to increase, prompting both domestic and international pharmaceutical companies to expand their research and development efforts in this field. These factors are expected to contribute to the continued expansion of the autoimmune disease drug market in China in the near-term future.

In addition, the autoimmune disease drug market is witnessing a trend of adoption of small-molecule targeted therapies. These therapies offer advantages such as oral administration, favorable pharmacokinetics, and the ability to modulate specific immune pathways involved in disease pathogenesis. As the prevalence of autoimmune diseases continues to increase, the demand for small-molecule inhibitors targeting key mediators, such as like Janus kinases (JAKs) and Bruton's tyrosine kinase (BTK), will continue to grow.

The autoimmune disease drug market is also experiencing a significant shift towards personalized treatment approaches. Patients increasingly seek therapies tailored to their specific genetic profiles, immune system characteristics, and disease subtypes, which prompts pharmaceutical companies to invest in biomarker discovery, companion diagnostics, and precision medicine strategies, and to develop targeted therapies that offer improved efficacy and reduced side effects. Concurrently, healthcare systems evolve to support personalized medicine. As a result, there is a growing emphasis in the autoimmune disease drug market on individualized treatment plans tailored to patients' unique biological and clinical profiles.

Further, innovations in molecular biology, immunology, and regenerative medicine continue to drive autoimmune disease research. For example, TCEs are emerging as a promising class of biologics that may enable a long-lasting disease-modifying response through an immune reset and potentially cure certain autoimmune diseases. These scientific breakthroughs will continue to enhance the understanding of autoimmune diseases and accelerate the development of innovative treatments.

In China, the affordability of autoimmune disease treatments has significantly improved due to several key factors. The inclusion of numerous innovative therapies in the National Reimbursement Drug List (NRDL) has made such medications more accessible to a broader patient population. Additionally, the government's implementation of price negotiation mechanisms has further reduced the financial burden on patients.

Bispecific Antibodies

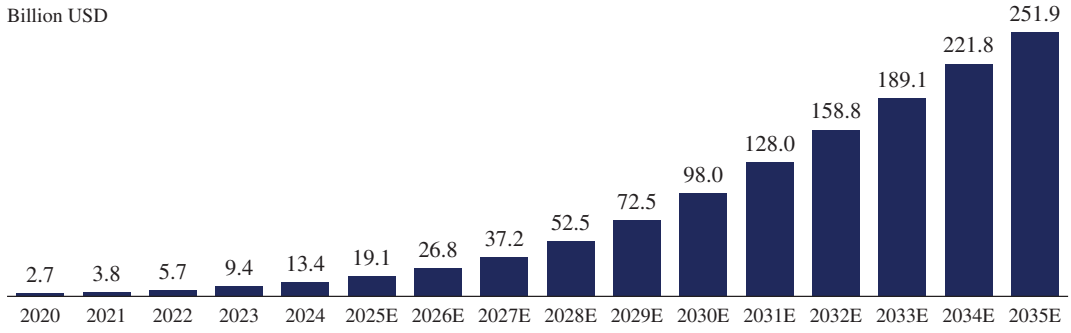
Overview

Bispecific antibodies are engineered antibodies capable of simultaneously binding two distinct antigens or epitopes, thereby enabling biological activities that are impossible for conventional monospecific antibodies. By engaging dual targets on the same cell or by physically bridging immune effector cells to disease-associated cells, bispecific antibodies can enhance target specificity, improve signaling modulation, and help overcome clinical challenges such as tumor heterogeneity and antigen escape. In addition, ongoing advances in antibody engineering, such as Fc optimization, half-life extension, and the development of multispecific architectures, further expand the therapeutic potential of bispecific antibodies across oncology, autoimmunity, and infectious diseases. Collectively, the advancement of bispecific antibody platforms marks a major shift toward more precise and multi-mechanistic biologic therapies.

In 2024, the global therapeutic bispecific antibody market grew to US$13.4 billion, at a CAGR of 49.0% from 2020 to 2024. In the next 10 years, the global therapeutic bispecific antibody market is projected to reach US$98.0 billion and US$251.9 billion by 2030 and 2035, respectively, driven by rising medical demand and innovative antibody pipelines, at a CAGR of 39.4% from 2024 to 2030 and 20.8% from 2030 to 2035.

Global Therapeutic Bispecific Antibody Market Size, 2020-2035E

CAGR	BsAb
2020-2024	49.0%
2024-2030E	39.4%
2030E-2035E	20.8%



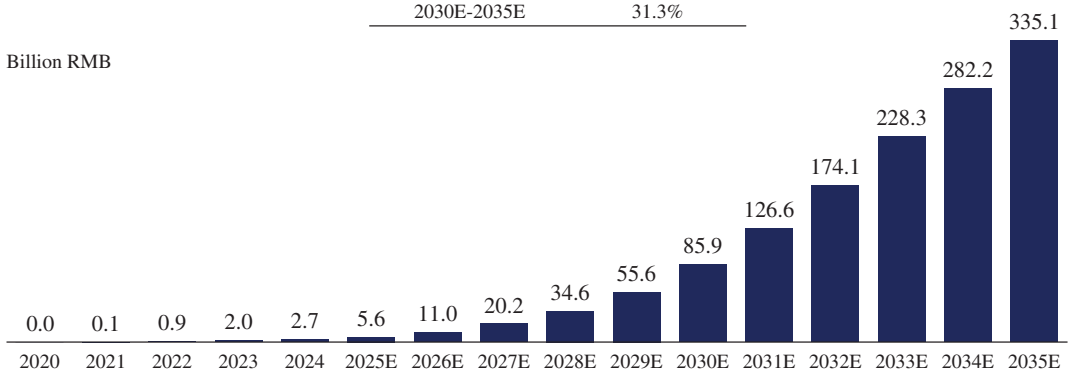
Note: The bispecific antibody market has already expanded to include multi-specific antibodies, including trispecific and tetraspecific antibodies.

Source: Frost & Sullivan analysis

In 2024, China's therapeutic bispecific antibody market grew to RMB2.7 billion, at a CAGR of 254.5% from 2020 to 2024. The market is projected to reach RMB85.9 billion by 2030, at a CAGR of 78.4% from 2024 to 2030, and to RMB335.1 billion by 2035.

China Therapeutic Bispecific Antibody Market, 2020-2035E

CAGR	BsAb
2020-2024	254.5%
2024-2030E	78.4%
2030E-2035E	31.3%



Note: The bispecific antibody market has already expanded to include multi-specific antibodies, including trispecific and tetraspecific antibodies.

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

Future Trends and Growth Drivers of Bispecific Antibody Drug Market

Improving the safety and efficacy profiles of bispecific antibodies is a future trend in the oncology space. Additionally, combination therapies are also emerging as a key growth driver. By pairing bispecific antibodies with other treatment modalities such as immune checkpoint inhibitors, chemotherapy, targeted small molecules, or cell therapies, future treatments may allow for the simultaneous engagement of multiple immune pathways or tumor vulnerabilities, potentially improving response rates and durability of remission.

Meanwhile, innovative approaches such as TCEs are able to further enhance efficacy while reducing off-target toxicity. With the increased patient population for cancer and autoimmune diseases and the lack of effective targeted therapies, the ability of bispecific antibody drugs to engage multiple pathways are increasingly recognized as critical to overcoming these clinical challenges.

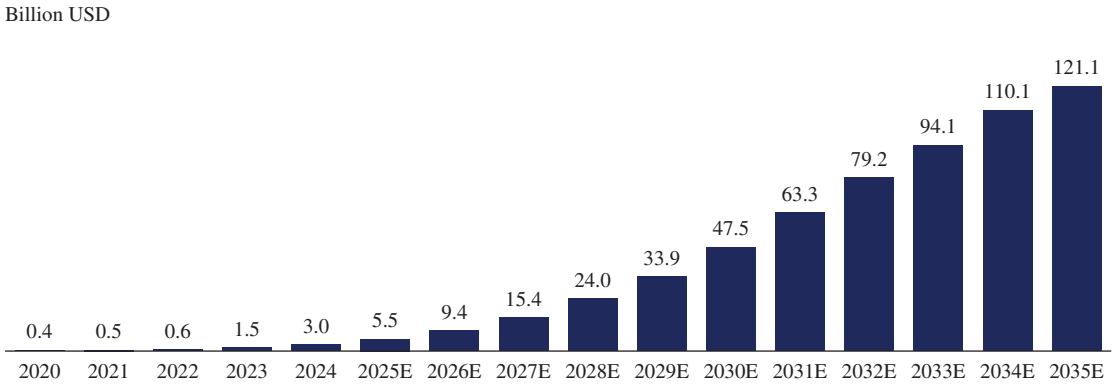
T-Cell Engagers (TCEs)

TCEs are engineered bispecific molecules that simultaneously bind CD3 on T cells and a disease-associated antigen on target cells, thereby recruiting and activating T cells to mediate potent, MHC-independent cytotoxicity. By redirecting T cells, TCEs can increase tumor-cell selectivity compared with some conventional cytotoxic therapies; however, they are also associated with distinct immune-related toxicities, such as cytokine release syndrome and neurotoxicity. Due to this unique feature, TCEs has the potential to overcome certain resistance mechanisms. Over the past decade, TCE-based therapies have advanced rapidly in oncology and multiple agents have been approved for hematologic malignancies.

Further, next-generation TCE designs and combination approaches are driving increased interest and early clinical progress in solid-tumor applications. Global TCE drugs market reached US$0.4 billion in 2020 and further grew to US$3.0 billion in 2024, at a CAGR of 67.6% during this period. The market is projected to grow to US$47.5 billion in 2030 at a CAGR of 58.6% from 2024 to 2030. By 2035, the overall TCE market is projected to reach US$121.1 billion.

Global TCE Drugs Market Size and Forecast, 2020-2035E

Period	CAGR
2020-2024	67.6%
2024-2030E	58.6%
2030E-2035E	20.6%

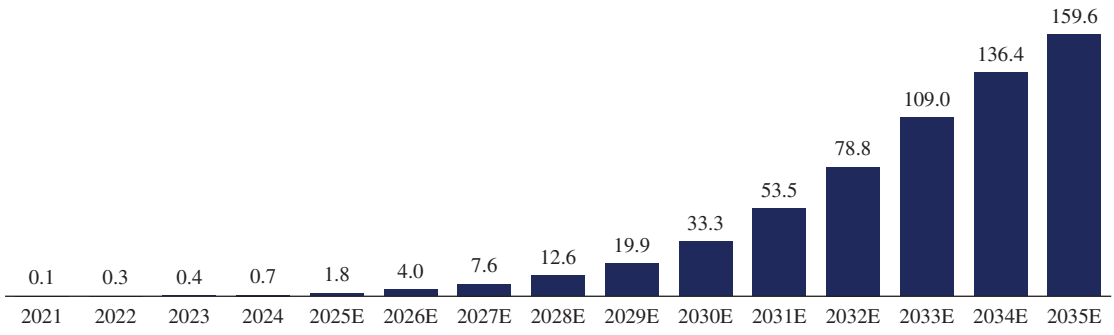


Source: Frost & Sullivan analysis

With the first TCE drug approved in 2020, China's TCE drug market reached RMB0.1 billion in 2021. The market further grew to RMB0.7 billion in 2024, at a CAGR of 104.0% during this period. The market is projected to grow to RMB33.3 billion in 2030 at a CAGR of 88.4% from 2024 to 2030. By 2035, the overall TCE market in China is projected to reach RMB159.6 billion.

China TCE Drugs Market Size and Forecast, 2021-2035E

Period	CAGR
2021-2024	104.0%
2024-2030E	88.4%
2030E-2035E	36.8%



Source: Frost & Sullivan analysis

As of the Latest Practicable Date, the majority of marketed TCE therapies worldwide have been approved for hematologic malignancies, while only two TCE products have received approval for solid tumors. Nevertheless, solid tumors represent a major focus of ongoing TCE research and development, and continued technological innovations are expected to unlock broader clinical applicability and significant long-term growth potential in this area.

The TCE market is increasingly expanding into autoimmune and other immune-mediated disease areas, leveraging its capability to precisely redirect T cells toward pathogenic immune cell populations or disease-driving targets. Research efforts are exploring the application of TCEs across a range of autoimmune indications, with the goal of selectively modulating aberrant immune responses while preserving overall immune function. In parallel, next-generation TCE designs, including multispecific antibodies, are being developed to enable simultaneous engagement of multiple immune targets, thereby improving selectivity, addressing disease heterogeneity, and reducing off-target immune activation. Further, advances in molecular engineering such as half-life optimization, improved immunological synapse formation, and preferential activation or depletion of specific effector T-cell subsets, are further enhancing therapeutic windows. Collectively, these innovations are improving both the safety and efficacy profiles of TCEs, supporting their broader applicability and competitiveness in the autoimmune disease landscape.

In addition, TCEs are being deployed in combination with other immunotherapies, such as immune checkpoint inhibitors, targeted small-molecule agents, radiation, or chemotherapy, to enhance anti-tumour activity and overcome resistance mechanisms. Further, there is a growing strategic shift to move TCEs into earlier lines of treatment under the premise that lower tumour burden and a more intact immune system can translate into deeper and more durable responses. This dual approach of combining modalities and advancing positioning is shaping the future development pathway of TCEs and expanding their clinical and commercial potential.

JAK Inhibitors

Overview

The Janus kinase (JAK) family comprises four intracellular tyrosine kinases: JAK1, JAK2, JAK3, and TYK2, that play a central role in cytokine receptor signaling. Together with STAT transcription factors, they form the JAK–STAT pathway, an evolutionarily conserved signaling cascade that transmits extracellular cytokine cues directly to the nucleus to regulate gene expression.

Activation of JAK–STAT signaling by diverse cytokines controls key biological processes, including cell proliferation, differentiation, metabolism, host defense, and inflammation. Aberrant activation of this pathway, whether through dysregulated cytokine signaling or pathogenic mutations, is implicated in autoimmune and inflammatory diseases as well as hematologic and solid malignancies. Pharmacologic inhibition of JAKs suppresses downstream STAT activation and reduces pathogenic cytokine signaling, thereby exerting immunomodulatory and anti-inflammatory effects.

Myelofibrosis

Myelofibrosis (MF) is a clonal hematopoietic stem cell disorder classified among the Philadelphia-negative myeloproliferative neoplasms. The disease is driven by aberrant JAK-STAT signaling, most commonly involving JAK2, CALR, or MPL mutations. It is characterized by bone marrow fibrosis, extramedullary hematopoiesis, constitutional symptoms, anemia, and progressive splenomegaly. MF may consists of PMF, and post–polycythemia vera (PV) and PET-MF, also known as secondary MF (SMF).

According to the 2025 CSCO Guidelines for the Management of Malignant Hematologic Diseases, gecacitinib is recommended as the preferred first-line therapy for patients with primary myelofibrosis (PMF) (Grade I recommendation). It is indicated for low- or intermediate-risk patients with significant symptoms or splenomegaly, as well as for high- or very-high-risk patients who are not candidates for allogeneic hematopoietic stem-cell transplantation, including those with MF-related anemia. In addition, for patients who experience disease progression or intolerance prior to JAK inhibitor therapy or who are not suitable for transplantation, gecacitinib is recognized as an important treatment option in later-line settings.

The number of patients with myelofibrosis in China grew to 62.2 thousand in 2024, at a CAGR of 0.4% during 2020 and 2024. This number is projected to reach 63.6 thousand in 2030 and 64.7 thousand in 2035 at a CAGR of 0.4% from 2024 to 2030 and 0.4% from 2030 to 2035. The following chart shows the competitive landscape of approved small-molecule targeted drugs for myelofibrosis in China.

Brand Name	Drug Name	Target	Company	First Approval Date
Zepuping	Gecacitinib	ALK2 | JAK1 | JAK2 | JAK3 | TYK2	Zelgen	2025-05-27
Jakavi®	Ruxolitinib	JAK1 | JAK2	Incyte Corporation	2017-03-10

Source: NMPA, Frost & Sullivan Analysis

Alopecia Areata

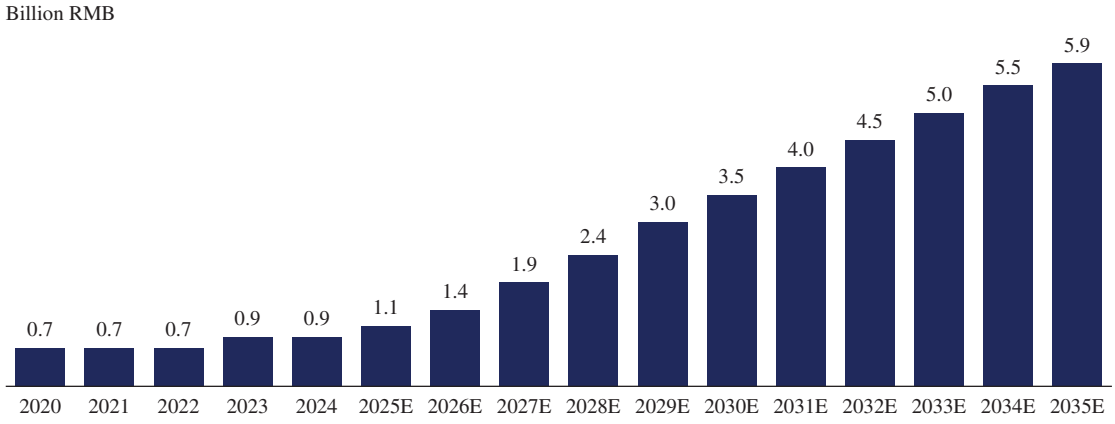
Alopecia areata is a non-scarring hair loss symptom and is also regarded as an autoimmune disease. It is often sudden local or generalized patchy hair loss, which can be permanent. The local skin is normal and there are no subjective symptoms.

Certain patients, particularly those with mild or patchy disease, may experience spontaneous regrowth; however, the condition is often relapsing and its course can be unpredictable, making long-term management challenging. Current treatment options include both local and systemic therapies aimed at reducing inflammation, promoting hair regrowth, and controlling disease flares.

The number of patients with alopecia areata in China grew to 3.8 million in 2024, at a CAGR of 0.2% during 2020 and 2024. This number is projected to reach 3.9 million in 2030 and 4.0 million in 2035 at a CAGR of 0.2% from 2024 to 2030 and 0.3% from 2030 to 2035. China's alopecia areata drug market size reached RMB0.9 billion in 2024, at a CAGR of 8.1% from 2020 to 2024. The market size is projected to reach RMB3.5 billion in 2030 and RMB5.9 billion in 2035, at a CAGR of 24.8% from 2024 to 2030 and a CAGR of 11.0% from 2030 to 2035.

China Alopecia Areata Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	8.1%
2024-2030E	24.8%
2030E-2035E	11.0%



Source: Frost & Sullivan analysis

Atopic Dermatitis

Atopic dermatitis (AD) is a chronic, relapsing inflammatory skin disease characterized by intense pruritus and eczematous lesions with age-dependent morphology and distribution. It is a multifactorial disorder driven by the interplay of genetic predisposition, epidermal barrier dysfunction, type 2 (skewed immune activation), and environmental triggers. Clinically, AD presents a broad spectrum of symptoms from mild localized dermatitis to severe, generalized disease that significantly impair patients' quality of life.

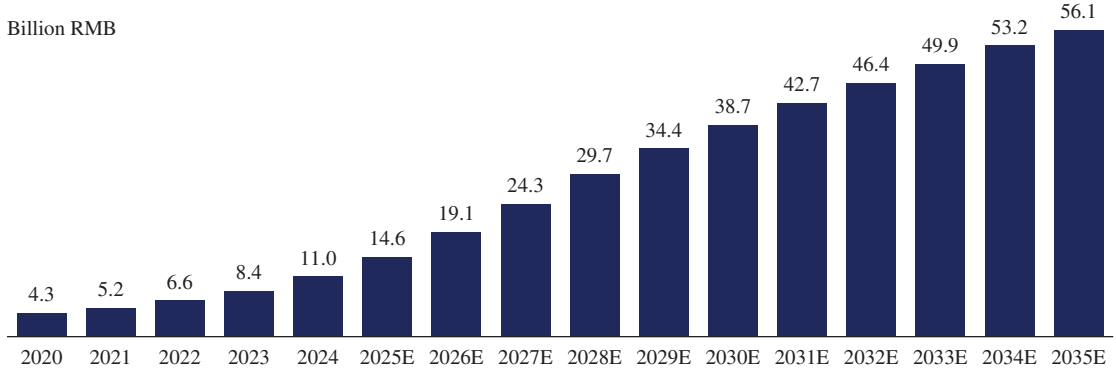
The basic treatment options for AD in China include topical corticosteroids and calcineurin inhibitors, with antiseptics added when secondary infection is present. For moderate-to-severe AD, systemic therapies become essential, including traditional immunosuppressants, biologic agents targeting type-2 inflammation, and JAK inhibitors, all of which have demonstrated clinical efficacy in controlling symptoms and reducing disease burden.

The number of patients with AD in China reached 72.9 million in 2024, at a CAGR of 2.0% from 2020 to 2024. This number is projected to reach 79.2 million in 2030 and 81.6 million in 2035 at a CAGR of 1.4% from 2024 to 2030 and 0.6% from 2030 to 2035.

China's AD drug market size reached RMB11.0 billion in 2024, at a CAGR of 26.4% from 2020 to 2024. The market size is projected to climb to RMB38.7 billion in 2030 and RM56.1 billion in 2035, at a CAGR of 23.3% from 2024 to 2030 and a CAGR of 7.7% from 2030 to 2035.

China Atopic Dermatitis Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	26.4%
2024-2030E	23.3%
2030E-2035E	7.7%



Source: Frost & Sullivan analysis

Ankylosing Spondylitis

Ankylosing spondylitis (AS) is a type of arthritis characterized by long-term inflammation of the spinal joints, typically with inflammation of the sacroiliac joint and spinal attachment points as the main symptoms. Although the cause of ankylosing spondylitis remains unclear, it is speculated to be related to a combination of genetic and environmental factors.

Currently, there is no curative treatment for ankylosing spondylitis. However, timely treatment can control symptoms and improve prognosis, thereby preventing further complications and improving patients' quality of life.

First-line therapy for AS includes non-steroidal anti-inflammatory drugs (NSAIDs), which may cause side effects such as nausea, allergy, and hypertension. If there is an inadequate response to first-line therapy, TNF inhibitors may also be considered. TNF-α inhibitors can rapidly reduce disease activity and have shown substantial functional improvement in randomized clinical trials.

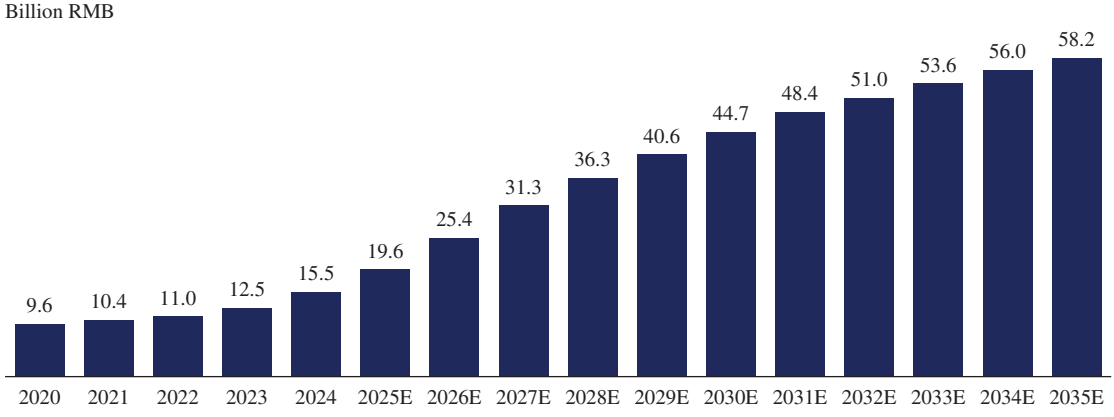
IL-17 inhibitors are also effective alternatives for patients who fail or cannot tolerate TNF blockers. Nonpharmacologic measures (regular exercise, physiotherapy, smoking cessation) and, when indicated, orthopedic surgery are integral parts of treatment. According to EULAR/ASAS, JAK inhibitors are included as a therapeutic option for patients with active axial spondylarthritis and an inadequate response to NSAIDs and/or biologic therapies.

The number of patients with ankylosing spondylitis in China reached 4.0 million in 2024, at a CAGR of 0.4% during 2020 and 2024. This number is projected to reach 4.0 million in 2030 and 4.1 million in 2035 at a CAGR of 0.3% from 2024 to 2030 and 0.2% from 2030 to 2035.

China's ankylosing spondylitis drug market size reached RMB15.5 billion in 2024, at a CAGR of 12.8% from 2020 to 2024. The market size is projected to climb to RMB44.7 billion in 2030 and RMB58.2 billion in 2035, at a CAGR of 19.3% from 2024 to 2030 and a CAGR of 5.4% from 2030 to 2035.

China Ankylosing Spondylitis Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	12.8%
2024-2030E	19.3%
2030E-2035E	5.4%



Source: Frost & Sullivan analysis

Liver Cancer

HCC is the most common type of primary liver cancer (approximately 90%) and is the most common cause of death in patients with cirrhosis. The major symptoms of HCC include yellow skin, abdominal swelling due to fluid in the abdominal cavity, easy bruising from blood clotting abnormalities, loss of appetite, unintentional weight loss, abdominal pain, nausea, vomiting, etc.

According to CSCO Guidelines, HCC treatment options are different depending on the stage of the disease. For early-stage HCC patients, surgical resection and locoregional therapies are mostly adopted while for late-stage patients, the recommended treatment options are majorly systemic therapies.

In China, new case of liver cancer reached 382.8 thousand in 2024 at a CAGR of 2.2% from 2024. It is projected to further increase to 423.0 thousand in 2030, at a CAGR of 1.7% from 2024 to 2030. It is estimated that the incidence would achieve 458.0 thousand in 2035, at a CAGR of 1.6% from 2030 to 2035.

Between 2020 and 2024, there was an increase in the global incidence of liver cancer from 821.7 thousand to 909.0 thousand, at a CAGR of 2.6%. It is projected that this number will reach 1053.6 thousand by 2030, at a CAGR of 2.5% from 2024 to 2030. By 2035, it is expected to reach 1186.3 thousand, at a CAGR of 2.4% from 2030 to 2035.

The following chart shows the competitive landscape of approved small-molecule targeted drugs for liver cancer in China.

Brand Name	Drug Name	Target	Company	NMPA Approval Date
Zepsun®	Donafenib	BRAF | BRAF V600E | FLT3 | KIT | PDGFRB | RAF1 | VEGFR2 | VEGFR3	Zelgen	2021-06-08
Lenvima®	Lenvatinib	FGFR | KIT | PDGFA | RET | VEGFR	Eisai	2018-09-04
Aitan®	Rivoceranib	VEGFR2	Hengrui	2020-10-27
Stivarga®	Regorafenib	ABL1 | BRAF | DDR2 | EPHA2 | FGFR | FRK | KIT | MAPK11 | NTRK1 | PDGFR | RAF1 | RET | TEK | VEGFR	Bayer	2017-12-12
Nexavar®	Sorafenib	BRAF | BRAF V600E | FLT3 | KIT | PDGFRB | RAF1 | VEGFR2 | VEGFR3	Amgen	2008-06-30

Source: NMPA, Frost & Sullivan Analysis

Thyroid Cancer

Thyroid cancer is a malignancy originating from the thyroid tissue, with the potential to metastasize to distant sites. Common symptoms include swelling in the neck or the presence of a hard lump. Thyroid cancer is mainly classified into differentiated thyroid carcinoma (DTC), medullary thyroid carcinoma (MTC), and anaplastic thyroid carcinoma (ATC). Among them, differentiated thyroid carcinoma can be further divided into papillary thyroid carcinoma (PTC) and follicular thyroid carcinoma (FTC).

In China, new case of thyroid cancer reached 479.1 thousand in 2024 at a CAGR of 1.8% from 2020. It is projected to further increase to 490.5 thousand by 2030, at a CAGR of 0.4% from 2024 to 2030, and to 498.1 thousand by 2035, at a CAGR of 0.3% from 2030 to 2035.

China's thyroid cancer drug market has grown from RMB1.4 billion in 2020 to RMB1.7 billion in 2024 at a CAGR of 5.0%. The market is further projected to expand to RMB3.7 billion by 2030 and RMB5.8 billion by 2035, at a CAGR of 13.8% from 2024 to 2030 and 9.5% from 2030 to 2035.

Compared with conventional treatments, donafenib provides a long-term systemic targeted therapy option for patients with RAI-refractory DTC. For patients ineligible for surgery or unresponsive to radiotherapy, it represents a clear clinical alternative. Clinical trials have shown that donafenib significantly prolongs progression-free survival (PFS) and exhibits notable antitumor activity in patients with RAI-refractory differentiated thyroid cancer, helping to delay tumor progression.

PD-1/TIGIT Bispecific Antibody

Overview

Programmed death protein 1 (PD1) is a common immunosuppressive member on the surface of T cells and plays an imperative part in downregulating the immune system and advancing self-tolerance. Its ligand programmed cell death ligand 1 (PDL1) is overexpressed on the surface of malignant tumor cells, where it binds to PD1, inhibits the proliferation of PD1-positive cells, and participates in the immune evasion of tumors leading to treatment failure.

The TIGIT signaling pathway is an important immunosuppressive pathway that inhibits the proliferation of T cells and NK cells and promotes their apoptosis. In the tumor microenvironment, tumors can activate the TIGIT signaling pathway on T cells and NK cells, thereby enabling immune evasion.

The PD-1/PD-L1 signaling pathway and the TIGIT signaling pathway are both immunosuppressive pathways. As such, PD-1/TIGIT bispecific antibody can simultaneously inhibiting both pathways and synergistically activate T cells and NK cells, thereby enhancing antitumor immunity and remodeling the microenvironment to improve efficacy.

The following chart shows the competitive landscape of PD-1/TIGIT bispecific antibody drugs under clinical development worldwide.

Drug Name	Target	Highest Clinical stage	Indication	Company	First Posted Date	Region
Rilvegostomig	TIGIT | PD-1	Phase III	BTC, NSCLC, nsqNSCLC, sqNSCLC, GC, HCC, Endometrial Cancer	AstraZeneca	2023-10-31	Global
ZG005	TIGIT | PD-1	Phase II	HCC, NEC, cervical cancer, Solid tumors	Zelgen	2024-08-16	China
BC008-1A	TIGIT | PD-1	Phase I	NSCLC, EC, Solid tumors	REMD Biotherapeutics	2023-02-02	China
IBI321	TIGIT | PD-1	Phase I	Solid tumors	Innovent	2021-05-25	China

Note: Global means >3 countries, BTC: Biliary tract cancer, GC: Gastric cancer, HCC: Hepatocellular carcinoma, sqNSCL: Squamatic non-small cell lung cancer, nsqNSCL: Non squamous non-small cell lung cancer, EC: Esophageal Cancer

Source: CDE, Frost & Sullivan analysis

Cervical Cancer

Cervical cancer is a malignant tumor arising from the epithelial cells of the cervix, most commonly driven by persistent infection with high-risk human papillomavirus (HPV), especially types such as HPV-16 and HPV-18. The disease typically develops gradually through well-defined precancerous stages known as cervical intraepithelial neoplasia (CIN), progressing from low-grade lesions to high-grade dysplasia and eventually to invasive carcinoma if untreated. The clinical presentation of cervical cancer varies, with early disease often asymptomatic and advanced disease manifesting as abnormal vaginal bleeding, pelvic pain, or symptoms related to local invasion or metastasis.

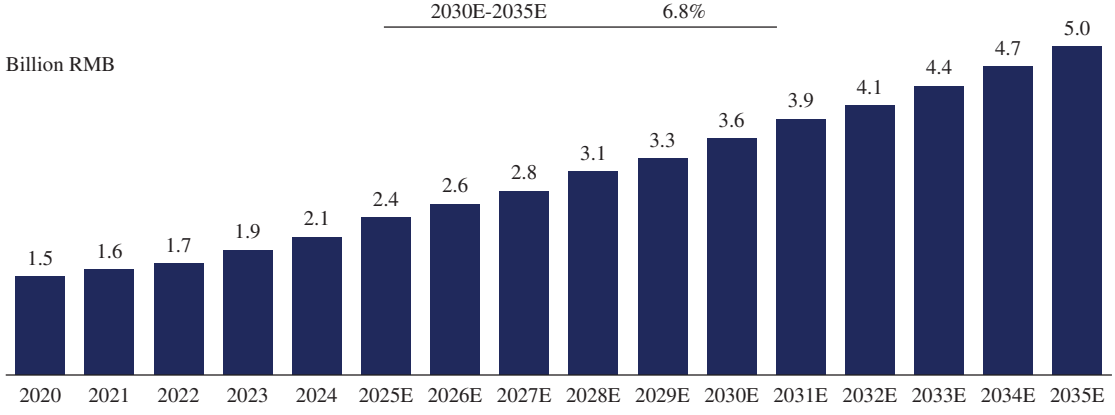
Cervical cancer is one of the most frequently occurring cancers in China. New cases of cervical cancer in China reached 152.7 thousand in 2024. It is projected to reach 158.9 thousand by 2030 and 163.9 thousand in 2035, at a CAGR of 0.7% and 0.6% from 2024 to 2030 and 2030 to 2035, respectively.

Global new cases of cervical cancer reached 668.9 thousand in 2024 at a CAGR of 2.6% from 2020 to 2024. It is estimated to reach 774.3 and 841.4 thousand by 2030 and 2035, at a CAGR of 2.5% and 1.7% from 2024 to 2030 and 2030 to 2035, respectively.

China's cervical cancer drug market size reached RMB2.1 billion in 2024, at a CAGR of 8.9% from 2020 to 2024, and is expected to reach RMB3.6 billion and RMB5.0 billion by 2030 and 2035, at a CAGR of 9.0% and 6.8% from 2024 to 2030 and from 2030 to 2035, respectively.

China Cervical Cancer Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	8.9%
2024-2030E	9.0%
2030E-2035E	6.8%



Source: Frost & Sullivan Analysis

Non-small-cell Lung Cancer

Non-small-cell lung cancer (NSCLC) is a group of epithelial lung cancers distinct from small-cell lung cancer (SCLC), accounting for approximately 85% of all lung cancer cases. The main histologic subtypes of NSCLC are adenocarcinoma, squamous cell carcinoma, and large cell carcinoma. NSCLC generally grows and spreads more slowly than SCLC.

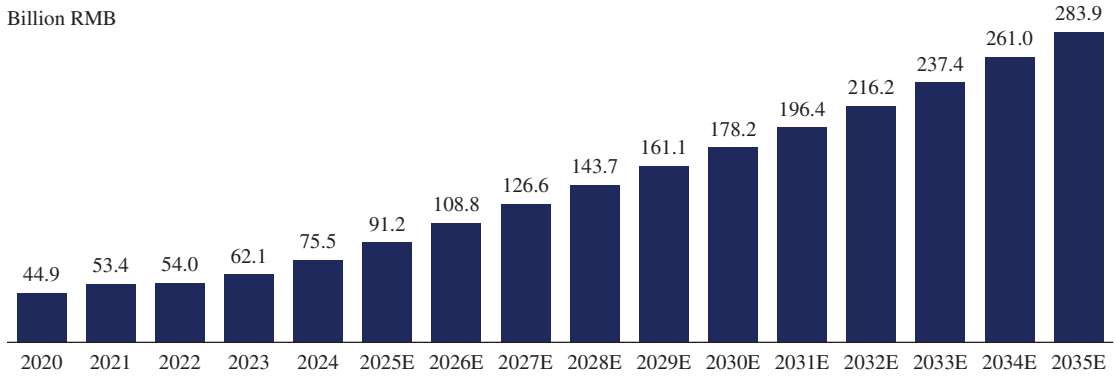
In China, the incidence of NSCLC increased from 852.8 thousand in 2020 to 946.7 thousand in 2024, at a CAGR of 2.6%. By 2030 and 2035, the incidence of NSCLC is projected to reach 1,059.4 thousand and 1,161.0 thousand, respectively.

In 2020, the incidence of NSCLC globally was 1,991.7 thousand, rising to 2,216.9 thousand in 2024 at a CAGR of 2.7%. It is projected to reach 2,569.3 thousand by 2030, at a CAGR of 2.5% from 2024 to 2030, and to 2,890.4 thousand by 2035, at a CAGR of 2.4% from 2030 to 2035.

China's NSCLC drug market size reached RMB75.5 billion in 2024, at a CAGR of 13.9% from 2020 to 2024, and is expected to reach RMB178.2 billion and RMB283.9 billion by 2030 and 2035, at a CAGR of 15.4% and 9.8% from 2024 to 2030 and from 2030 to 2035, respectively.

China NSCLC Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	13.9%
2024-2030E	15.4%
2030E-2035E	9.8%

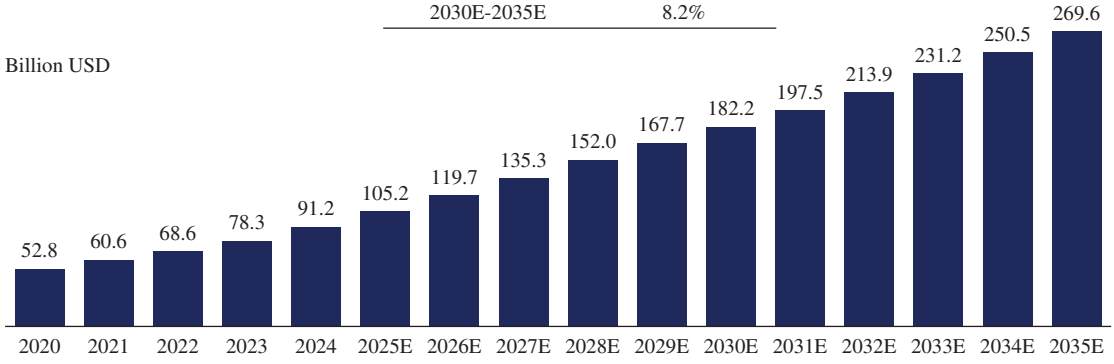


Source: Frost & Sullivan Analysis

Global NSCLC drug market size reached US$91.2 billion in 2024, at a CAGR of 14.6% from 2020 to 2024, and is expected to reach US$182.2 billion and US$269.6 billion by 2030 and 2035, at a CAGR of 12.2% and 8.2% from 2024 to 2030 and from 2030 to 2035, respectively.

Global NSCLC Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	14.6%
2024-2030E	12.2%
2030E-2035E	8.2%



Source: Frost & Sullivan Analysis

DLL3/DLL3/CD3 Trispecific Antibody

Overview

CD3 is a critical component of the T-cell receptor (TCR) complex, expressed specifically on the surface of T cells, and is essential for transmitting activation signals upon antigen recognition. Engagement of CD3 by antibodies or T-cell engagers triggers T-cell activation, proliferation, and cytotoxic effector functions.

DLL3 (Delta-like ligand 3) is a single-pass transmembrane protein belonging to the Notch ligand family. DLL3 is minimally expressed in normal adult tissues but is highly overexpressed in SCLC and other neuroendocrine tumors, making it an attractive tumor-associated antigen. DLL3 expression is associated with tumor cell survival, proliferation, and maintenance of neuroendocrine features.

Trispecific DLL3/DLL3/CD3 T-cell engagers are engineered to simultaneously bind DLL3 on tumor cells and CD3 on T cells. This dual engagement induces the formation of a potent, major histocompatibility complex (MHC)-independent cytolytic synapse, thereby redirecting T cells to kill tumor cells efficiently.

Till now, there is only one approved CD3/DLL3 antibody drug, Imdelltra®, which was approved in 2024 for the treatment of SCLC. The following chart shows the competitive landscape of CD3/DLL3 antibody drugs under clinical development worldwide.

Drug Name	Target	Highest Clinical stage	Indication	Company	First Posted Date	Region
ZG006	CD3 | DLL3 | DLL3	Phase III	SCLC	Zelgen	2025-09-23	China
Obrixtamig	CD3 | DLL3	Phase II	SCLC/LCNEC/EPNEC	Oxford BioTherapeutics	2023-05-31	Global
SHR-7787	CD3 | DLL3	Phase I/II	Solid tumors	Hengrui	2024-09-20	China
Gocatamig	CD3 | DLL3 | Albumin	Phase I/II	SCLC, NEPC, NET	MSD	2020-07-15	US, China
RO7616789	CD3 | DLL3 | 4-1BB	Phase I	NET, SCLC	Roche	2022-11-17	US, EU, Japan

Note: SCLC: Small cell lung cancer, LCNEC: Pulmonary large cell neuroendocrine carcinoma, EPNEC: extrapulmonary neuroendocrine carcinoma, NEPC: Neuroendocrine Prostate Cancer, NET: Neuroendocrine neoplasm.

Source: Clinicaltrials, CDE, Frost & Sullivan Analysis

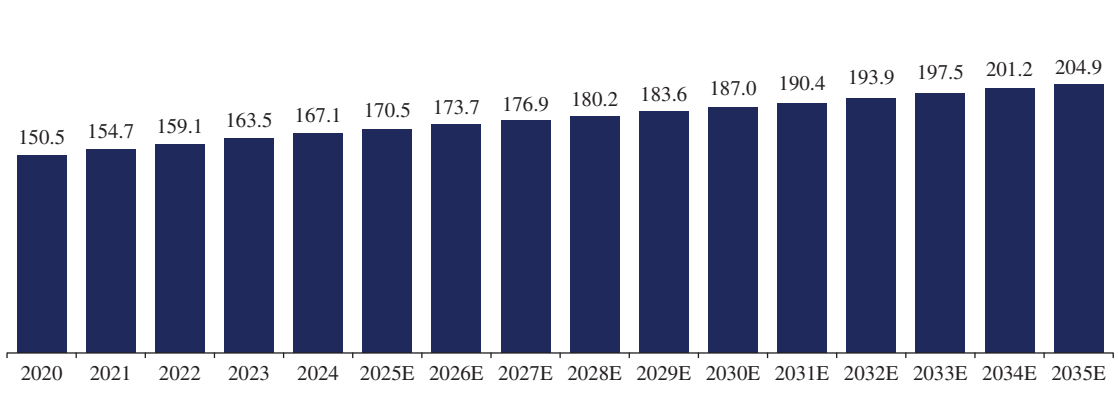
Small Cell Lung Cancer

SCLC is an aggressive neuroendocrine carcinoma of the lung, accounting for approximately 15% of all lung cancers. It is strongly associated with a history of heavy smoking. SCLC is characterized by rapid growth, early and widespread metastasis, and poor prognosis. Most patients are diagnosed at an advanced stage due to the disease's asymptomatic and fast-progressing nature.

In 2020, the incidence of SCLC in China was 150.5 thousand, rising to 167.1 thousand in 2024 at a CAGR of 2.6%. It is expected to reach 187.0 thousand by 2030 and 204.9 thousand by 2035, at a CAGR of 1.9% from 2024 to 2030 and a CAGR of 1.8% from 2030 to 2035.

Incidence of SCLC in China, 2020-2035E

Period	CAGR
2020-2024	2.6%
2024-2030E	1.9%
2030E-2035E	1.8%

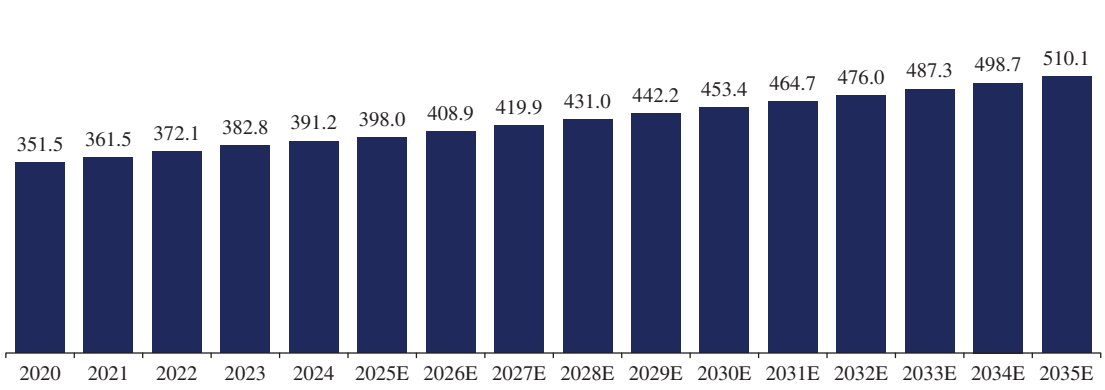


Source: Frost & Sullivan Analysis

Globally, the number of new SCLC cases rose to 391.2 thousand in 2024, at a CAGR of 2.7% from 2020 to 2024. This number is expected to reach 453.4 thousand by 2030 and 510.1 thousand by 2035 at a CAGR of 2.5% from 2024 to 2030 and a CAGR of 2.4% from 2030 to 2035.

Incidence of Small Cell Lung Cancer Globally, 2020-2035E

Period	CAGR
2020-2024	2.7%
2024-2030E	2.5%
2030E-2035E	2.4%



Source: NCCR, Frost & Sullivan Analysis

Neuroendocrine Carcinoma

Neuroendocrine neoplasms (NENs) are a heterogeneous group of tumors arising from neuroendocrine cells, characterized by neuroendocrine differentiation and expression of markers such as chromogranin A, synaptophysin, and neuron-specific enolase. NENs can occur throughout the body, most commonly in the lung, pancreas, stomach, colon, and rectum.

Pathologically, based on the degree of differentiation, NENs are classified into well-differentiated neuroendocrine tumors (NETs) and poorly differentiated neuroendocrine carcinomas (NECs). NECs are highly aggressive, characterized by rapid tumor growth, early metastasis, frequent recurrence, and poor prognosis, accounting for approximately 20% of all NENs. In contrast, NETs are generally indolent, with slower progression and more favorable clinical outcomes.

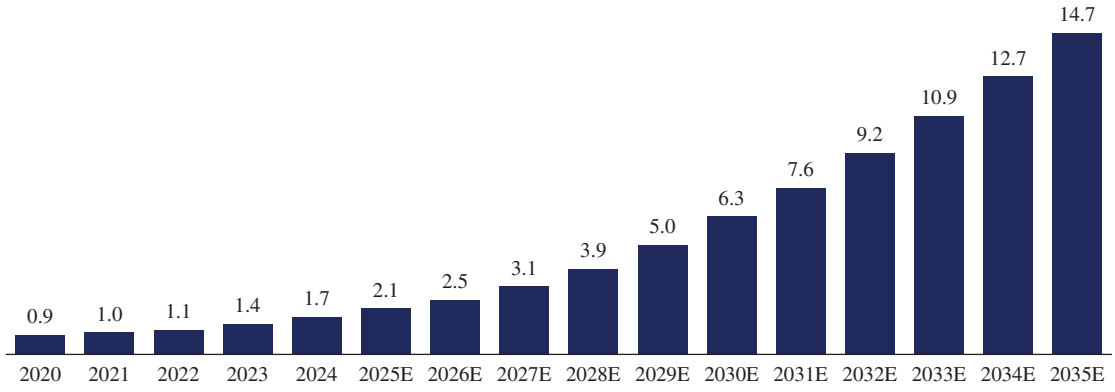
In China, the incidence of NEC increased from 17.0 thousand in 2020 to 23.0 thousand in 2024, at a CAGR of 7.9%. By 2030 and 2035, the incidence of NEC is predicted to reach 30.8 thousand and 35.2 thousand, respectively.

In 2020, the global incidence of NEC globally was 69.2 thousand, rising to 86.9 thousand in 2024 at a CAGR of 5.9%. It is projected to reach 108.2 thousand by 2030, at a CAGR of 3.7% from 2024 to 2030, and to 119.2 thousand by 2035, at a CAGR of 2.0% from 2030 to 2035.

China's NEC drug market size reached RMB1.7 billion in 2024, at a CAGR of 18.0% from 2020 to 2024, and is projected to reach RMB6.3 billion and RMB14.7 billion by 2030 and 2035, at a CAGR of 24.3% and 18.7% from 2024 to 2030 and from 2030 to 2035, respectively.

China NEC Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	18.0%
2024-2030E	24.3%
2030E-2035E	18.7%

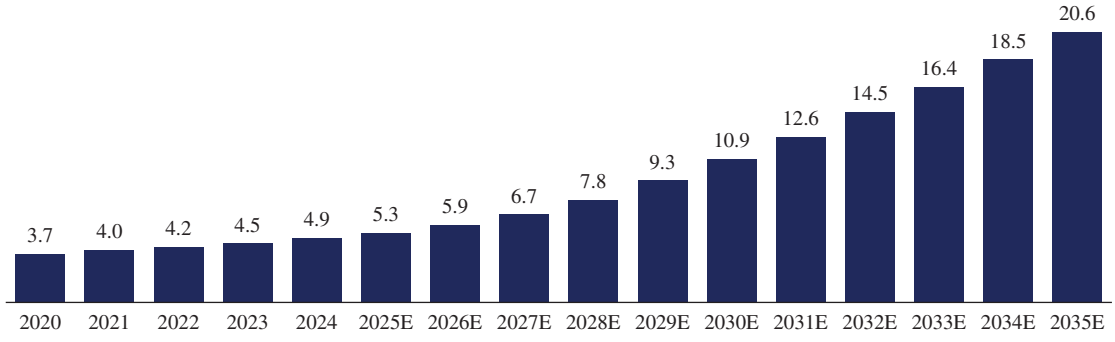


Source: Frost & Sullivan Analysis

Global NEC drug market size reached US$4.9 billion in 2024, at a CAGR of 7.3% from 2020 to 2024, and is projected to reach US$10.9 billion and US$20.6 billion by 2030 and 2035, at a CAGR of 14.2% from 2024 to 2030 and a CAGR of 13.7% from 2030 to 2035.

Global NEC Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	7.3%
2024-2030E	14.2%
2030E-2035E	13.7%



Source: Frost & Sullivan Analysis

KRAS Mutation

Overview

KRAS is a member of the RAS gene family, which also includes HRAS and NRAS. Located on chromosome 12. KRAS encodes a small GTPase that plays a central role in regulating cell signaling pathways. Under physiological conditions, KRAS cycles between an active GTP-bound state and an inactive GDP-bound state to control processes such as cell proliferation, differentiation, and survival.

In cancer, KRAS is frequently mutated, resulting in constitutive activation in the GTP-bound form. These mutations drive persistent activation of downstream signaling pathways, including RAF–MEK–ERK and PI3K–AKT–mTOR, promoting uncontrolled cell proliferation and survival. KRAS mutations are common drivers in lung, colorectal and pancreatic cancers, with mutations being approximately 11.2%, 41.5% and 73.5%, respectively.

Targeted therapies for KRAS-driven cancers include mutant-selective KRAS inhibitors, which are designed to target specific KRAS mutant variants, and pan-KRAS inhibitors, which aim to broadly suppress oncogenic signaling across a diverse spectrum of KRAS alterations. Together, these approaches represent a major advance in precision oncology by expanding therapeutic options for patients with KRAS-mutant cancers.

As of the Last Practicable Date, there are five approved KRAS targeted drugs worldwide targeting NSCLC and CRC developed by Jacobio Pharma, InventisBio, GenFleet Therapeutics, BMS and Amgen.

SOS1 (Son of Sevenless Homolog 1) is a guanine nucleotide exchange factor that promotes the conversion of KRAS from its inactive GDP-bound state to the active GTP-bound state. Because SOS1 functions as a shared upstream activator of KRAS regardless of specific mutation subtype, it is classified as a pan-KRAS target. Accordingly, SOS1 inhibitors have the potential to broadly suppress KRAS-driven signaling across multiple tumor types and are being actively explored as therapeutic agents in KRAS-driven cancers.

The following chart shows the competitive landscape of SOS1 Inhibitor Drugs under clinical development in China.

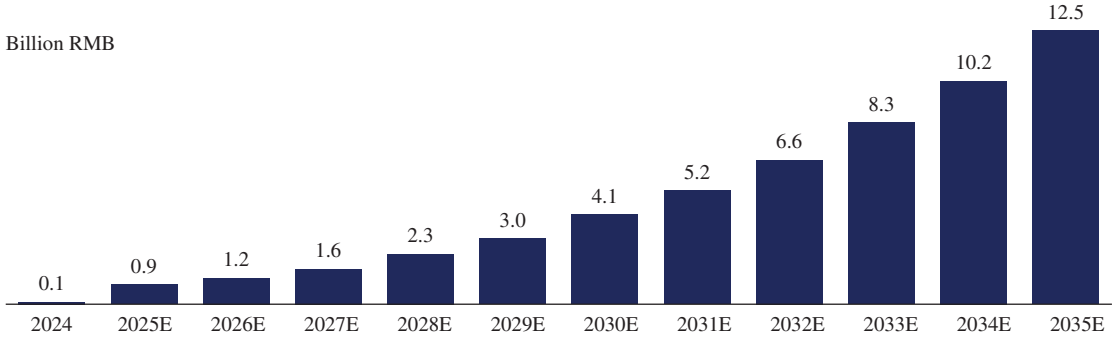
Drug Name	Target	Highest Clinical stage	Indication	Company	First Posted Date
ZG2001	SOS1	Phase I/II	Solid tumors	Zelgen	2023-06-14
HYP-6589	SOS1	Phase I/II	NSCLC, Solid tumors	Huiyu	2024-11-15
HW071021	SOS1	Phase I	NSCLC, CRC, PC, Bile duct cancer, Solid tumors	Humanwell	2025-03-05
TQB3006	KRAS/SOS1	Phase I	Tumors	Chia Tai-tianqing	2024-03-26
BI-1701963	SOS1	Phase I	NSCLC, CRC, PC, Bile duct cancer, Solid tumors	Boehringer Ingelheim	2021-07-22

Source: CDE, Frost & Sullivan Analysis

The market size of KRAS inhibitor drug in China is projected to rise from RMB0.1 billion to RMB4.1 billion from 2024 to 2030, at a CAGR of 87.2%. It is projected to reach RMB12.5 billion by 2035, at a CAGR of 25.3% from 2030 to 2035.

China KRAS Inhibitor Drug Market, 2024-2035E

Period	CAGR
2024-2030E	87.2%
2030E-2035E	25.3%



Source: Frost & Sullivan Analysis

MUC17/CD3/CD28 Trispecific Antibody

Overview

MUC17, a member of the mucin family, is highly expressed in various cancers, including gastric, pancreatic, and colorectal tumors, and is associated with tumor aggressiveness, metastasis, and therapeutic resistance.

CD3 is a critical component of the T-cell receptor (TCR) complex, specifically expressed on T cells, and is essential for transmitting activation signals upon antigen recognition, leading to T-cell proliferation and cytotoxic effector functions.

CD28, a key costimulatory receptor on T cells, provides a second signal alongside TCR engagement, supporting T-cell activation, survival, cytokine production, and differentiation.

Trispecific TCE simultaneously target MUC17 on tumor cells and both CD3 and CD28 on T cells. By combining tumor-restricted targeting with dual T-cell activation, these constructs concentrate T-cell responses on malignant cells while delivering both the primary TCR signal and the required costimulatory signal. This design results in more robust, sustained, and selective T-cell-mediated cytotoxicity compared to CD3-only TCEs, potentially improving antitumor efficacy while minimizing off-tumor activity.

MUC17 is frequently overexpressed in gastric cancer, with approximately 23.3% -52.2% of tumors showing elevated expression compared with normal gastric tissues. As of the Last Practicable Date, there is no MUC17/CD3/CD28 targeted drugs approved globally, with two candidates in clinical stage, including ZGGS34 in Phase I/II.

Gastric Cancer

Gastric cancer arises from the epithelial lining of the stomach and typically develops slowly over several years. It is an aggressive malignancy with a high potential for metastasis, most commonly affecting the liver, lungs, bones, peritoneum, and regional lymph nodes. Early-stage disease is often asymptomatic, contributing to delayed diagnosis, while advanced stages are associated with poor prognosis and substantial clinical burden.

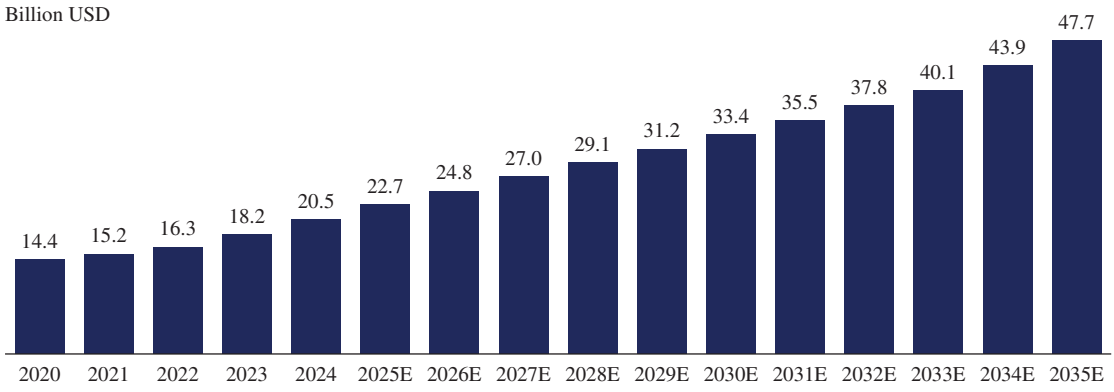
Gastric cancer is already one of the most frequently occurring cancers in China and factors such as pressure and unhealthy diet will continue to contribute to the increasing gastric cancer incidence in China. China's new cases of gastric cancer reached 376.1 thousand in 2024. It is projected to reach 419.1 thousand in 2030 and 456.2 thousand in 2035, at a CAGR of 1.8% and 1.7% from 2024 to 2030 and 2030 to 2035, respectively.

The incidence number of gastric cancer globally increased from 917.5 thousand to 1,017.4 thousand from 2020 to 2024. The number is projected to reach 1,194.7 thousand by 2030 at a CAGR of 2.7% from 2024 to 2030. The number is projected to grow to 1,361.6 thousand in 2035 at a CAGR of 2.6% from 2030 to 2035.

Global gastric cancer drug market size reached US$20.5 billion in 2024, at a CAGR of 9.3% from 2020 to 2024, and is projected to reach US$33.4 billion and US$47.7 billion by 2030 and 2035, at a CAGR of 8.4% and 7.4% from 2024 to 2030 and from 2030 to 2035, respectively.

Global Gastric Cancer Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	9.3%
2024-2030E	8.4%
2030E-2035E	7.4%

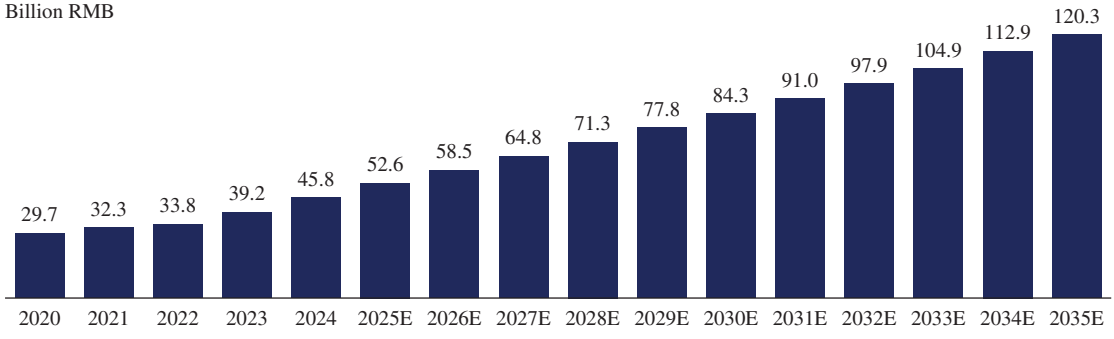


Source: Frost & Sullivan Analysis

China's gastric cancer drug market size reached RMB45.8 billion in 2024, at a CAGR of 11.4% from 2020 to 2024, and is projected to reach RMB84.3 billion and RMB120.3 billion by 2030 and 2035, at a CAGR of 10.7% and 7.4% from 2024 to 2030 and from 2030 to 2035, respectively.

China Gastric Cancer Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	11.4%
2024-2030E	10.7%
2030E-2035E	7.4%



Source: Frost & Sullivan Analysis

Colorectal Cancer

Colorectal cancer (CRC), also known as bowel cancer, colon cancer, or rectal cancer, is any cancer that affects the colon and the rectum. Most colorectal cancers develop first as polyps, which are abnormal growths inside the colon or rectum that may later become cancerous if they are not removed.

China's new CRC cases increased from 489.8 thousand in 2020 to 542.4 thousand in 2024, at a CAGR of 2.6%, and is projected to reach 608.4 thousand by 2030 and 664.6 thousand by 2035, at a CAGR of 1.9% from 2024 to 2030 and 1.8% from 2030 to 2035.

The global incidence of CRC increased from 1,880.7 thousand in 2020 to 2048.8 thousand in 2024, at a CAGR of 2.2%, and is projected to reach 2,310.6 thousand by 2030 and 2,581.9 thousand by 2035, at a CAGR of 2.0% from 2024 to 2030 and 2.2% from 2030 to 2035.

The China market of CRC drugs increased from RMB15.2 billion in 2020 to RMB24.2 billion in 2024 at a CAGR of 12.3%, and is projected to reach RMB55.5 billion by 2030 and RMB83.4 billion by 2035 at a CAGR of 14.9% from 2024 to 2030 and 8.5% from 2030 to 2035.

Pancreatic Cancer

Pancreatic cancer is a malignant neoplasm arising from the pancreas, a gland involved in both digestive and endocrine functions. The majority of pancreatic tumors originate from exocrine cells, with pancreatic ductal adenocarcinoma (PDAC) accounting for over 90% of cases. Pancreatic cancer is characterized by aggressive local invasion, early metastasis (commonly to the liver and peritoneum), and poor prognosis, largely due to late-stage diagnosis.

Global new cases of pancreatic cancer reached 545.6 thousand in 2024 at a CAGR of 2.4% from 2020 to 2024, and is projected to reach 619.9 thousand by 2030 and 699.7 thousand by 2035, at a CAGR of 2.22% from 2024 to 2030 and 2.4% from 2030 to 2035.

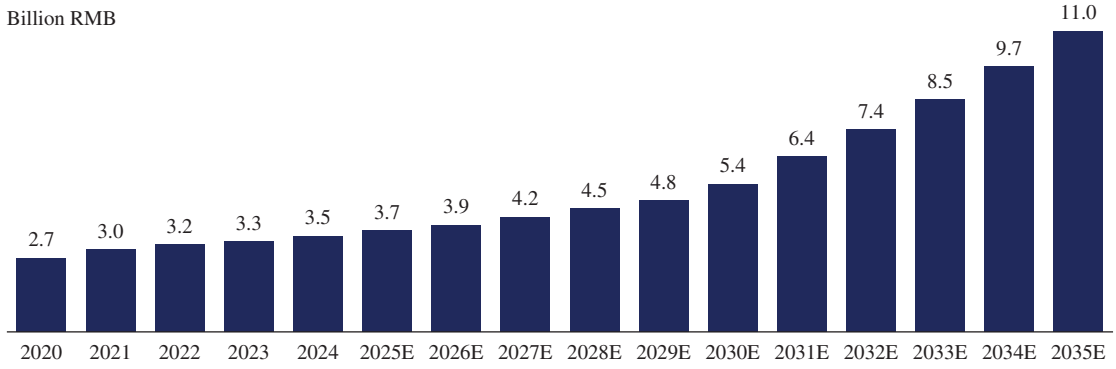
China pancreatic cancer new cases are 111.8 thousand in 2020 and have reached 125.0 thousand in 2024, at a CAGR of 2.8%. The number is projected to reach 141.4 thousand in 2030 and 155.7 thousand in 2035, at a CAGR of 2.1% from 2024 to 2030 and 1.9% from 2030 to 2035.

Global pancreatic cancer drug market is estimated to increase from US$2.1 billion in 2020 to 2.8 billion in 2024, at a CAGR of 7.2%. In the future, the global pancreatic cancer drug market is projected to further increase to US$4.6 billion by 2030, at a CAGR of 8.6% from 2024 to 2030, and to US$7.2 billion by 2035.

The China pancreatic cancer drug market increased from RMB2.7 billion in 2020 to RMB3.5 billion in 2024 at a CAGR of 6.5% from 2020 to 2024, and is projected to reach RMB5.4 billion by 2030 and RMB 11.0 billion by 2035 at a CAGR of 7.5% from 2024 to 2030 and 15.3% from 2030 to 2035.

China Pancreatic Cancer Drug Market Size, 2020-2035E

Period	CAGR
2020-2024	6.5%
2024-2030E	7.5%
2030E-2035E	15.3%



Source: Frost & Sullivan Analysis

VEGF/TGF-β Bispecific Antibody

TGF-β is a multi-functional cytokine that is produced by tumor cells, immune cells and mesenchymal cells. TGF-β is associated with a poor disease prognosis in advanced tumors because it promotes distant metastasis of tumor cells and resistance to therapy.

VEGF stimulates angiogenesis but also impedes tumor vascular maturation, resulting in high vessel permeability and elevated interstitial pressure that limits immune cell infiltration. Further, VEGF exerts immunosuppressive effects by inducing T cell exhaustion, suppressing dendritic cell maturation, and recruiting immunosuppressive cells.

Bispecific antibodies targeting both VEGF and TGF-β offer significant therapeutic advantages by simultaneously inhibiting tumor angiogenesis and reversing immunosuppressive signaling within the tumor microenvironment. By blocking VEGF-mediated vascular remodeling and TGF-β — induced immune exclusion, these agents promote the transition of "cold" tumors with poor lymphocyte infiltration into "hot" tumors responsive to immunotherapy. This dual blockade enhances T-cell activation, reduces epithelial — mesenchymal transition (EMT), and synergistically improves the efficacy and durability of PD-1/PD-L1 antibody therapy, representing a next-generation immunotherapy strategy with broader antitumor potential and superior therapeutic efficiency. Currently, there are a total of seven VEGF/TGF-β antibody drugs under clinical development worldwide, among which six are in Phase I/II clinical trials, including ZGGS18, and two are in Phase I clinical trials.

TLR-8 Agonists

Overview

Toll-like receptor 8 (TLR-8) is a protein located on the endosomal surface within cells and serves as a key component in regulating innate and adaptive immune responses. Activation of the TLR-8 signaling pathway can activate dendritic cells and NK cells, reverse the suppressive function of regulatory T cells, and promote the proliferation of effector T cells, thereby exerting antitumor effects. However, systemic administration of TLR-8 agonists may trigger a potentially fatal cytokine storm, which limits their clinical applicability.

TLR8 agonists exert potent antitumor effects by activating myeloid immune cells such as monocytes, macrophages, and dendritic cells, thereby reversing Treg- and MDSC-mediated immunosuppression and converting "cold" tumors with low immune infiltration into "hot" tumors with robust immune responses. Through the induction of proinflammatory cytokines including IL-6, IL-12, TNF-α, and IFN-γ, and activation of NF-κB signaling, TLR8 agonists enhance both innate and adaptive immunity. Moreover, when combined with chemotherapy, monoclonal antibody therapy, radiotherapy, or immune checkpoint blockade, TLR8 agonists can significantly enhance overall antitumor efficacy.

Currently, no highly selective TLR8 agonist has been approved for clinical use worldwide and there are a total of eight small-molecule TLR8 agonist drugs under clinical development in China, including ZG0895, most of which are in Phase II clinical trials.

Head and Neck Squamous Cell Carcinoma

Head and neck squamous cell carcinoma (HNSCC) is a malignant neoplasm arising from the squamous epithelium of the oral cavity, pharynx, and larynx. It represents the sixth most common cancer globally, with incidence rates steadily increasing. The disease is characterized by aggressive local invasion, frequent regional lymph node metastasis, and a high risk of recurrence, contributing to substantial morbidity and mortality.

Global incidence of HNSCC cases increased from 817.7 thousand in 2020 to 892.0 thousand in 2024, at a CAGR of 2.2%, and is projected to reach 1,006.5 thousand by 2030 and 1,099.8 thousand by 2035, at a CAGR of 2.2% from 2024 to 2030 and 1.8% from 2030 to 2035.

China incidence of HNSCC cases increased from 125.3 thousand in 2020 to 136.0 thousand in 2024, at a CAGR of 2.1%, and is predicted to reach 147.2 thousand by 2030 and 156.4 thousand by 2035, at a CAGR of 1.3% from 2024 to 2030 and 1.2% from 2030 to 2035.

China's HNSCC drug market size reached RMB5.6 billion in 2024, at a CAGR of 19.9% from 2020 to 2024, and is projected to climb to RMB11.6 billion and RMB16.6 billion by 2030 and 2035, respectively, at a CAGR of 13.0% from 2024 to 2030 and 7.4% from 2030 to 2035.

The global HNSCC drug market size reached US$5.0 billion in 2024, at a CAGR of 9.4% from 2020 to 2024, and is projected to reach US$8.2 billion by 2030 and US$11.6 billion by 2035, at a CAGR of 8.4% from 2024 to 2030 and 7.3% from 2030 to 2035.

Recombinant Human Thyroid Stimulating Hormone

Overview

Thyroid stimulating hormone (TSH) is a glycoprotein hormone produced by basophilic cells of the anterior pituitary. It plays a central role in regulating thyroid gland growth, hormone synthesis, and secretion, thereby controlling metabolism and maintaining homeostasis.

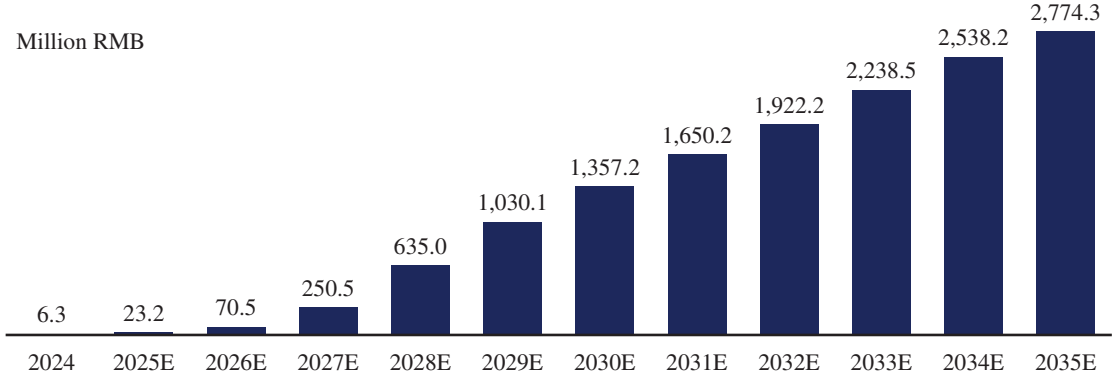
Recombinant human TSH (rhTSH) is a biotechnologically produced form of human TSH with an amino acid sequence identical to that of endogenous pituitary TSH, used clinically to provide exogenous TSH stimulation without the need for thyroid hormone withdrawal in patients with differentiated thyroid cancer. rhTSH effectively stimulates thyroglobulin production and radioactive iodine uptake, facilitates diagnostic imaging, and increases the sensitivity of thyroglobulin testing while allowing patients to remain euthyroid, thereby avoiding the morbidity associated with hypothyroidism; multiple studies have demonstrated that rhTSH is safe, well tolerated, and improves quality of life compared with traditional hormone withdrawal methods.

There currently is only one human thyrotropin approved in China, as developed SmartNuclide and used in adjuvant treatment with iodine-131 (^{131}I) for ablation of residual thyroid tissue in patients with differentiated thyroid carcinoma without distant metastasis following total or near-total thyroidectomy. Our drug candidate Zesuning is currently near the end of the BLA stage for use in postoperative follow-up of differentiated thyroid cancer patients and there is no other recombinant human thyrotropin under development as of the Last Practicable Date.

China's rhTSH drug market size reached RMB6.3 million in 2024. The market size is projected to reach RMB1,357.2 million and RMB2,774.3 million by 2030 and 2035, respectively, at a CARG of 144.6% from 2024 to 2030 and 15.4% from 2030 to 2035.

China rhTSH Market Size, 2024-2035E

Period	CAGR
2024-2030E	144.6%
2030E-2035E	15.4%



Source: Frost & Sullivan Analysis

Recombinant Human Thrombin (rhThrombin)

Overview

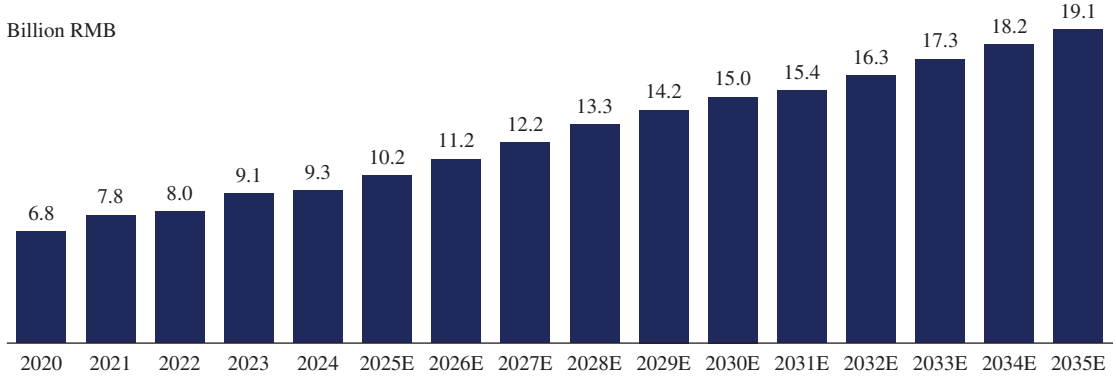
Topical hemostatic products used in surgery mainly fall into two categories. The first category includes absorbable hemostatic materials such as oxidized regenerated cellulose, gelatin sponges, and chitosan-based materials, which achieve hemostasis through physical tamponade, provision of a supportive matrix, and promotion of platelet adhesion. The second category comprises topical or locally applied hemostatic drugs, such as thrombin preparations, fibrin sealants, and thrombin–gelatin matrices, which act by directly catalyzing fibrin formation and accelerating clot development. Thrombin is widely used in China because it offers rapid onset, is suitable for diffuse oozing or irregular wound surfaces, and can be combined with various carriers such as gelatin. Thrombin-based products are broadly utilized across general surgery, hepatobiliary procedures, orthopedics, urology, and other surgical disciplines.

Recombinant human thrombin (rhThrombin) is a genetically engineered, sequence-identical form of human thrombin produced in mammalian expression systems (e.g., CHO cells) for topical control of surgical bleeding. It promotes hemostasis by locally converting fibrinogen to fibrin and enhancing platelet activation at the bleeding surface, the mechanism is consistent with the central physiologic role of thrombin in the coagulation cascade. Compared with bovine, porcine, or plasma-derived thrombin products, rhThrombin provides clinically comparable hemostatic efficacy but offers several important advantages. Its immunogenicity is markedly lower, avoiding the well-documented issue of anti-bovine thrombin antibodies and the associated immune-mediated coagulopathy that can occur with animal-derived preparations. Our Recombinant Thrombin is the only approved recombinant human thrombin in China.

China's surgical topical hemostatic agents market grew from RMB6.8 billion in 2020 to RMB9.3 billion in 2024 at a CAGR of 7.9%, and is projected to reach RMB15.0 billion by 2030 and RMB19.1 billion by 2035 at a CAGR of 8.4% from 2024 to 2030 and 4.9% from 2030 to 2035.

China Surgical Topical Hemostatic Agents Market, 2020-2035E

Period	CAGR
2020-2024	7.9%
2024-2030E	8.4%
2030E-2035E	4.9%



Note: Frost & Sullivan Analysis

REPORT COMMISSIONED BY FROST AND SULLIVAN

In connection with the [**REDACTED**], we have engaged Frost & Sullivan to conduct a detailed analysis and to 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 founded in 1961 and is based in the U.S.. We have agreed to pay Frost & Sullivan a total fee of approximately RMB500,000 for the preparation of the Frost & Sullivan Report, and we believe that such fee is consistent with the market rate. The payment of such amount was not contingent upon our successful [**REDACTED**] or on the content 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, including those used to make future projections, are factual, correct and not misleading.