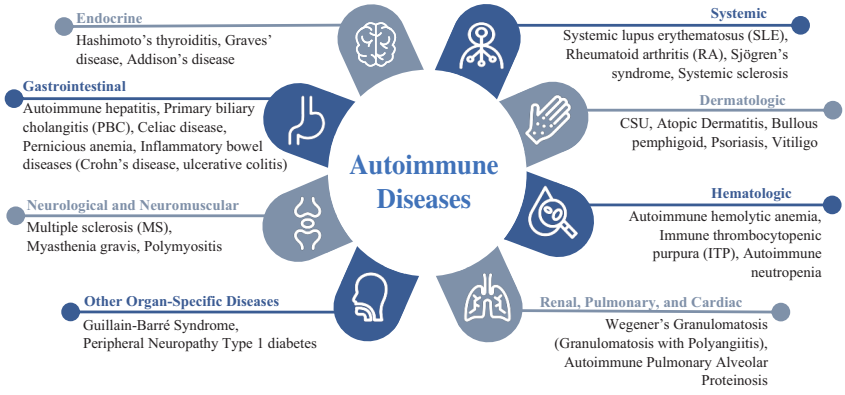
Certain information and statistics set out in this section have been extracted from various official government publications, market data providers and a report commissioned by us and prepared by an independent third party, Frost & Sullivan. The information from official government sources has not been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

OVERVIEW AND ANALYSIS OF AUTOIMMUNE AND INFLAMMATORY DISEASES MARKET

Overview of Autoimmune and Inflammatory Diseases

Inflammatory diseases are characterized by dysregulated immune responses that may become harmful to the body. In autoimmune diseases, inflammatory signaling can become chronic or misdirected, driven by persistent immune cell infiltration and alterations in the tissue microenvironment.

Autoimmune diseases are a subset of inflammatory conditions in which the immune system mistakenly attacks the body's own tissues, driving chronic inflammation. These diseases can be broadly classified into systemic or organ-specific types. Systemic diseases, such as rheumatoid arthritis (RA) and ankylosing spondylitis (AS), affect multiple organ systems, while organ-specific diseases primarily target particular tissues, including dermatologic conditions such as psoriasis and atopic dermatitis.



Source: Literature Review, Frost & Sullivan Analysis

The Global and China's Autoimmune and Inflammatory Diseases Drug Market

According to Frost & Sullivan, the global autoimmune and inflammatory diseases drug market has experienced significant growth. From 2021 to 2025, the global market for autoimmune and inflammatory disease therapeutics grew from US$144.6 billion to US$173.0 billion, reflecting a compound annual growth rate (CAGR) of 4.6% during this period. The market is projected to continue expanding, reaching US$239.5 billion by 2030, which corresponds to a CAGR of 6.7% from 2025 to 2030, and US$297.0 billion by 2035, representing a CAGR of 4.4% from 2030 to 2035.

Notably, the autoimmune and inflammatory diseases drug market in China demonstrated robust growth from RMB51.9 billion in 2021 to RMB72.4 billion in 2025, achieving a CAGR of 8.7% during this five-year period. Market expansion is projected to accelerate significantly in China, with the market size expected to reach RMB164.5 billion by 2030, corresponding to a

CAGR of 17.8% from 2025 to 2030. This strong growth momentum is forecast to continue through 2035, with the market anticipated to reach RMB371.3 billion, representing a CAGR of 17.7% from 2030 to 2035.

Growth Drivers and Future Trends of the Autoimmune and Inflammatory Diseases Drug Market

According to Frost & Sullivan, the growth drivers of the autoimmune and inflammatory diseases drug market include the following:

Policy Incentives, Ecosystem Collaboration and Investment Momentum

Accelerated regulatory pathways are catalyzing breakthroughs in autoimmune and inflammatory therapeutics. The National Medical Products Administration has implemented comprehensive incentive policies under the "Healthy China 2030" initiative, deepening review and approval reforms focused on clinical efficacy while expediting evaluation of innovative and clinically urgent drugs. Concurrently, national and provincial reimbursement reforms are improving patient access to affordable therapies, thereby accelerating market penetration and growth.

According to Frost & Sullivan, the future trends of the autoimmune and inflammatory diseases drug market include the following:

JAK Inhibitors: Optimized Efficacy, Safety, and Patient Adherence

Biologic agents, including tocilizumab and TNF inhibitors, have demonstrated strong efficacy in controlling moderate-to-severe RA and preventing joint structural damage. Nevertheless, biologic therapies still face certain limitations, including infusion- or injection-related reactions, heightened infection susceptibility such as tuberculosis, potential long-term safety concerns, high treatment costs, and challenges related to patient access and treatment convenience. In addition, certain patients may experience insufficient response or loss of response over time, which may be partly associated with the formation of anti-drug antibodies or neutralizing antibodies. These limitations have accelerated the development of alternative mechanisms of action, among which JAK inhibitors have emerged as a promising therapeutic option.

Most current treatments for RA, AS and AD involve injectable drugs currently. Oral JAK inhibitors demonstrate robust therapeutic performance by achieving rapid systemic drug concentrations that enable fast onset of action, while topical formulations provide targeted efficacy at the application site. Both administration routes maintain consistent clinical response, ensuring sustained symptom control across various immune-mediated diseases.

Drug Type	Representative Drugs	Key Mechanism	Clinical Positioning
JAK Inhibitors	Tofacitinib, Upadacitinib, Abrocitinib, LNK01001, LNK01004	Target JAK-STAT signaling (JAK1/2/3/TYK2 depending on selectivity)	Moderate-to-severe patients; often after inadequate response to conventional therapy
Conventional Synthetic DMARDs	Methotrexate, Leflunomide, Sulfasalazine	Broad immunosuppression	First-line long-term therapy
Glucocorticoids/NSAIDs	Prednisone, Dexamethasone/ Ibuprofen, Celecoxib	Broad anti-inflammatory/ symptomatic control	Short-term or adjunct therapy
Biologic Agents (e.g., TNF/IL inhibitors)	Adalimumab, Infliximab, Etanercept/Tocilizumab	Target specific cytokines	Moderate-to-severe or refractory patients

The following table shows the comparison between JAK inhibitors and biologic Disease-Modifying Antirheumatic Drugs (bDMARDs).

Category	JAK Inhibitors	TNF Inhibitors (bDMARDs)
Administration	Oral	Parenteral
Molecular Type	Small molecule	Monoclonal antibody
Target Location	Intracellular targets	Extracellular receptors, soluble targets
Immunogenicity	Non-immunogenic	Potential immunogenicity
Mechanism Scope	Multiple cytokine inhibition	Single cytokine inhibition
Products	Generics	Biosimilars
Half-life	Short half-life	Long half-life
Stability	Stable	Heat sensitive
Monotherapy Efficacy	Monotherapy efficacy	Combination increased efficacy except IL6 inhibitors
Demyelination Risk	No demyelination	Demyelination
SLE Risk	No SLE induction	SLE type syndromes
Psoriasis Risk	Psoriasis induction	No psoriasis induction
Herpes Zoster Risk	Zoster signal	No zoster signal
Heart Failure Risk	No cardiac failure signal	Cardiac failure
Administration Reactions	Not applicable	Injection site & infusion reactions
Metabolism	Metabolised hepatic, renal excretion	Proteolytic degradation
Drug Interactions	Drug interactions – e.g. CyP3A4 (Cytochrome P450 3A4) pathway	No drug interactions
Metabolites	Metabolites	No metabolites

Source: Literature Review, Frost & Sullivan Analysis

Furthermore, patient adherence is substantially enhanced through these diversified administration options. Oral formulations eliminate the need for frequent injections and offer greater convenience for long-term disease management. In dermatological diseases, topical treatment is commonly used as a first-line therapeutic approach, as dermatologists tend to be relatively conservative in treatment selection and generally prefer therapies with favorable safety profiles, particularly for chronic or recurrent conditions. Topical agents are also generally perceived as less intrusive and associated with lower concerns over systemic side effects, thereby aligning with patient preferences for non-invasive treatment. Together, these patient- and physician-centered attributes support sustained treatment adherence and contribute to improved real-world therapeutic outcomes.

The available pharmacokinetic and clinical data support the interpretation that LNK01004 exerts localized pharmacologic activity while limiting systemic exposure. In atopic dermatitis patients, steady-state systemic exposure of LNK01004 1.0% BID was markedly lower than that of topical JAK inhibitors such as ruxolitinib, with Cmax of 1.27 ± 2.10 nM versus 137 ± 377 nM, respectively, indicating more than a 100-fold reduction in systemic exposure at clinically relevant doses.

Ruxolitinib is referenced as a representative comparator as it is an approved JAK inhibitor in dermatology with publicly available pharmacokinetic data, and therefore provides a data-supported benchmark for evaluating systemic exposure. This substantial reduction in systemic exposure suggests that LNK01004 is less likely to reach systemic concentrations associated with adverse events observed with systemic JAK inhibitors. Consistent with this profile, the localized distribution of LNK01004 may enable effective modulation of inflammatory signaling pathways at the site of disease, while potentially reducing the risk of systemic adverse events associated with systemic JAK inhibition.

Market Expansion through Indication Development

Strategic broadening of therapeutic applications represents a key growth vector for autoimmune and inflammatory therapies. Pharmaceutical developers are systematically expanding the labeled indications of established agents, with drugs initially approved for single conditions now demonstrating efficacy across multiple immune disorders. JAK inhibitors, for

example, have successfully extended from rheumatoid arthritis to ulcerative colitis, alopecia areata, and vitiligo, substantially enlarging the addressable patient population.

OVERVIEW AND ANALYSIS OF JAK INHIBITORS MARKET

The JAK inhibitors market has emerged as a rapidly expanding segment in autoimmune and inflammatory therapeutics, driven by the central role of JAK-STAT signaling in immune dysregulation. By targeting specific JAK isoforms, these innovative inhibitors effectively modulate pathogenic cytokine networks underlying conditions such as rheumatoid arthritis, atopic dermatitis, and other immune-mediated diseases.

Mechanism of Action of JAK Inhibitors

The JAK family of intracellular tyrosine kinases regulates a broad spectrum of fundamental biological processes – including immune responses, cell proliferation, differentiation and cell death – through the JAK-STAT signalling pathway. JAK inhibitors are a class of small-molecule therapies that primarily exert their therapeutic effects by modulating these signalling pathways. By targeting overactive inflammatory signals within the immune system, JAK inhibitors may help reduce inflammation, relieve symptoms, and improve disease control.

The JAK-STAT pathway is an important signalling mechanism used by multiple cytokines and growth factors, and plays a key role in the development and progression of various inflammatory and autoimmune diseases. There are four members of the JAK family – JAK1, JAK2, JAK3 and TYK2 – each of which associates with specific cytokine receptors and mediates distinct downstream signalling cascades. Upon cytokine binding to their cognate receptors, JAK family members are activated and phosphorylate downstream Signal Transducer and Activator of Transcription (STAT) proteins, which subsequently translocate to the nucleus and regulate gene transcription governing immune activation, cellular growth and survival. When this pathway becomes abnormally activated, it may lead to persistent inflammation, uncontrolled cell proliferation, tissue damage, and related clinical symptoms.

In diseases such as Rheumatoid Arthritis, Ankylosing Spondylitis, and Atopic Dermatitis, JAK inhibitors can help control inflammatory responses through targeting these signalling pathways and provide an additional treatment option for patients with inadequate response to conventional therapies. By selectively inhibiting one or more JAK isoforms, these agents interrupt the aberrant cytokine signalling that drives pathological immune activation, thereby addressing both the inflammatory and proliferative components of disease pathogenesis.

Selectivity of JAK inhibitors for JAK1, JAK2, JAK3 and TYK2 in vitro (nM)

Genetic Name	JAK1	JAK2	JAK3	TYK2
Tofacitinib	3.2	4.1	1.6	34
Peficitinib	3.9	5	0.7	4.8
Baricitinib	5.9	5.7	>400	53
Filgotinib	10–53	28–29	311–810	116–177
Abrocitinib	29.2	803	>10,000	1,250
Upadacitinib	43	120	2,300	4,700
LNK01001	5.9	143	1,956	119

The IC_{50} values presented in the table above represent the concentration of each compound required to inhibit 50% of the respective JAK isoform's enzymatic activity, as determined by in vitro biochemical kinase assays. The IC_{50} values for approved JAK inhibitors (tofacitinib, peficitinib, baricitinib, filgotinib, abrocitinib, and upadacitinib) are derived from published preclinical literature and publicly available regulatory submission data. The IC_{50} values for LNK01001 are derived from the Company's internal preclinical studies conducted under

standardised biochemical assay conditions. The comparisons presented in this table are based on independent, non-head-to-head *in vitro* studies performed under potentially varying assay conditions (including differences in ATP concentration, substrate, and assay platform); accordingly, cross-compound comparisons should be interpreted with caution and do not represent the results of direct head-to-head clinical trials. Notwithstanding the foregoing, the data are consistent with the established pharmacological literature characterising LNK01001 as a highly selective JAK1 inhibitor relative to JAK2, JAK3, and TYK2.

The First, Second Generation of JAK Inhibitors

JAK inhibitors may be classified into different generations based on their mechanisms of action and selectivity profiles, and such classification has been discussed in scientific literature. For example, a peer-reviewed review article titled *JAK inhibitors: Is specificity at all relevant?* (Gadina M., *Seminars in Arthritis and Rheumatism*, 2024) described a three-generation framework, under which first-generation agents primarily refer to earlier products that inhibit multiple JAK isoforms through ATP-competitive mechanisms, second-generation agents are designed with enhanced selectivity toward one or more JAK isoforms, particularly with improved selectivity against JAK2 inhibition, in order to reduce JAK2-related hematologic safety concerns. In addition to the above framework, certain novel JAK candidates with skin-restricted exposure and minimal or lack of systemic exposure characteristics are also viewed within the industry as a next-generation development direction.

First-generation JAK inhibitors, including tofacitinib and baricitinib, function as poor-selective or pan-JAK inhibitors that concurrently target multiple JAK subtypes such as JAK1, JAK2, JAK3, and TYK2. Given that different JAK subtypes regulate distinct physiological processes, this broad-spectrum inhibition achieves therapeutic benefits but simultaneously disrupts essential signaling pathways, resulting in a range of mechanism-based adverse events. The suppression of JAK2 is particularly associated with hematological complications. As JAK2 primarily transduces signals for hematopoietic growth factors like erythropoietin and thrombopoietin, its inhibition can induce hematological toxicities including anemia, thrombocytopenia, and neutropenia. Similarly, inhibition of JAK3 carries immunomodulatory immunosuppression risks. JAK3, which predominantly associates with γc-chain cytokine receptors, plays a fundamental role in lymphocyte development and immune competence. Consequently, JAK3 blockade elevates susceptibility to infections, notably herpes virus reactivations such as herpes zoster, due to compromised cellular immunity. These safety liabilities associated with multi-isoform inhibition have constrained the therapeutic window of first-generation JAK inhibitors. The resulting hematologic toxicity and increased infection risk necessitate careful safety monitoring in clinical practice and have driven the development of more selective next-generation JAK inhibitors.

Second-generation JAK inhibitors represent a significant advance in targeted immunomodulation, achieving enhanced therapeutic precision through improved JAK isoform selectivity. Unlike first-generation inhibitors, which broadly suppress multiple JAK-dependent pathways, these agents are designed to selectively target disease-relevant isoforms while sparing JAK2 signaling pathways to avoid side effects such as anemia. This refined targeting translates into a favorable efficacy-safety profile, characterized by rapid onset of action and sustained treatment responses across a range of autoimmune diseases. Furthermore, their safety profile remains competitive with biologic therapies, demonstrating comparable risks in terms of major adverse events while circumventing immunogenicity-related complications.

Nevertheless, certain limitations persist with second-generation inhibitors, as evidenced by the boxed warnings accompanying these agents. For example, clinical data for upadacitinib (UPA) reveal a clear dose-dependent increase in the incidence of severe Grade 3/4 laboratory abnormalities compared to other therapies, with a particularly pronounced effect on hemoglobin

and lymphocytes (lymphopenia) (Charles-Schoeman et al., 2024; Chimalakonda et al., 2021; Traves et al., 2021). These findings underscore the need for routine laboratory monitoring even with more selective agents. The following table demonstrates the incidence for UPA lab abnormalities despite UPA has demonstrated a better overall profile than the first-generation JAK inhibitors.

Parameter, N (%)		UPA 15 mg QD pooled (N = 3209; 10 782.7 PY)	UPA 30 mg QD pooled (N = 1204; 3162.5 PY)	ADA 40 mg EOW + MTX (N = 579; 1573.2 PY)	MTX monotherapy (N = 314; 865.1 PY)
Hemoglobin	Grade 3	329 (10.3%)	170 (14.2%)	36 (6.3%)	31 (9.9%)
	Grade 4	166 (5.2%)	78 (6.5%)	24 (4.2%)	23 (7.4%)
Neutrophils	Grade 3	55 (1.7%)	39 (3.3%)	5 (0.9%)	3 (1.0%)
	Grade 4	13 (0.4%)	4 (0.3%)	3 (0.5%)	1 (0.3%)
Lymphocytes	Grade 3	1075 (33.6%)	424 (35.6%)	66 (11.5%)	86 (27.6%)
	Grade 4	128 (4.0%)	50 (4.2%)	6 (1.0%)	7 (2.2%)

The development of allosteric TYK2 inhibitors exemplifies this progress, employing a biomimetic mechanism that selectively binds to the regulatory pseudokinase domain – functionally replicating a protective human TYK2 variant known to mitigate autoimmunity while maintaining essential immune function. By precisely disrupting pathological cytokine pathways including IL-23, IL-12, and Type I interferons while preserving gamma-chain signaling, these inhibitors achieve unprecedented functional selectivity and an optimized efficacy-safety profile. Complementing this systemic approach, topical skin-restricted soft pan-JAK inhibitors represent a targeted therapeutic strategy for dermatological conditions. These agents deliver comprehensive blockade of multiple inflammatory pathways directly at the site of action, while their tissue-localized design ensures minimal to no systemic exposure. This fundamental feature effectively eliminates the risk of class-related systemic side effects, thereby achieving potent local efficacy without compromising systemic safety.

Category	Systemic JAK Inhibitor	Soft Pan-JAK Inhibitor
Targeted JAK Isoforms	• Typically selective (e.g., JAK1-preferential) or dual inhibition	• Broad inhibition of JAK1/JAK2/JAK3
Mechanism of Action	• Blocks cytokine signaling via selected JAK isoforms in systemic circulation	• Locally inhibits multiple JAK isoforms at the site of application
Route of Administration	• Oral	• Topical
Systemic Exposure	• Systemically absorbed and distributed	• Designed to limit systemic absorption and promote rapid metabolic clearance
Cytokine Pathways Affected	• Depends on isoform selectivity (e.g., JAK1-driven IL-6, IFN-γ, IL-4/13 pathways)	• Multiple cytokine pathways locally due to pan-JAK activity
Clinical Positioning	• Moderate-to-severe systemic autoimmune diseases (e.g., RA, AS, AD)	• Localized inflammatory skin diseases (e.g., AD, vitiligo, alopecia areata)
Potential Limitations	• May be associated with systemic safety monitoring requirements	• Topical efficacy may be influenced by patient adherence, application frequency and lesion coverage

Overall, topical therapies provide a localized treatment approach and may help reduce systemic exposure, offering meaningful clinical advantages for patients with skin-limited disease. As with any therapeutic modality, topical formulations are subject to certain practical considerations, as set out below.

Reimbursement coverage. Topical JAK inhibitors are not currently listed on the NRDL for atopic dermatitis or vitiligo in China, reflecting the recency of their regulatory approval rather than any fundamental barrier to future inclusion, though patients may bear out-of-pocket costs in the interim.

Application-site reactions. Application-site reactions such as skin dryness, mild irritation, folliculitis and pruritus have been observed in clinical trials, and are generally mild-to-moderate and transient in nature.

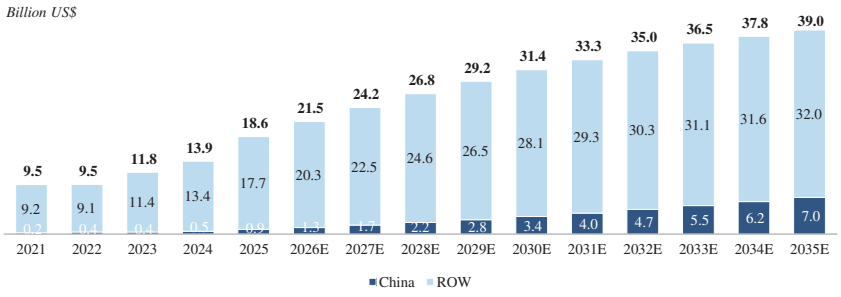
Patient compliance. Topical JAK inhibitors typically require twice-daily application and carry BSA guidance reflecting their target population of patients with localised or mild-to-moderate disease; for more extensive disease, topical therapy may be used in combination with systemic treatments.

Frost & Sullivan confirm that the terms "first-generation", "second-generation" JAK inhibitors are terminology used in scientific literature and industry analysis to describe the evolution of JAK inhibitor development.

The Global and China's JAK Inhibitors Drug Market

The global JAK inhibitor market demonstrated robust growth from US$9.5 billion in 2021 to US$18.6 billion in 2025, achieving a CAGR of 18.5% during this period. Market expansion is projected to continue, reaching US$31.4 billion by 2030 at a CAGR of 11.0% from 2025 to 2030. Looking ahead, the market size is expected to grow to US$39.0 billion by 2035, reflecting a moderated CAGR of 4.4% from 2030 to 2035. The following diagram sets forth the historical and forecasted market size of JAK inhibitors globally.

The Global JAK Inhibitors Drug Market, 2021–2035E



Source: Frost & Sullivan Analysis

The JAK inhibitor market in China experienced remarkable expansion, growing from US$0.2 billion in 2021 to US$0.9 billion in 2025, corresponding to a CAGR of 37.3%. This strong growth trajectory is projected to continue, with the market expected to reach US$3.4 billion by 2030, representing a CAGR of 30.4% from 2025 to 2030. Looking further ahead, the market size is forecast to rise to US$7.0 billion by 2035, maintaining a robust CAGR of 15.9% from 2030 to 2035.

Competitive Landscape of Approved JAK Inhibitors for Treatment of Autoimmune and Inflammatory Disease

As of the Latest Practicable Date, a total of ten JAK inhibitors for autoimmune and inflammatory diseases have been approved globally, and eight JAK inhibitors have been approved in China.

Global Marketed JAK Inhibitors Indicated for Autoimmune Disease as of the Latest Practicable Date

Manufacture	Genetic Name	Target	Approved Indications	Market Authority	First Approval Date	Route of Administration
Pfizer	Tofacitinib	JAK1, JAK2, JAK3	RA, JIA, PsA, UC, pJIA, JPsA, AS	FDA, EMA, NMPA	2012-11-06 (FDA) 2017-03-22 (EMA) 2017-03-10 (NMPA)	Oral
Incyte, Eli Lilly	Baricitinib	JAK1, JAK2	RA, AD, COVID-19, AA, JIA, ERA, JPsA, pJIA	FDA, EMA, NMPA	2018-05-31 (FDA) 2017-02-13 (EMA) 2019-06-24 (NMPA)	Oral
Incyte	Ruxolitinib Cream	JAK1, JAK2	AD, NSV	FDA, EMA	2021-09-21 (FDA) 2023-04-19 (EMA)	Topical
Sun Pharmaceutical Industries	Deuterated ruxolitinib	JAK1, JAK2	AA	FDA	2024-07-25 (FDA)	Oral
Pfizer	Ritlecitinib	JAK3, TEC	AA	FDA, EMA, NMPA	2023-06-23 (FDA) 2023-09-19 (EMA) 2023-10-18 (NMPA)	Oral
AbbVie	Upadacitinib	JAK1	RA, PsA, AS, AD, UC, nr-axSpA, CD, pJIA, JPsA, GCA	FDA, EMA, NMPA	2019-08-16 (FDA) 2019-12-16 (EMA) 2022-02-18 (NMPA)	Oral
Galapagos, Gilead	Filgotinib	JAK1	RA, UC	EMA, PMDA	2020-09-24 (EMA) 2020-09-25 (PMDA)	Oral
Pfizer	Abrocitinib	JAK1	AD	FDA, EMA, NMPA	2022-01-14 (FDA) 2021-12-09 (EMA) 2022-04-11 (NMPA)	Oral
Bristol Myers Squibb	Deucravacitinib	TYK2	PP, PuP, EP	FDA, EMA, NMPA	2022-09-09 (FDA) 2023-03-24 (EMA) 2023-10-18 (NMPA)	Oral
Japan Tobacco, Torii Pharmaceutical, Akros Pharma	Delgocitinib (Topical)	JAK	Eczema	EMA	2024-09-19 (EMA)	Topical
Hengrui Pharmaceuticals	Ivarmacitinib	JAK1	AS, RA, AD, AA	NMPA	2025-03-18 (NMPA)	Oral
Astellas	Peficitinib	JAK	RA	NMPA PMDA	2019-03-26 (PMDA)	Oral

[1]

Source: NMPA, FDA, EMA, Frost & Sullivan Analysis

Growth Drivers and Future Trends of JAK Inhibitors for Autoimmune and Inflammatory Diseases

The expanding adoption of JAK inhibitors in autoimmune diseases management is propelled by their oral dosing convenience, broad mechanism of action across multiple cytokine pathways, and the ongoing development of safer, more selective agents. These factors collectively support sustained market growth and clinical utilization.

Improved Treatment Adherence with Optimized Safety Profiles

JAK inhibitors offer treatment convenience through oral administration, allowing patients to self-administer therapy at home and reducing the burden associated with frequent injections required by biologic therapies. This convenience supports long-term adherence in chronic autoimmune and inflammatory diseases.

In addition, the development of highly selective JAK inhibitors remains an important direction for safety optimization. Although upadacitinib is a leading JAK1 inhibitor, biochemical assays show that UPA demonstrates JAK1 inhibitory activity with an IC50 of 43 nM, while also retaining measurable JAK2 inhibition with an IC50 of 120 nM, indicating that further improvement in JAK1 selectivity over JAK2 may remain possible. As JAK2 inhibition is associated with hematologic safety concerns, next-generation JAK1-selective inhibitors may offer further potential to optimize the therapeutic window.

Expanded Therapeutic Applications

The therapeutic potential of JAK inhibitors extends across multiple autoimmune and inflammatory diseases due to their strategic position in cytokine signaling pathways. Monoclonal antibodies targeting specific cytokines have previously validated the pathogenetic roles of IL-6 in rheumatoid arthritis, IL-12/IL-23 in inflammatory bowel disease and psoriatic diseases, and

IL-4/IL-13 in atopic dermatitis. As these cytokines signal through JAK family receptors, JAK inhibitors can offer an upstream intervention point, simultaneously blocking several pathogenic pathways. This mechanism underpins their broad applicability across a wide spectrum of immune-mediated diseases.

According to Frost & Sullivan, the future trends of the autoimmune and inflammatory diseases drug market include the following:

Advancement of the Future JAK1-Selective Inhibitors

The shift from first-generation pan-JAK inhibitors to JAK1-selective inhibitors marks an important step toward improved therapeutic precision. By preferentially targeting JAK1-mediated inflammatory signaling while reducing JAK2-related hematopoietic pathway inhibition, these agents aim to maintain efficacy with improved safety profiles. The clinical success of upadacitinib validates the demand for orally administered targeted therapies, while residual safety concerns continue to drive the development of next-generation JAK1-selective inhibitors with greater selectivity and optimized safety profiles.

Expansion of Topical Formulations and Innovation in Design Strategies

Topical JAK inhibitors are emerging as valuable treatment options for dermatologic diseases by delivering therapeutic effects directly to affected tissues while aiming to limit systemic exposure. With topical agents approved globally for atopic dermatitis and vitiligo, this formulation strategy may improve local efficacy, reduce exposure-related safety concerns, and provide potential alternatives to corticosteroids in selected dermatologic conditions.

MARKET OPPORTUNITIES OF JAK INHIBITORS IN AUTOIMMUNE AND INFLAMMATORY DISEASES

Rheumatoid Arthritis

Overview of Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a chronic, systemic autoimmune disease primarily driven by persistent inflammation of the synovial tissue. Clinically, RA manifests as joint pain, stiffness and swelling, which may progress to cartilage destruction, joint deformity, functional impairment and increased mortality. A key pathological process is the hyperplasia (abnormal thickening) of the synovial lining, fueled by pro-inflammatory cytokines and infiltration of immune cells.

Current Treatment options for Rheumatoid Arthritis

RA management generally follows a stepwise treatment approach, initiating with conventional synthetic disease-modifying antirheumatic drugs (DMARDs) as the first-line therapy. For patients with an inadequate response, treatment is commonly escalated to biologic DMARDs (b-DMARDs) that target specific cytokines. Targeted synthetic DMARDs (ts-DMARDs), including JAK inhibitors that inhibit intracellular JAK-STAT signalling, are typically considered after failure or intolerance of bDMARDs, with treatment selection guided by patient-specific factors and safety considerations.

The treatment paradigm maintains conventional synthetic DMARDs as foundational therapy throughout the disease course, with biologics or targeted agents serving as escalation options. Therapy reduction may be considered upon achieving sustained disease control.

The Global and China's Prevalence of Rheumatoid Arthritis

The global rheumatoid arthritis patient population reached 41.8 million in 2025, having grown at a CAGR of 1.0% since 2021. Projections indicate the number of cases will rise to 43.7 million by 2030 and further increase to 45.4 million by 2035, with subsequent growth rates of 0.9% and 0.8% during the respective forecast periods.

In China, the prevalence of RA has remained relatively stable. The number of cases increased from 6.0 million in 2021 to 6.2 million in 2025, reflecting a CAGR of 0.7% during this period. Projections indicate a continued gradual rise, with case numbers expected to reach 6.4 million by 2030 at a CAGR of 0.8% from 2025 to 2030, and further increasing to 6.7 million by 2035 at a CAGR of 0.9% from 2030 to 2035. Specifically, the number of patients with moderate-to-severe rheumatoid arthritis in China was approximately 4.8 million in 2021 and 4.9 million in 2025, representing a CAGR of 0.7% from 2021 to 2025, and is projected to reach 5.1 million in 2030 and 5.3 million in 2035, representing CAGRs of 0.7% from 2025 to 2030 and 0.9% from 2030 to 2035.

The Global and China's Rheumatoid Arthritis Drug Market

The global RA market demonstrated growth from US$37.6 billion in 2021 to US$43.4 billion in 2025, achieving a CAGR of 3.7% during this period. Market expansion is projected to continue, reaching US$52.8 billion by 2030 at a CAGR of 4.0% from 2025 to 2030. Looking ahead, the market size is expected to grow to US$64.5 billion by 2035, reflecting a moderated CAGR of 4.1% from 2030 to 2035.

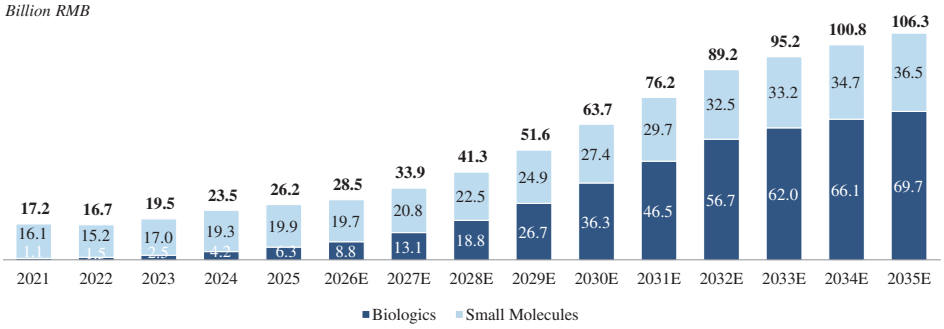
Global Rheumatoid Arthritis Drug Market, 2021-2035E

Source: Frost & Sullivan Analysis

The RA drug market in China expanded from US$2.7 billion in 2021 to US$3.6 billion in 2025, growing at a CAGR of 8.2% during this period. The market is projected to continue its strong growth, reaching US$8.9 billion by 2030, which corresponds to a CAGR of 19.4% from 2025 to 2030. This upward trend is expected to persist, with the market size anticipated to reach US$14.8 billion by 2035, representing a CAGR of 10.8% from 2030 to 2035. The faster CAGR from 2025 to 2030 is primarily driven by the continued upgrading of rheumatoid arthritis treatment in China toward targeted therapies, particularly the ongoing expansion of biosimilars in autoimmune biologics such as adalimumab, which has become an important source of market growth. In addition, the rollout of biosimilar volume-based procurement in China, covering monoclonal antibodies including adalimumab and infliximab, is expected to further reshape the competitive landscape and support market expansion during this period. The subsequent moderation in CAGR from 2030 to 2035 mainly reflects a higher market base, as well as increasing pricing pressure and intensifying competition as more biosimilars and targeted therapies enter the market.

China Rheumatoid Arthritis Drug Market, 2021–2035E

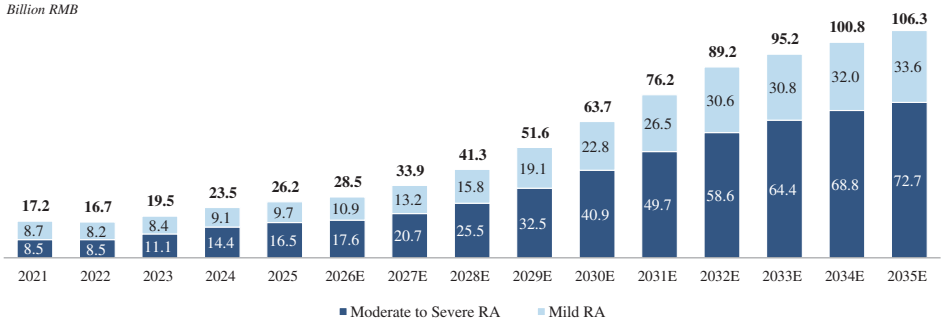
Period	CAGR		
	Biologics	Small Molecules	Total
2021-2025	56.2%	5.4%	11.1%
2025-2030E	41.9%	6.6%	19.5%
2030E-2035E	14.0%	5.9%	10.8%



Source: Frost & Sullivan Analysis

Rheumatoid Arthritis Drugs Market in China Breakdown by Severity, 2021–2035E

Period	CAGR		
	Moderate to Severe RA	Mild RA	Total
2021-2025	18.0%	2.8%	11.1%
2025-2030E	19.9%	18.6%	19.5%
2030E-2035E	12.2%	8.1%	10.8%



Source: Frost & Sullivan analysis

Competitive Landscape of JAK Inhibitors Indicated for RA globally and in China

As of the Latest Practicable Date, six JAK inhibitors for RA have been approved globally, and five have been approved in China. Meanwhile, no JAK inhibitor targeting RA is currently in Phase III development globally (outside China), whereas three candidates are in Phase III clinical trials in China. The following section outlines the marketed JAK inhibitors globally and in China, and candidates currently under in Phase III clinical trials for RA in China.

Global Marketed JAK Inhibitors Indicated for RA as of the Latest Practicable Date

Manufacture	Genetic Name	Target	Approved Indications	Market Authority	First Approval Date	Route of Administration
Galapagos, Gilead	Filgotinib	JAK1	RA	EMA	2020-09-24 (EMA)	Oral
AbbVie	Upadacitinib	JAK1	RA	FDA, EMA, NMPA	2019-08-16 (FDA) 2019-12-16 (EMA) 2022-02-18 (NMPA)	Oral
Incyte, Eli Lilly	Baricitinib	JAK1, JAK2	RA	FDA, EMA, NMPA	2018-05-31 (FDA) 2017-02-13 (EMA) 2019-06-24 (NMPA)	Oral
Pfizer	Tofacitinib	JAK1, JAK2, JAK3	RA	FDA, EMA, NMPA	2012-11-06 (FDA) 2017-03-22 (EMA) 2017-03-10 (NMPA)	Oral
Hengrui Pharmaceuticals	Ivarmacitinib	JAK1	RA	NMPA	2025-03-18 (NMPA)	Oral
Astellas	Peficitinib	JAK3	RA	NMPA	2024-07-30 (NMPA)	Oral

Source: FDA, EMA, NMPA, Frost & Sullivan Analysis

JAK Inhibitors at Phase III Clinical Stage Indicated for RA in China as of the Latest Practicable Date

Manufacture	Phase	Genetic Name/Code	Target	First Posted Date	Indication	Route of Administration
Highlightll Pharma	III	TLL-018	JAK1, TYK2	2023-08-31	RA	Oral
Our Group	III	LNK01001	JAK1	2023-09-22	RA	Oral
Wuxi Fuxin Pharmaceutical	III	WXFL10203614	JAK1	2023-06-27	RA	Oral

Source: CDE, Frost & Sullivan Analysis

As of the Latest Practicable Date, there are a total of eleven Phase I and two Phase II clinical trials of JAK inhibitors indicated for RA in China, all of which are orally administered systemic therapies.

For rheumatoid arthritis (RA), there are 15 approved targeted drugs for RA treatment in China, comprising 7 small-molecule drugs and 8 biologics.

For rheumatoid arthritis (RA), there are 15 biologic drug candidates and 36 small-molecule drug candidates in clinical development in China.

Atopic Dermatitis

Overview of Atopic Dermatitis

Atopic dermatitis (AD) is a chronic, recurrent, immune-mediated skin disease characterized by dry skin, intense itching, eczematous lesions and varying degrees of rash severity. Its pathogenesis involves multiple factors, including genetic susceptibility, environmental triggers, epidermal barrier dysfunction and Th2-type immune responses, which collectively drive persistent inflammation and barrier impairment. Patients with moderate-to-severe AD often experience recurrent flares, sleep disruption, reduced quality of life and increased risk of secondary skin infections.

Current Treatment Options for Atopic Dermatitis

The treatment of atopic dermatitis generally follows a stepwise approach based on disease severity. Fundamental management includes patient education, daily moisturization and avoidance of triggers. For mild to moderate patients, first-line therapy primarily consists of topical treatments, including corticosteroids, calcineurin inhibitors and targeted topical agents such as PDE4 or JAK inhibitors. For more severe or refractory cases, treatment may escalate to phototherapy, systemic immunosuppressants or biologic agents, with short-term systemic corticosteroids used during acute exacerbations.

However, current therapies still have limitations. Prolonged corticosteroid use may be associated with skin thinning, systemic side effects and adherence concerns, while existing topical options may be insufficient for patients with moderate-to-severe disease. These limitations support the continued development of targeted therapies with improved efficacy, safety and convenience.

The Global and China's Prevalence of Atopic Dermatitis

The global AD patient population reached 711.4 million in 2025, having grown at a CAGR of 1.5% since 2021. Projections indicate the number of cases will rise to 763.1 million by 2030 and further increase to 814.38 million by 2035, with subsequent growth rates of 1.4% and 1.3% during the respective forecast periods.

The patient population with AD in China reached 74.1 million in 2025, having grown at a CAGR of 1.9% from 2021 to 2025. Projections indicate a continued expansion to approximately 79.1 million by 2030, reflecting a CAGR of 1.3% from 2025 to 2030. Growth is then expected to moderate, with the patient number reaching 81.2 million by 2035 at a compound annual growth rate of 0.5% during the 5-year period. Specifically, the number of patients with moderate-to-severe AD in China was 19.0 million in 2021 and 20.7 million in 2025, representing a CAGR of 2.0% from 2021 to 2025, and is projected to reach 22.6 million in 2030 and 23.5 million in 2035, representing CAGRs of 1.8% from 2025 to 2030 and 0.8% from 2030 to 2035.

The Global and China's Atopic Dermatitis Drug Market

The global AD market demonstrated growth from US$16.4 billion in 2021 to US$19.1 billion in 2025, achieving a CAGR of 3.8% during this period. Market expansion is projected to continue, reaching US$25.1 billion by 2030 at a CAGR of 5.6% from 2025 to 2030. Looking ahead, the market size is expected to grow to US$32.3 billion by 2035, reflecting a moderated CAGR of 5.2% from 2030 to 2035.

Global Atopic Dermatitis Drug Market, 2021-2035E

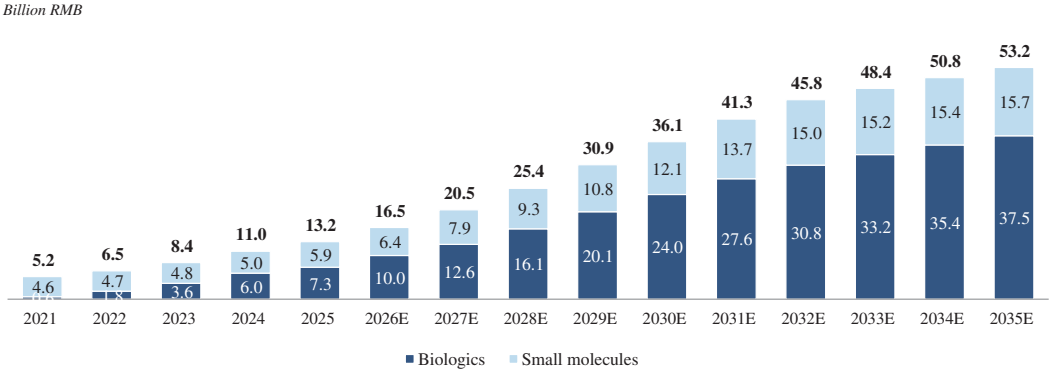
Source: Frost & Sullivan Analysis

The AD drug market in China expanded from US$0.8 billion in 2021 and reached US$1.8 billion in 2025, growing at a CAGR of 22.9% during this period. Market size is projected to grow significantly to US$5.0 billion by 2030, representing a CAGR of 22.3% from 2025 to 2030. This growth trajectory is expected to continue, with the market reaching US$7.4 billion by 2035 at a CAGR of 8.0% from 2030 to 2035.

The faster CAGR from 2025 to 2030 is primarily driven by the continued expansion of China's AD treatment market from a relatively early stage, together with the increasing adoption of innovative therapies, particularly JAK inhibitors and biologics. In particular, both oral and topical JAK inhibitors are expected to support market growth by broadening treatment options across different disease severities and treatment settings. Growth during this period is also supported by the development of retail pharmacy, online prescription and internet-hospital channels, which are facilitating chronic disease management in dermatology. In addition, as disease severity progresses, clinical management may involve the combined use of multiple therapies, including systemic and topical treatments, which may further support market value growth. The moderation in CAGR from 2030 to 2035 mainly reflects a higher market base and intensifying competition as more products, including JAK inhibitors and other targeted therapies, enter the market.

China Atopic Dermatitis Drug Market Size, 2021–2035E

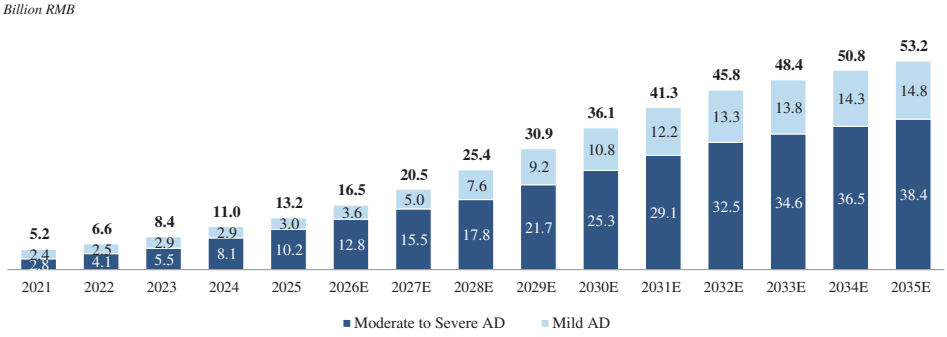
Period	CAGR		
	Biologics	Small Molecules	Total
2021–2025	89.8%	6.1%	26.3%
2025–2030E	26.8%	15.6%	22.3%
2030E–2035E	9.3%	5.3%	8.0%



Source: Frost & Sullivan Analysis

Atopic Dermatitis Drugs Market in China Breakdown by Severity, 2021–2035E

Period	CAGR		
	Moderate to Severe AD	Mild AD	Total
2021 -2025	38.8%	4.9%	26.3%
2025 -2030E	19.8%	29.7%	22.3%
2030E -2035E	8.7%	6.4%	8.0%



Source: Frost & Sullivan analysis

Competitive Landscape of JAK Inhibitors Indicated for AD globally and in China

As of the Latest Practicable Date, five JAK inhibitors for AD have been approved globally, and three have been approved in China. Meanwhile, one JAK inhibitor targeting AD is currently in Phase III development globally (outside China). The following section outlines the marketed JAK inhibitors globally and in China, and candidates currently under in Phase III clinical trials for AD globally and in China.

Global Marketed JAK Inhibitors Indicated for AD as of the Latest Practicable Date

Manufacture	Genetic Name	Target	Approved Indications	Market Authority	First Approval Date	Route of Administration
Hengrui	Ivarmacitinib	JAK1	AD	NMPA	2025/3/18	Oral
Incyte	Ruxolitinib Cream	JAK1, JAK2	AD	FDA	2021/9/21	Topical
Pfizer	Abrocitinib	JAK1	AD	FDA, EMA, NMPA	2022-01-14 (FDA) 2021-12-09 (EMA) 2022-4-8 (NMPA)	Oral
AbbVie	Upadacitinib	JAK1	AD	FDA, EMA, NMPA	2019-08-16 (FDA) 2019-12-16 (EMA) 2022-2-18 (NMPA)	Oral
Incyte, Eli Lilly	Baricitinib	JAK1, JAK2	AD	FDA, EMA	2018-05-31 (FDA) 2017-02-13 (EMA)	Oral

Source: FDA, EMA, NMPA, Frost & Sullivan Analysis

Global (exclude China) JAK Inhibitors at Phase III Clinical Stage Indicated for AD as of the Latest Practicable Date

Manufacture	Phase	Genetic Name/ Code	Target	First Posted Date	Indication	Route of Administration
Hengrui	III	Ivarmacitinib	JAK1	2021-05-04	AD	Oral

Source: Clinical Trial, Frost & Sullivan Analysis

JAK Inhibitors at Phase III Clinical Stage Indicated for AD in China as of the Latest Practicable Date

Manufacture	Phase	Genetic Name/Code	Target	First Posted Date	Indication	Route of Administration
Beijing Primegene	NDA	Pumecitinib	JAK1,2	2026-02-11	AD	Topical
Incyte/China Medical System	NDA	Ruxolitinib Cream	JAK1,2	2026-02-25	AD	Topical
Minghui	NDA	Tofacitinib Etocomil Ointment	JAK1,2	2026-04-03	AD	Topical
Lynk Pharmaceuticals	NDA	LNK01001	JAK1	2026-04-08	AD	Oral
Zelgen	III	Gecacitinib	JAK1,2,3/TYK2/ALK2	2022-06-21	AD	Oral
Innocare Pharma	III	Soficitinib	TYK2	2024-08-26	AD	Oral
Jiangsu Vcare	III	VC005	JAK1	2024-12-13	AD	Oral
E-Nitiate	III	QY201	JAK1/TYK2	2025-02-07	AD	Oral
Qilu	III	QLM3003	JAK1,2,3	2025-03-17	AD	Topical
Shanghai Longwood	III	LW402	JAK1	2026-01-27	AD	Oral

Source: CDE, Frost & Sullivan Analysis

As of the Latest Practicable Date, there are a total of three Phase I and seven Phase II clinical trials of JAK inhibitors indicated for AD in China, among which Phase I trials comprised one orally administered systemic candidate and two topical candidates, while Phase II trials comprised six orally administered systemic candidates and one topical candidate.

For atopic dermatitis (AD), six targeted drugs have been approved in China, comprising 4 small-molecule drugs and 2 biologics.

For atopic dermatitis (AD), there are 27 biologic drug candidates, 46 small-molecule drug candidates, and 4 chemical drugs in clinical development in China.

Ankylosing Spondylitis

Overview of Ankylosing Spondylitis

Ankylosing spondylitis (AS) is an inflammatory arthritis characterized by chronic inflammation of spinal joints and tissues. This persistent inflammatory process leads to progressive stiffness and may ultimately result in spinal fusion, significantly restricting spinal mobility. Although the precise etiology remains incompletely understood, AS is generally considered to arise from an interaction between genetic predisposition and environmental factors. A key genetic marker is the HLA-B27 antigen, which is present in over 90% of diagnosed cases.

Current Treatment Options for Ankylosing Spondylitis

The management of ankylosing spondylitis (AS) aims to relieve pain and stiffness, suppress inflammation, prevent structural damage and maintain physical function. Non-steroidal anti-inflammatory drugs (NSAIDs) are the first-line treatment, providing short-term symptom relief. For patients with inadequate response, biologic therapies, particularly tumor necrosis factor alpha (TNF-α) inhibitors, are recommended as second-line options, demonstrating significant and sustained clinical efficacy. Other treatment options, including traditional DMARDs and glucocorticoids, may be used in specific situations, although their use is generally limited by slower onset of action or potential side effects.

The Global and China's Prevalence of Ankylosing Spondylitis

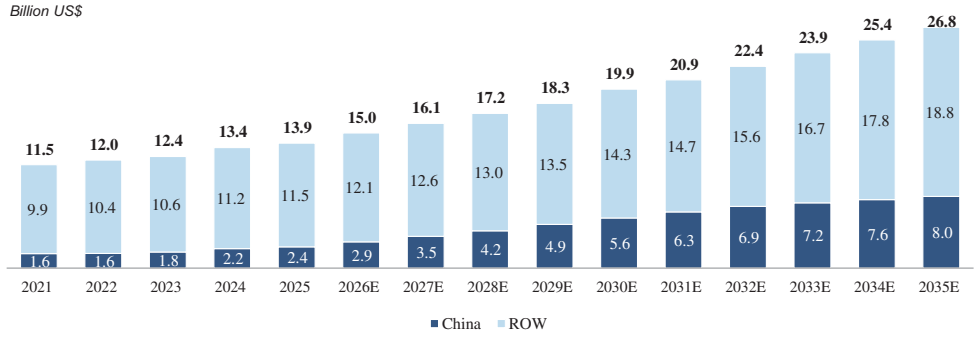
The global AS patient population reached 34.1 million in 2025, having grown at a CAGR of 1.5% since 2021. Projections indicate the number of cases will rise to 36.4 million by 2030 and further increase to 38.7 million by 2035, with subsequent growth rates of 1.3% and 1.2% during the respective forecast periods.

The prevalence of AS has remained relatively stable in China. The patient population with AS in China reached 4.0 million in 2025, having grown at a CAGR of 0.4% from 2021 to 2025. The number of patients is projected to remain at 4.0 million in 2030 and rise to 4.1 million by 2035, reflecting a consistent CAGR of 0.4% from 2025 to 2030 and 0.4% from 2030 to 2035. Specifically, the number of patients with moderate-to-severe ankylosing spondylitis in China was approximately 3.0 million in 2021 and 3.1 million in 2025, representing a CAGR of 0.4% from 2030 to 2035, and is projected to remain at approximately 3.1 million in 2028 and increase to approximately 3.2 million in 2035, representing a CAGR of 0.2% from 2025 to 2030 and a CAGR of 0.5% from 2030 to 2035.

The Global and China's Ankylosing Spondylitis Drug Market

The global AS market demonstrated growth from US$11.5 billion in 2021 to US$13.9 billion in 2025, achieving a CAGR of 4.8% during this period. Market expansion is projected to continue, reaching US$19.9 billion by 2030 at a CAGR of 7.4% from 2025 to 2030. Looking ahead, the market size is expected to grow to US$26.8 billion by 2035, reflecting a moderated CAGR of 6.1% from 2030 to 2035.

Global Ankylosing Spondylitis Drug Market, 2021–2035E



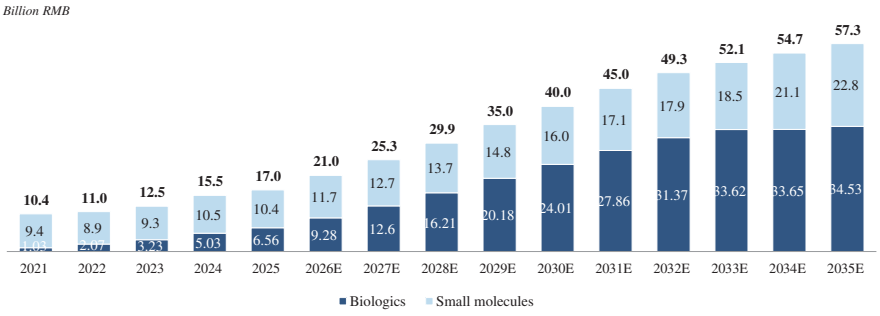
Source: Frost & Sullivan Analysis

The pharmaceutical market for AS in China has demonstrated substantial growth, expanding from US$1.6 billion in 2021 to US$2.4 billion in 2025, achieving a CAGR of 10.0% during this five-year period. Looking ahead, the market is projected to maintain strong growth momentum, reaching an estimated US$5.6 billion by 2030, which corresponds to a CAGR of 18.7% from 2025 to 2030. This growth trend is expected to continue, with the market size anticipated to reach US$8.0 billion by 2035, representing a CAGR of 7.4% from 2030 to 2035.

The faster CAGR from 2025 to 2030 is primarily driven by the continued upgrading of ankylosing spondylitis treatment in China from conventional therapies toward targeted therapies, particularly biologics and JAK inhibitors. As targeted therapies increasingly take share in the treatment paradigm, and as more domestic products and biosimilars enter the market, the AS drug market in China is expected to expand more rapidly during this period. The subsequent moderation in CAGR from 2030 to 2035 mainly reflects a higher market base, as well as increasing pricing pressure and intensifying competition as more biologics, biosimilars and JAK inhibitors enter the market.

China Ankylosing Spondylitis Drug Market, 2021–2035E

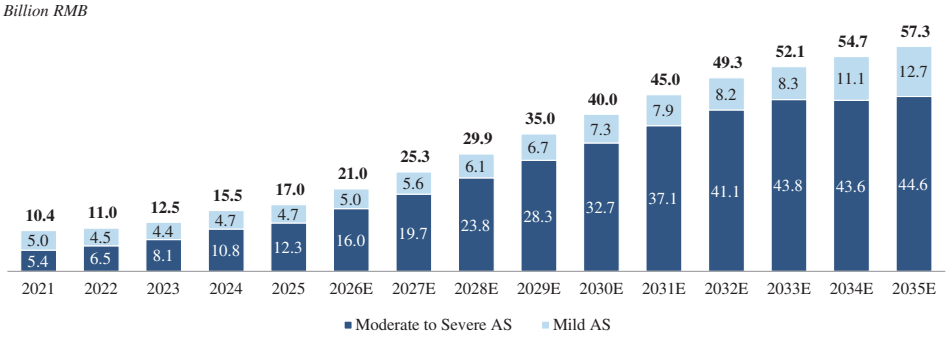
Period	CAGR		
	Biologics	Small Molecules	Total
2020–2025	58.9%	2.7%	13.1%
2025–2030E	29.6%	8.9%	18.7%
2030E–2035E	7.5%	7.3%	7.5%



Source: Frost & Sullivan Analysis

Ankylosing Spondylitis Drugs Market in China Breakdown by Severity, 2021–2035E

Period	CAGR		
	Moderate to Severe AS	Mild AS	Total
2020–2025	22.9%	-1.5%	13.1%
2025–2030E	21.6%	9.2%	18.7%
2030E–2035E	6.4%	11.8%	7.5%



Source: Frost & Sullivan analysis

Competitive Landscape of JAK Inhibitors Indicated for AS globally and in China

As of the Latest Practicable Date, four JAK inhibitors for AS have been approved globally, and three have been approved in China. Meanwhile, one JAK inhibitor targeting AS is currently in Phase III development globally (outside China), whereas three candidates are in Phase III clinical trials in China. The following section outlines the marketed JAK inhibitors globally and in China, and candidates currently under in Phase III clinical trials for AS globally and in China.

Global Marketed JAK Inhibitors Indicated for AS as of the Latest Practicable Date

Manufacture	Genetic Name	Target	Approved Indications	Market Authority	First Approval Date	Route of Administration
AbbVie	Upadacitinib	JAK1	AS	FDA, EMA, NMPA	2019-08-16 (FDA) 2019-12-16 (EMA) 2022-2-18 (NMPA)	Oral
Pfizer	Tofacitinib	JAK1, JAK2, JAK3	AS	FDA, EMA	(FDA) 2017-03-22 (EMA)	Oral
Hengrui	Ivarmacitinib	JAK1	AS	NMPA	2025-3-18	Oral
Pfizer	Tofacitinib	JAK1, JAK2, JAK3	AS	NMPA	2017-3-10	Oral

Source: FDA, EMA, NMPA, Frost & Sullivan Analysis

As of the Latest Practicable Date, there are no Phase I or Phase II clinical trials of JAK inhibitors indicated for AS in China.

For ankylosing spondylitis (AS), 27 drugs have been approved in China, comprising 18 biologics, 6 small-molecule drugs and 3 chemical drugs.

For ankylosing spondylitis (AS), there are 9 biologic drug candidates and 6 small-molecule drug candidates in clinical development in China, only one of which entered into Phase III clinical trial.

JAK Inhibitors at Phase III Clinical Stage Indicated for AS in China as of the Latest Practicable Date

Manufacture	Phase	Genetic Name/Code	Target	First Posted Date	Indication	Route of Administration
Zelgen	III	Gecacitinib	JAK1,2,3/TYK2/ALK2	2023-05-12	AS	Oral
Lynk Pharmaceuticals	III	Zemprocitinib (LNK01001)	JAK1	2024-01-17	AS	Oral
Jiangsu Wekaier	III	VC005	JAK1	2025-09-11	AS	Oral

Source: CDE, Frost & Sullivan Analysis

Vitiligo

Overview of Vitiligo

Vitiligo is an autoimmune dermatological condition characterized by progressive loss of epidermal melanocytes. The pathogenesis begins with oxidative stress-induced damage to melanocytes, which subsequently activates autoimmune pathways leading to targeted destruction of these pigment-producing cells. As the disease progresses, the regenerative capacity of both cutaneous and follicular melanocyte reservoirs becomes insufficient to compensate for the cellular loss.

Current Treatment Options for Vitiligo

Current treatment options for vitiligo include topical and systemic medications, targeted small-molecule therapies, phototherapy and surgical interventions, often used sequentially or in combination to improve repigmentation and maintain long-term disease control. Pharmacologic treatments include immunosuppressants that reduce immune-mediated melanocyte destruction, JAK inhibitors that block JAK-STAT inflammatory signaling, antioxidants that reduce oxidative stress-related melanocyte damage, and hormone analogs that may stimulate melanogenesis and support repigmentation.

The Global and China's Prevalence of Vitiligo : The global vitiligo patient population reached 63.1 million in 2025, having grown at a CAGR of 1.4% since 2021. Projections indicate the number of cases will rise to 66.6 million by 2030 and further increase to 69.4 million by 2035, with subsequent growth rates of 1.1% and 0.9% during the respective forecast periods. The prevalence of vitiligo has remained relatively stable in China. The patient population with vitiligo reached 7.1 million in 2025, having grown at a CAGR of 0.1% from 2021 to 2025. Projections indicate relative stability in patient numbers, with the population expected to remain at 7.1 million through 2030, reflecting a minimal CAGR of 0.2% during the 5-year period. Looking further to 2035, the patient count is forecast to maintain this level at 7.2 million, corresponding to a slightly higher CAGR of 0.2% from 2030 to 2035.

The Global and China's Vitiligo Drug Market, 2021-2035

The global vitiligo market demonstrated growth from US$1.0 billion in 2021 to US$2.6 billion in 2025, achieving a CAGR of 27.5% during this period. Market expansion is projected to continue, reaching US$6.6 billion by 2030 at a CAGR of 20.3% from 2025 to 2030. Looking ahead, the market size is expected to grow to US$9.1 billion by 2035, reflecting a moderated CAGR of 6.6% from 2030 to 2035. The vitiligo drug market in China attained a size of RMB2.3 billion in 2025, growing at a CAGR of 2.5% from 2021 to 2025. Projections indicate continued robust growth, with the market expected to rise to RMB11.4 billion by 2030, reflecting a CAGR of 37.4% during the 5-year period. This upward trend is forecast to persist, reaching RMB16.5 billion by 2035 at a CAGR of 7.6% from 2030 to 2035. The sharp acceleration in CAGR from 2025 to 2030 is primarily driven by the shift of the China vitiligo drug market from a historically limited treatment landscape toward targeted therapies, particularly JAK inhibitors. In China, ruxolitinib cream was introduced through urgent clinical import channels in the Lecheng Pilot Zone and was subsequently referenced in the 2024 Chinese consensus on vitiligo diagnosis and treatment, reflecting growing clinical recognition of JAK-based therapies in vitiligo management. Against a relatively low historical base, the launch and broader adoption of such targeted therapies are expected to drive much faster market expansion in the near term. The moderation in CAGR from 2030 to 2035 mainly reflects a higher market base and intensifying competition as more JAK inhibitors and other targeted therapies enter the market.

Chronic Hand Eczema

Overview of Chronic Hand Eczema

Chronic hand eczema (CHE) is a complex, multifactorial inflammatory skin disease with diverse clinical manifestations. It is generally defined as hand eczema that persists for more than three months or recurs at least twice per year after clearance. CHE can substantially impair daily activities, physical function and quality of life, and may lead to prolonged sick leave or disability in severe cases. Its pathogenesis involves multiple interconnected etiological pathways, including irritant contact dermatitis, allergic contact dermatitis and atopic hand eczema, with atopic hand eczema accounting for a substantial proportion of cases.

Current Treatment Options for Chronic Hand Eczema

Chronic hand eczema (CHE) management requires an integrated strategy combining preventive measures with a dual approach of topical and systemic therapies. Foundational to all treatment is the implementation of non-pharmacological strategies, including strict avoidance of identified irritants and allergens, consistent use of emollients, and modification of hand hygiene practices using mild cleansers. These measures create the essential basis for successful therapeutic outcomes.

The therapeutic arsenal for CHE encompasses both localized and systemic interventions. Topical treatments form the first line of defense, featuring glucocorticoids as primary options alongside calcineurin inhibitors, retinoids, and physical modalities such as iontophoresis. For more extensive or refractory cases, systemic therapies provide broader immunomodulation, ranging from conventional immunosuppressants to advanced biological agents targeting specific pathways like IL-4/IL-13, with JAK inhibitors representing emerging options.

The Global and China's Chronic Hand Eczema Drug Market, 2021-2035

The global CHE market demonstrated growth from US$1.9 billion in 2021 to US$1.9 billion in 2025, achieving a CAGR of 1.1% during this period. Market expansion is projected to continue, reaching US$3.1 billion by 2030 at a CAGR of 10.1% from 2025 to 2030. Looking ahead, the market size is expected to grow to US$3.9 billion by 2035, reflecting a CAGR of 4.4% from 2030 to 2035. The CHE drug market in China expanded from a size of RMB1.0 billion in 2021 and attained a size of RMB1.1 billion in 2025, growing at a CAGR of 2.5% during this period. Projections indicate continued growth, with the market expected to rise to RMB2.1 billion by 2030, reflecting a CAGR of 13.7% during the 5-year period. This upward trend is forecast to persist, reaching RMB3.0 billion by 2035 at a CAGR of 7.2% from 2030 to 2035. The faster CAGR from 2025 to 2030 is primarily driven by the transition of China's chronic hand eczema treatment market from conventional symptomatic management toward more targeted therapies, particularly JAK inhibitors, against a relatively low historical base. As CHE is a chronic and recurrent inflammatory skin disease with substantial unmet need, the gradual expansion of innovative treatment options is expected to support treatment upgrading and market growth during this period. The subsequent moderation in CAGR from 2030 to 2035 mainly reflects a higher market base, while continued market expansion is expected to be supported by the broader adoption of targeted therapies and intensifying competition as additional products enter the market.

OVERVIEW OF TYK2 INHIBITOR DRUG MARKET

Overview of TYK2 Inhibitor for Treatment of CNS disease

Tyrosine kinase 2 (TYK2) is a key signaling enzyme involved in immune and inflammatory pathways mediated by cytokines such as IL-23, IL-12 and Type I interferons. By regulating

innate and adaptive immune responses, TYK2 plays an important role in inflammatory signaling and has emerged as a promising therapeutic target. Emerging evidence also suggests that TYK2 may contribute to neuroinflammation in CNS disorders such as Alzheimer's disease, Parkinson's disease and amyotrophic lateral sclerosis. Accordingly, allosteric TYK2 inhibitors designed to cross the blood-brain barrier may enable direct modulation of inflammatory processes within the CNS.

Market Opportunities of TYK2 Inhibitors in CNS Diseases

Alzheimer's Disease

Alzheimer's disease (AzD) is a progressive neurodegenerative disorder and the primary cause of dementia, responsible for 60-70% of all cases. It is defined by the accumulation of abnormal protein clumps in the brain, leading to neuron death, brain shrinkage, and consequent problems with memory and cognitive function. The disease develops insidiously and worsens gradually over time. Its causes are multifactorial, with the most significant risk factor being advanced age, followed by genetic makeup, vascular conditions, and lifestyle influences.

The Global and China's Alzheimer's Disease Drugs Market

The global Alzheimer's disease drug market increased from US$9.3 billion in 2021 to US$9.8 billion in 2025, with a CAGR of 1.2%. The market is projected to recover to US$12.8 billion by 2030, representing a CAGR of 5.5%, and further expand to US$15.4 billion by 2035, with a CAGR of 3.8% for the subsequent period.

The Alzheimer's disease drugs market in China attained a size of RMB7.8 billion in 2025, having expanded at a CAGR of 4.3% from 2021 to 2025. Projections indicate continued robust growth, with the market expected to rise to RMB11.2 billion by 2030, reflecting a CAGR of 7.5% during the 5-year period. This upward trajectory is forecast to persist, reaching RMB14.0 billion by 2035 at a CAGR of 4.6% from 2030 to 2035. The accelerated CAGR from 2025 to 2030 is primarily driven by China's ongoing population aging trend, which is expected to enlarge the patient base for Alzheimer's disease treatment, as well as increasing policy attention to dementia prevention, screening, diagnosis and long-term management. In particular, the Chinese government has recently emphasized earlier screening and intervention, more standardized diagnosis and treatment services, and expanded elderly care support for patients with dementia, which is expected to support faster market growth in the near term. The subsequent moderation in CAGR from 2030 to 2035 mainly reflects a higher market base, gradually maturing penetration of Alzheimer's disease therapies, and intensifying competition as additional products enter the market.

Parkinson's Disease

Parkinson's disease (PD) is a progressive movement disorder of the nervous system with a significant and growing unmet medical need. The disease is clinically defined by core motor symptoms, including resting tremor, muscular rigidity, and postural instability. The underlying pathology is the selective degeneration of dopaminergic neurons in the substantia nigra, which reduces striatal dopamine and disrupts critical motor signaling pathways. The established standard for tracking disease progression is the Hoehn and Yahr scale, first published in 1967. While the market currently offers no disease-modifying therapies, the standard of care relies on pharmacological and supportive interventions aimed at alleviating motor symptoms and maintaining patients' quality of life.

The Global and China's Parkinson's Disease Drugs Market

The global PD drug market increased from US$5.7 billion in 2021 to US$6.4 billion in 2025, with a CAGR of 2.6%. It is projected to increased to US$9.1 billion by 2030, with a CAGR of 7.2%, and further expand to US$13.1 billion by 2035, with a CAGR of 7.6% for the subsequent period. The PD drugs market in China attained a size of RMB3.3 billion in 2025, having expanded at a CAGR of 1.1% from 2021 to 2025. Projections indicate robust growth, with the market expected to rise to RMB6.4 billion by 2030, reflecting a CAGR of 14.6% during the 5-year period. This upward trajectory is forecast to persist, reaching RMB14.2 billion by 2035 at a CAGR of 17.2% from 2030 to 2035. From 2025 onward, the growth of China's Parkinson's disease drug market is expected to be supported by the country's ongoing population aging trend, which is enlarging the patient base for long-term PD management, as well as by the continued upgrading of the treatment landscape with newer products such as rotigotine microspheres for injection approved in China in 2024. The further increase in CAGR from 2030 to 2035 is expected to reflect broader commercialization and penetration of innovative and longer-acting therapies, which may drive a faster shift from traditional symptomatic treatment toward more differentiated treatment options.

Multiple Sclerosis

Multiple sclerosis (MS) is a chronic inflammatory condition of the central nervous system in which an autoimmune response targets and damages myelin. The myelin is the essential insulating layer that encases nerve cells and ensures efficient neuronal signaling. The diagnostic criterion for MS is the presence of lesions demonstrating dissemination in time and space. The ensuing disruption of neural conduction leads to a heterogeneous constellation of symptoms, including physical, cognitive, and psychiatric manifestations.

The Global and China's Multiple Sclerosis Drugs Market

The global MS drug market grew from US$32.7 billion in 2021 to US$36.6 billion in 2025, with a CAGR of 2.8%. It is projected to reach US$54.3 billion by 2030, with a CAGR of 8.2%, and further expand to US$65.5 billion by 2035, with a CAGR of 3.8% for the subsequent period. The MS drugs market in China attained a size of RMB4.5 billion in 2025, having expanded at a CAGR of 10.1% from 2021 to 2025. Projections indicate robust growth, with the market expected to rise to RMB9.6 billion by 2030, reflecting a CAGR of 16.1% during the 5-year period. This upward trajectory is forecast to persist, reaching RMB18.2 billion by 2035 at a CAGR of 13.7% from 2030 to 2035. The relatively strong CAGR from 2025 to 2030 is expected to be supported by continued policy attention to multiple sclerosis in China, where MS has been included in the first national rare disease catalog, together with the ongoing expansion of disease-modifying treatment options and reimbursement coverage. Public materials released in connection with the 2024 NRDL adjustment show that several MS therapies had already been launched and progressively incorporated into the NRDL by 2024, which is expected to support further treatment standardization and market expansion. The moderation in CAGR from 2030 to 2035 mainly reflects a higher market base, while continued growth is still expected to be supported by the broader adoption of disease-modifying therapies as the treatment landscape further evolves.