Certain information and statistics set out in this section and elsewhere in this prospectus have been derived from various government publications, market data providers and other Independent Third Party sources. In addition, certain information and statistics set forth in this section and elsewhere in this prospectus have been derived from an industry report commissioned by us and independently prepared by Frost & Sullivan in connection with the Global Offering, or the Frost & Sullivan Report. We believe that the sources of such information and statistics are appropriate and have taken reasonable care in extracting and reproducing such information. We have no reason to believe that such information and statistics are false or misleading or that any fact has been omitted that would render such information or statistics false or misleading. None of our Company, the Joint Global Coordinators, the Joint Sponsors, the Joint Bookrunners, the Joint Lead Managers, the Underwriters, or any other party involved in the Global Offering (except for Frost & Sullivan) or their respective directors, advisers and affiliates have independently verified such information and statistics. Accordingly, none of our Company, the Joint Global Coordinators, the Joint Sponsors, the Joint Bookrunners, the Joint Lead Managers, the Underwriters, or any other party involved in the Global Offering (except for Frost & Sullivan) or their respective directors, advisers and affiliates makes any representation as to the correctness or accuracy of such information and the statistics contained in this prospectus. For the above reasons, information contained in this section should not be unduly relied upon.

## THE PHARMACEUTICAL MARKET IN CHINA

## Overview

In recent years, healthcare expenditure in China has experienced significant growth, increasing from RMB3,531.2 billion in 2014 to RMB5,912.2 billion in 2018, representing a CAGR of 13.8%. With increasing disposable income and ageing population, rising health awareness and life expectancy and implementation of healthcare reform plans, the total healthcare expenditure in China is expected to grow further at a CAGR of 9.5% from RMB6,505.7 billion in 2019 to RMB9,352.3 billion in 2023.

Similarly, the pharmaceutical market in China has also grown rapidly in recent years from RMB1,220.7 billion in 2015 to RMB1,633.0 billion in 2019, representing a CAGR of 7.5%, and is expected to grow further at a CAGR of 6.8% from 2020 to 2024, reaching RMB2,228.8 billion in 2024. The pharmaceutical market in China consists of three segments, namely, chemical pharmaceuticals, biological pharmaceuticals and traditional Chinese medicines, among which chemical pharmaceuticals account for the largest market share while biological pharmaceuticals have the fastest growth rate.

|             | CAGR                        |                               |  |  |  |  |
|-------------|-----------------------------|-------------------------------|--|--|--|--|
| Period      | Chemical<br>Pharmaceuticals | Biological<br>Pharmaceuticals |  |  |  |  |
| 2015-2019   | 4.6%                        | 21.1%                         |  |  |  |  |
| 2020E-2024E | 3.5%                        | 17.8%                         |  |  |  |  |

### Chemical and Biological Pharmaceutical Market in China, 2015 - 2024E



Source: Frost & Sullivan analysis

### Features of Pharmaceutical Market in China

#### Market Fragmentation

The pharmaceutical market in the PRC is highly fragmented. There are more than 4,000 pharmaceutical companies in the PRC. In terms of sales in 2019, the top 10 pharmaceutical companies accounted for only 16.3% of the total PRC pharmaceutical market. We believe that pharmaceutical companies with well-established nationwide distribution networks and competitive product portfolios and pipelines are well-positioned to seize competitive opportunities to expand and benefit from industry development to increase market share.

### Market Entry Barriers

The development cycle of a new pharmaceutical may last more than 15 years, and the development cost may exceed several hundred millions of Renminbi. Apart from R&D expenditure, significant investments are required for production facilities, quality systems and technical teams. Therefore, heavy investment and a long return period have become main barriers to entering the pharmaceutical market. In addition, for innovative and first-to-market generic pharmaceuticals, any delay in R&D, and drug registration and approval processes will affect their time to market, which is critical to innovative and first-to-market generic pharmaceuticals. The need for an experienced R&D team and technical team therefore creates high technical barriers for new entrants without a track record of R&D experience.

New entrants to the PRC pharmaceutical market tend to develop only a limited number of product candidates due to limited R&D capabilities, development cost and risk assessment. The lack of diversity means if development of any of the few product candidates fails, the company will suffer serious losses.

New entrants to the PRC pharmaceutical market must also navigate through a stringent regulatory landscape. Pharmaceutical production in China is subject to strict NMPA regulation. Meanwhile, the strengthening of the supervision of the pharmaceutical market, consistency evaluation requirement for generic pharmaceuticals, and registration system for clinical trials of pharmaceuticals in the PRC may increase compliance and other costs and create a high entry barrier for new entrants. For more details about relevant regulatory measures, please see "Regulatory Overview."

### Innovative Pharmaceuticals and Generic Pharmaceuticals

Pharmaceutical products are categorized as either innovative pharmaceuticals or generic pharmaceuticals. Compared with generic pharmaceuticals, innovative pharmaceuticals have higher technical barriers and enjoy marketing exclusivity and significant pricing power. In particular, the invention patents and protection periods over our innovative pharmaceuticals have excluded others from manufacturing and marketing of products with the same chemical structure, dosage form or indication in China or other countries for an extended period of time, well-positioning us in advancing our brand name and market position in the relevant therapeutic areas. In addition, innovative pharmaceuticals are perceived to have potentially greater efficacy and/or safety than generic pharmaceuticals and are therefore generally subject to more limited competition and relatively lower pricing pressure, enabling us to increase sales while maintaining stable profit margin.

Innovative pharmaceuticals can be further classified into chemical ones and biologic ones. Under the NMPA classification system, category I innovative chemical pharmaceuticals refer to innovative chemical pharmaceuticals that contain new chemical entities with clinical value and have never been marketed anywhere in the world. Similarly, generic pharmaceuticals include generic chemical pharmaceuticals and biosimilars. Generic chemical pharmaceuticals refer to pharmaceuticals with the same active ingredients as, and are considered equivalent to, an innovative chemical pharmaceutical, while biosimilars refer to biologics approved under the same standards as, and are sufficiently similar in structure, function, efficacy and safety to, innovative biologics. Among generic pharmaceuticals, biosimilars are considered to have higher entry barriers compared to generic chemical pharmaceuticals and the market of biosimilars in China is expected to increase significantly in the future. While the pharmaceutical market in China has been dominated by generic pharmaceuticals, innovative pharmaceuticals have been developing rapidly in recent years.

## Key Drivers of Pharmaceutical Market in China

The pharmaceutical market in China is expected to continue its growth and such expectation is determined by several key drivers as set out below.

- *Ageing population:* In China, population aged 65 years or above has increased from 143.9 million, or 10.5% of the entire population, in 2015, to 176.0 million, or 12.6% of the entire population, in 2019. The accelerating ageing trend, prolonged life expectancy and prevalence of chronic diseases will further drive up the demand for relevant pharmaceuticals in China.
- Increasing affordability and expansion of medical insurance coverage: In China, the per capita annual disposable income has increased from RMB21,966 in 2015 to RMB30,733 in 2019, representing a CAGR of 8.8%. The growth in disposable income has greatly increased the purchasing power as well as the health awareness of PRC population, increasing their willingness to pay for healthcare expenditures, including pharmaceuticals expenditures. Meanwhile, the public medical insurance coverage in China has been increasing. In 2019, 1,354.4 million people in China were enrolled in Employee Basic Medical Insurance Scheme and Urban and Rural Residents Basic Medical Insurance Scheme, representing 96.7% of the entire population in China. In particular, with the implementation of dynamic adjustment mechanism, more newly launched innovative pharmaceuticals have entered into the NRDL through NRDL pricing negotiation, which further improves patients' affordability and drives up demand for relevant pharmaceuticals.
- Strong government policy support: The PRC government has released several supporting policies which cover pharmaceutical approval, pricing, manufacturing, delivery and distribution, such as lifting of price controls for pharmaceuticals and implementation of new "Provisions for Drug Registration" (《藥品註冊管理辦法》). These policies are geared towards a more market-oriented industry and a more consolidated market as well as healthy competition in, and sustainable development of, the pharmaceutical industry.

### Future Trends of Pharmaceutical Market in China

The pharmaceutical market in China is expected to be influenced by the following trends:

• *Growing market share of innovative pharmaceuticals:* In recent years, the PRC government has promulgated a series of favorable policies on, including, among others, drug review and approval processes, protection of intellectual properties, tax reduction and exemption and talents introduction, to encourage the research and development, launch, as well as sales of innovative pharmaceuticals. In addition, the inclusion of innovative pharmaceuticals in the NRDL will further drive up patients' demand for innovative pharmaceuticals. As a result, it is expected that the market share of innovative pharmaceuticals will rise.

- *Innovation from the biotechnology industry:* The market potential for innovative pharmaceuticals in China is vast. With favorable policies, capital inflow and talents retainment, biotechnology companies with innovative pharmaceuticals under development or near commercialization are expected to play a more important role in the pharmaceutical market in China.
- Alignment with international clinical development and regulatory standards: Recently, China has joined the International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use, or ICH, as its eighth regulatory member, which is expected to further accelerate China's integration with international technical standards and guidelines.
- Increasing penetration and development speed of novel therapies: Attributable to China's integration with international technical standards and guidelines, as well as the relevant reform plans implemented by PRC government, the drug review and approval process in China has been accelerated. Moreover, eligible innovative pharmaceuticals may enjoy priority review and approval, which further shortens the duration of their drug review and approval process. Consequently, novel therapies may be launched in China and benefit patients in a more timely manner.

## **Recent Policies in Pharmaceutical Market in China**

The PRC government has recently adopted the following policies in pharmaceutical market in China:

Support for pharmaceutical innovation and research and development: The PRC government has recently adopted a series of laws, regulations and reform measures aimed at encouraging drug innovation and research and development. These include the "Guiding Opinions on Promoting the Healthy Development of the Pharmaceutical Industry" (《關於促進醫藥產業健康發展的指導意見》) issued by the General Office of the State Council in 2016, the "Opinion on Implementing Priority Review and Approval for Encouragement of Drug Innovation" (《關於鼓勵 藥品創新實行優先審評審批的意見》) issued by NMPA in 2017 and the "Announcement on Optimizing Review and Approval of Drug Registration" (《關於 優化藥品註冊審評審批有關事宜的公告》) issued by NMPA in 2018. Among others, these laws, regulations and reform measures extended intellectual properties protection for innovative pharmaceuticals, and introduced expedited review and approval processes for new drug application.

## Competitive Landscape of Pharmaceutical Market in China

Our key competitors are large national and regional manufacturers of pharmaceutical products, including large State-owned pharmaceutical companies. We also compete with multinational pharmaceutical companies. The following table sets forth a comparison of our key competitors and their major drug assets:

|         |               |                   | Year of       | Listing |   |  |
|---------|---------------|-------------------|---------------|---------|---|--|
| Group   | Туре          | Headquarters      | Establishment | status  | Major therapeutic areas   | Major drug assets  |
| Group D | Domestic      | China             | 1995          | Listed  | Oncology, infectious<br>diseases, neurological<br>diseases, cardiovascular<br>diseases, digestive system<br>diseases and diabetes   | Pulaile (普來樂)<br>Mailingda (邁靈達)<br>Oulanning (歐蘭寧)<br>Punuoan (普諾安)<br>Ruiqi (瑞琪)<br>Fulaidi (孚來迪)          |
| Group O | Domestic      | China             | 1992          | Listed  | Infectious diseases,<br>cardiovascular and<br>cerebrovascular diseases,<br>neurological diseases,<br>respiratory disease, digestive<br>system diseases,<br>hematological and<br>hemopoietic organ diseases,<br>and musculoskeletal diseases | Zhongnuojialin (中諾嘉林)<br>Qimaite (奇邁特)<br>Zhongnuoping (中諾平)<br>Gubang (固邦)<br>Shuluoke (舒羅克)<br>Oujian (歐健) |
| Group U | Domestic      | China             | 1970          | Listed  | Oncology, infectious<br>disease, endocrine diseases,<br>cardiovascular diseases,<br>anesthetics and contrast<br>agent   | Aiheng (艾恒)<br>Aimeining (艾美寧)<br>Hengsu (恒蘇)<br>Beibang (貝邦)<br>Aiyang (艾陽)<br>Fuxin (芙欣)                   |
| Group V | Multinational | Switzerland       | 1896          | Listed  | Oncology, immunological<br>diseases, infectious disease,<br>neurological diseases and<br>ophthalmic diseases  | Herceptin (赫賽汀)<br>Rituxan (美羅華)<br>Avastin (安維汀)<br>Alecensa (安聖莎)<br>Hemlibra (舒友立樂)<br>Rocephin (羅氏芬)     |
| Group W | Multinational | United<br>Kingdom | 1999          | Listed  | Oncology, cardiovascular<br>diseases, renal diseases,<br>metabolic diseases,<br>respiratory diseases,<br>neurological diseases,<br>immunological diseases and<br>anesthetics  | Iressa (易瑞沙)<br>Arimidex (瑞寧地)<br>Kombiglyze (安立格)<br>Byetta (百泌達)<br>Seroquel (思瑞康)<br>Lokelma (利倍卓)        |
| Group X | Multinational | United<br>States  | 1849          | Listed  | Oncology, infectious<br>diseases, cardiovascular<br>diseases, neurological<br>diseases, inflammatory<br>diseases, hemophilia and<br>vaccines  | Cytosar (賽德薩)<br>Zavedos (善唯達)<br>Lipitor (立普妥)<br>Norvasc (絡活喜)<br>BeneFIX (貝賦)<br>Lyrica (樂瑞卡)             |

- *Ouality and efficacy consistency evaluation of generic pharmaceuticals:* In March 2016, the General Office of the State Council issued the "Opinion on Conducting the Quality and Efficacy Consistency Evaluation of Generic Drugs"(《國務院辦公廳開展仿製藥質 量和療效一致性評價的意見》), which requires a consistency evaluation for certain generic pharmaceuticals. Please see "Regulatory Overview - Laws and Regulations Relating to Drugs – Laws and Regulations on Drug Registration – Registration of Generic Drugs" for more details about this regulation. Generic pharmaceuticals that have passed the consistency evaluation are entitled to certain benefits in their commercialization, such as preferential treatment in centralized tender process and medical insurance programs, among others. The consistency evaluation is vital to the pharmaceutical industry in China because the sales revenue of generic pharmaceuticals accounts for a significant proportion of the total healthcare expenditure. Since implementation of consistency evaluation requirements, generic pharmaceuticals failing to pass consistency evaluation are expected to be gradually eliminated and generic pharmaceuticals that are first to pass consistency evaluation are expected to benefit from certain favorable policies, thereby improving the overall quality of generic pharmaceuticals in China. Meanwhile, less competitive pharmaceutical companies will be driven out of the market while competitive ones will continue to leverage their product advantages, thereby further increasing market concentration.
- Centralized volume-based drug procurement: In November 2018, the Joint Procurement Office led by the State Administration for Medical Insurance published the "Papers on Centralized Drug Procurement in "4+7" Cities" (《4+7城市藥品集中採購文件》), which launched the national pilot scheme for centralized volume-based drug procurement. In January 2019, the General Office of the State Council published the "Notice of Issuing Pilot Program of the Centralized Procurement and Use of Drugs Organized by the State" (《國務院辦公廳關於印發國家組織藥品集中採購和使用試點方案的通知》), which provided additional detailed measures in the implementation of the national pilot scheme for centralized volume-based drug procurement in the "4+7" cities. In September 2019, the Joint Procurement Office published the "Papers on Centralized Drug Procurement in Alliance Areas" (《聯盟地區藥品集中採購文件》), which further expanded the scope of centralized volume-based drug procurement to 25 provinces and autonomous regions (except for the "4+7" cities). In December 2019, the Joint Procurement Office published the "Papers on Centralized Drug Procurement Nationwide" (《全國藥品集中採購文 件》), listing 33 drugs for centralized procurement along with an intended volume commitment for each drug. Please see "Regulatory Overview - Major Regulatory Reforms in the Pharmaceutical Industry - Tender Process - The Centralized Volumebased Drug Procurement in "4+7 Cities" and Wider Areas" for more details. The implementation of these schemes impacts prices and procurements of pharmaceuticals in China.

### PHARMACEUTICAL MARKET IN CHINA BY THERAPEUTIC AREAS

Among the vast pharmaceutical market in China, we strategically focus on three therapeutic areas, namely, oncology, central nervous system diseases and autoimmune diseases, with a diversified and leading product portfolio. In terms of sales revenue of pharmaceuticals in 2019, these three therapeutic areas as a whole accounted for 24.7% of the entire pharmaceutical market in China.

### **Oncology Pharmaceutical Market in China**

Oncology is a branch of medicine that deals with screening, diagnosis, and treatment of tumors, a type of neoplasm formed by the proliferation of certain cells under the action of various tumorigenic factors. According to the cellular characteristics and the harmfulness, tumors can be classified into benign ones and malignant ones, which are also called, cancer. Due to increasing stress in life and work, and existence of unhealthy living habits, cancer incidence in China shows an increasing trend as a whole, growing from 4.0 million in 2015 to 4.4 million in 2019 and being expected to reach 5.0 million in 2024.

| Thousands  |         |         |         |         |         |         |         |         |         |         |
|------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|            |         |         |         |         |         |         |         |         |         |         |
|            |         |         |         |         |         |         |         |         |         |         |
|            |         |         |         |         |         |         |         |         |         |         |
|            |         |         |         |         |         |         |         |         |         |         |
|            |         |         |         |         |         |         |         |         |         |         |
|            |         |         |         |         |         |         |         |         |         |         |
|            |         |         |         |         |         |         |         |         |         |         |
|            |         |         |         |         |         |         |         |         |         |         |
|            | 2015    | 2016    | 2017    | 2018    | 2019    | 2020E   | 2021E   | 2022E   | 2023E   | 2024E   |
| Total      | 3,952.4 | 4,061.5 | 4,172.4 | 4,285.0 | 4,399.7 | 4,514.4 | 4,629.6 | 4,746.7 | 4,865.4 | 4,986.0 |
| Bile Duct  | 62.6    | 63.0    | 63.3    | 63.6    | 63.8    | 64.1    | 64.4    | 64.6    | 64.8    | 65.0    |
| Pancreas   | 95.0    | 98.2    | 101.5   | 104.9   | 108.4   | 112.0   | 115.6   | 119.4   | 123.2   | 127.1   |
| Brain, CNS | 106.0   | 108.3   | 110.6   | 112.8   | 115.1   | 117.3   | 119.5   | 121.8   | 124.0   | 126.1   |
| Cervix     | 111.0   | 112.7   | 114.2   | 115.7   | 117.1   | 118.4   | 119.6   | 120.7   | 121.6   | 122.5   |
| Esophagus  | 246.0   | 254.4   | 262.9   | 271.6   | 280.4   | 289.4   | 298.5   | 307.7   | 317.1   | 326.6   |
| Breast     | 304.0   | 309.6   | 315.2   | 320.7   | 326.2   | 331.5   | 336.8   | 341.9   | 346.9   | 351.5   |
| Thyroid    | 201.0   | 238.4   | 275.6   | 315.5   | 356.5   | 395.8   | 433.3   | 463.7   | 491.5   | 517.1   |
| Liver      | 370.0   | 380.0   | 390.1   | 400.2   | 410.4   | 420.7   | 431.1   | 441.6   | 452.1   | 462.8   |
| Colorectum | 388.0   | 400.7   | 413.6   | 426.7   | 440.0   | 453.5   | 467.3   | 481.2   | 495.3   | 509.6   |
| Stomach    | 403.0   | 415.9   | 429.0   | 442.3   | 455.8   | 469.5   | 483.3   | 497.3   | 511.5   | 525.8   |
| Lung       | 787.0   | 813.4   | 840.2   | 867.5   | 895.3   | 923.5   | 952.1   | 981.1   | 1,010.6 | 1,040.4 |
| Others     | 878.8   | 867.1   | 856.3   | 843.5   | 830.8   | 818.8   | 808.0   | 805.7   | 806.8   | 811.5   |

### Incidence by Cancer Types in China, 2015-2024E

Source: NCCR, Frost & Sullivan analysis

Among all types of cancer in China, NSCLC has the highest incidence. In 2019, there were 895.3 thousand lung cancer incidence in China, of which 761.0 thousand, or approximately 85%, were recorded as NSCLC. With the improvement of diagnosis and treatment, and the combination of various types of pharmaceuticals, the survival period of NSCLC patients is expected to be prolonged continuously. In conjunction with increases in NSCLC patients and their disposable income, as well as expansion of medical insurance coverage, the demand for NSCLC pharmaceuticals is expected to grow rapidly in the future. Besides, SCLC incidence in China has also shown an upward trend in recent years, reaching 134.3 thousand in 2019. Moreover, digestive system cancers such as gastric cancer, colorectal cancer, liver cancer and esophagus cancer also ranked high among all types of cancer in China in terms of incidence in 2019, indicating vast market potential.

Currently, cancer treatment options primarily include surgery, radiotherapy, chemotherapy, targeted therapy and immuno-oncology therapy, among which targeted therapy and immuno-oncology therapy are commonly used in the United States, while chemotherapy is mainly used in China. With the increasing cancer incidence in China, the demand for oncology pharmaceuticals is expected to grow continuously. The oncology pharmaceutical market in China grew from RMB110.2 billion in 2015 to RMB182.7 billion in 2019, representing 11.2% of the overall pharmaceutical market in China, and is expected to further grow to RMB367.2 billion, or 16.5% of the overall pharmaceutical market in China, in 2024.



#### **Oncology Pharmaceutical Market in China, 2015-2024E**

In China, pharmaceuticals used for cancer treatment mainly consist of chemotherapy pharmaceuticals, targeted therapy pharmaceuticals and immuno-oncology therapy pharmaceuticals, among which chemotherapy pharmaceuticals dominated the entire oncology pharmaceutical market with a market share of 72.6% in 2019, while targeted therapy pharmaceuticals and immuno-oncology therapy pharmaceuticals accounted for 23.4% and 4.0%, respectively, of the oncology pharmaceutical market in the same year.

Source: Frost & Sullivan analysis

### Chemotherapy

Chemotherapy uses one or more pharmaceuticals to inhibit DNA synthesis, RNA transcription, protein synthesis, cells division and/or topoisomerase function, or otherwise kill tumor cells or control their growth. As a systemic treatment, chemotherapy is effective for patients with specific types of tumor and at specific stages of disease development.

## Nedaplatin Pharmaceuticals

Platinum-based pharmaceuticals function by binding to DNAs to interfere with their replication, thereby preventing the division and growth of tumor cells. As a second-generation platinum-based pharmaceutical, nedaplatin is more soluble in water and appears to be less toxic to kidney and digestive system compared with cisplatin, the first-generation platinum-based pharmaceutical, and therefore more suitable for elderly patients as well as patients with renal insufficiency. The sales revenue of nedaplatin in China in 2019 totaled RMB558.2 million. With Jepaso (nedaplatin for injection), one of our major products, we ranked first in nedaplatin pharmaceutical market in China in terms of sales revenue in 2019.

## **Competitive Landscape of Nedaplatin Pharmaceutical Market in China, 2019**



Source: Frost & Sullivan analysis

# Selected Information of Top Four Players in Nedaplatin Pharmaceutical Market in China in 2019

| Rank | Group     | Year of<br>Establishment | Headquarters | Business Focus               | Listing Status |
|------|-----------|--------------------------|--------------|------------------------------|----------------|
| 1    | Our Group | 1995                     | China        | Pharmaceutical manufacturing | Private        |
| 2    | Group A   | 1958                     | China        | Pharmaceutical manufacturing | Private        |
| 3    | Group B   | 2003                     | China        | Pharmaceutical manufacturing | Listed         |
| 4    | Group C   | 2000                     | China        | Pharmaceutical manufacturing | Private        |

Source: Company website, Frost & Sullivan analysis

### Intraoperative Chemotherapy Pharmaceuticals

Surgery is the major treatment option for various tumors, including digestive system tumors. However, many oncology patients suffer recurrence after resection of the tumor lesions due to intraoperative implantation and metastases of tumor cells. Intraoperative chemotherapy is considered effective in reducing recurrence risks as well as improving prognosis of patients with digestive system tumors. The sales revenue of intraoperative chemotherapy pharmaceuticals for digestive system tumors in China grew from RMB0.7 billion in 2015 to RMB2.1 billion in 2019, and is expected to grow further at a CAGR of 13.8% from RMB2.5 billion in 2020 to RMB4.2 billion in 2024. As of the Latest Practicable Date, there were three intraoperative chemotherapy pharmaceuticals available on market in China for treatment of digestive system tumors, namely, lobaplatin, raltitrexed and 5-fluorouracil implant. Among them, Sinofuan (5-fluorouracil implants), one of our major products, and the only 5-fluorouracil implant in the market, took up a market share of 6.6% in terms of sales revenue in 2019.

### Pemetrexed Pharmaceuticals

Pemetrexed is a folate analog metabolic inhibitor that disrupts folate-dependent metabolic processes essential for cell replication and thereby prevents the growth of tumor cells. Pemetrexed is suitable as a first-line treatment for NSCLC and malignant pleural mesothelioma. The sales revenue of pemetrexed pharmaceuticals in China grew from RMB2.4 billion in 2015 to RMB3.4 billion in 2019, representing a CAGR of 9.5%, and is expected to grow further at a CAGR of 10.7% from RMB3.4 billion in 2020 to RMB5.1 billion in 2024. With Jiebaili (pemetrexed disodium for injection), one of our major products, we ranked sixth in pemetrexed pharmaceutical market in China in terms of sales revenue in 2019.



#### Competitive Landscape of Pemetrexed Pharmaceutical Market in China, 2019

Source: Frost & Sullivan analysis

# Selected Information of Top Five Players in Pemetrexed Pharmaceutical Market in China in 2019

|      |         | Year of       |              |                              |                |
|------|---------|---------------|--------------|------------------------------|----------------|
| Rank | Group   | Establishment | Headquarters | <b>Business Focus</b>        | Listing Status |
|      |         |               |              |                              |                |
| 1    | Group D | 1995          | China        | Pharmaceutical manufacturing | Listed         |
| 2    | Group A | 1958          | China        | Pharmaceutical manufacturing | Private        |
| 3    | Group E | 2010          | China        | Pharmaceutical manufacturing | Private        |
| 4    | Group F | 1876          | United       | Pharmaceutical manufacturing | Listed         |
|      |         |               | States       |                              |                |
| 5    | Group G | 1971          | China        | Pharmaceutical manufacturing | Private        |

Source: Company website, Frost & Sullivan analysis

### Targeted Therapies

Targeted therapy typically uses small-molecule pharmaceuticals or monoclonal antibodies to target identified drivers of cancer growth, which could be protein molecules inside tumor cells or gene segments, at the cellular and molecular level. After entering into human body, targeted therapy pharmaceuticals specifically combine with carcinogenic sites and kill tumor cells without affecting the surrounding normal tissue cells.

## Targeted Therapy Pharmaceuticals for NSCLC

Based on the size of tumor, lymph node infiltration by cancer cells and conditions of metastasis, lung cancer can be classified into multiple stages. While surgery, chemotherapy and radiotherapy are optimal treatment options for stage I to stage III NSCLC patients, targeted therapy is primarily involved in treatment of patients with initial or recurrent stage III/IV NSCLC. In China, the sales revenue of targeted therapy drug for NSCLC grew rapidly from RMB5.3 billion in 2015 to RMB20.8 billion in 2019, representing a CAGR of 40.8%, and is expected to grow further at a CAGR of 27.1% from 2020 to 2024, reaching RMB77.1 billion in 2024. Among all categories of targeted pharmaceuticals for NSCLC in China, recombinant human endostatin ranked seventh in terms of sales revenue in 2019 with a market share of 5.9%. Endostar (recombinant human endostatin injection), one of our major products, is the only recombinant human endostatin approved for sale in China. In addition, we are currently conducting the phase Ib clinical trials for PEG-ENDO, which enhances pharmacokinetic properties of Endostar, expecting it to help us further expand our market share in the market of targeted pharmaceuticals for NSCLC in China. We are also conducting the pivotal registrational trials for our bevacizumab biosimilar product candidate for treatment of advanced non-squamous NSCLC.

#### Targeted Therapy Pharmaceuticals for Ovarian Cancer

In recent years, ovarian cancer incidence in China shows an upward trend from 50.2 thousand in 2015 to 53.9 thousand in 2019, and is forecasted to grow further at a CAGR of 1.5% from 54.8 thousand in 2020 to 58.1 thousand in 2024, indicating increasing market demand for relevant pharmaceuticals.

As of June 30, 2020, there were two targeted pharmaceuticals for ovarian cancer approved for sale in China. In addition, there were 12 targeted pharmaceutical candidates for ovarian cancer pending NDA approval or at clinical stages in China as of June 30, 2020, among which six are biologics and six are chemical drugs. We are currently conducting the phase I clinical trials in China for sevacizumab, a biological pharmaceutical candidate for treatment of ovarian cancer that targets the pro-angiogenic function of VEGF and thereby inhibits the angiogenesis, growth and metastasis of tumors.

### Targeted Therapy Pharmaceuticals for Solid Tumors

NTRK gene fusion leads to abnormal proteins that may induce tumor cell proliferation and constitutively activate downstream oncogenic signaling pathways. As a potential treatment option for various solid tumors driven by NTRK gene fusion, NTRK small molecule inhibitor functions by inhibiting the kinase activity of NTRK. As of June 30, 2020, there was no NTRK small molecule inhibitor approved for sale in China and four NTRK small molecule inhibitor candidates were at clinical stages in China. We have a multi-kinase (including NTRK) inhibitor candidate and we have submitted the IND application for this product candidate in China.

Cyclin-dependent kinases 4 and 6, or CDK4/6, are key regulatory factors in cell cycle progression, while CDK4/6 inhibitors function by inhibiting CDK4/6 activity and resuming cell cycle control, thereby preventing tumor cell proliferation. CDK4/6 inhibitors have shown efficacy in treating certain solid tumors, such as SCLC and breast cancer. As of June 30, 2020, there was only one CDK4/6 targeted pharmaceutical approved for sale in China. In addition, there were 13 CDK4/6 targeted pharmaceutical candidates at clinical stages in China as of June 30, 2020. We are currently preparing for the IND application in China for Trilaciclib, a CDK4/6 targeted chemical pharmaceutical candidate for treatment of chemotherapy-induced myelosuppression in SCLC and certain other solid tumors.

#### Immuno-Oncology Therapies

Immuno-oncology therapy aims to stimulate a person's immune system in order to more effectively treat cancer. Immuno-oncology therapy is able to provide durable remission and is well-tolerated in advanced oncology patients, therefore, it is considered a revolutionary therapy for oncology treatment. Immuno-oncology therapies mainly include cell therapies, immune checkpoint monoclonal antibodies, therapeutic cancer vaccines and cytokines. The market size of immuno-oncology therapies in China grew rapidly from RMB0.7 billion in 2015 to RMB7.4 billion in 2019, and is expected to grow further at a CAGR of 59.9% from RMB15.0 billion in 2020 to RMB97.9 billion in 2024.

### CAR T-cell Therapy Products

A majority of immune oncology therapies achieve antineoplastic effect through T cells. Chimeric antigen receptor T cells, or CAR T-cells, represent T cells that have been genetically engineered to express an artificial T-cell receptor and therefore become able to target a specific antigen. CAR T-cell therapy makes use of such T cells for oncology treatment and shows better clinical efficacy and long-lasting effect with shorter treatment duration.

As of June 30, 2020, there were two CAR T-cell therapy products approved for sale outside of China with their global sales revenue totaled USD734 million in 2019. As of June 30, 2020, there was no CAR T-cell therapy product approved for sale in China, while there were 16 CAR T-cell therapy product candidates at clinical stages in China. We have obtained IND approvals for our three CAR T-cell therapy product candidates in China. For our CD19 CAR T-cell therapy candidate of r/r CD19 positive B-cell non-Hodgkin's lymphoma indication, we are currently conducting phase I clinical trials in China and expect such clinical trials to be completed by the end of 2020. For our CD19 CAR T-cell therapy candidate of r/r CD19 positive B-cell acute lymphoblastic leukemia indication, we plan to initiate phase I clinical trials in China in 2021. For BCMA CAR T-cell therapy, we plan to initiate phase I clinical trials in China in the second half of 2020.

### Anti-PD-1/PD-L1 Therapy Pharmaceuticals

PD-1 is a protein found on T cells which, when binding to PD-L1 (the ligand of PD-1), leads to T-cell anergy and blocks antitumor immune responses. PD-1/PD-L1 monoclonal antibodies are immune checkpoint inhibitors which target PD-1 and PD-L1, and function by blocking the binding between PD-1 and PD-L1, recovering the function of T cells, and consequently boosting immune responses to tumor cells. PD-1/PD-L1 monoclonal antibodies have shown higher therapeutic efficacy on various oncology indications and have fewer side effects compared to chemotherapy pharmaceuticals. The sales revenue of PD-1/PD-L1 monoclonal antibodies in China in 2019 totaled RMB6.3 billion, and is expected to grow rapidly at a CAGR of 56.1% from RMB13.8 billion in 2020 to RMB81.9 billion in 2024.

As of June 30, 2020, there were eight PD-1/PD-L1 monoclonal antibodies approved for sale in China. We have obtained the exclusive promotion right in respect of oncology treatment indications of a PD-L1 inhibitor known as KN035 in China. Our collaboration partners are currently conducting phase II clinical trials of KN035 for dMMR/MSI-H colorectal carcinoma and other advanced solid tumors and phase III clinical trials for advanced BTC in mainland China as well as phase I clinical trials in the United States and Japan. We are currently conducting pre-clinical studies on combination therapy candidates with KN035 for treatment of solid tumors.

### Key Drivers and Future Trends of Oncology Pharmaceutical Market in China

The oncology pharmaceutical market in China is expected to continue its growth leveraging several key drivers, including significant unmet clinical demands, increase in patients' affordability and willingness to pay for treatment, favorable government policies to support the development of innovative pharmaceuticals as well as combination therapies. The oncology pharmaceutical market in China is also expected to be influenced by several trends, including more targeted treatment to oncology diseases, broader application of combination therapies, larger amount of generic pharmaceuticals as well as biosimilars, further inclusion of oncology pharmaceuticals in the NRDL and longer survival period of oncology patients.

#### **Central Nervous System Pharmaceutical Market in China**

Central nervous system, a part of nervous system, consists of brain and spinal cord and controls awareness, sensations, thoughts and movements of the body. Central nervous system diseases refer to a group of neurological disorders that affect the structure or function of brain or spinal cords, primarily include neurodegeneration, functional disorders, structural disorders, central nervous system infections and demyelinating diseases.

Due to high prevalence rate of central nervous system diseases in China, market demand for relevant pharmaceuticals has become huge. The sales revenue of central nervous system pharmaceuticals in China grew from RMB144.0 billion in 2015 to RMB204.3 billion in 2019, representing a CAGR of 9.1%, and is expected to grow further at a CAGR of 4.6% from 2020 to 2024, reaching RMB250.9 billion in 2024.



#### Central Nervous System Pharmaceutical Market in China, 2015-2024E

Source: Frost & Sullivan analysis

#### Neuroprotection Following Stroke

Stroke is one of the major central nervous system diseases which occurs when a blood vessel that carries oxygen and nutrients to brain is blocked by a clot or bursts, therefore disrupting the flow of blood carrying essential oxygen and resulting in the death of nerve cells. Patients with acute ischemic stroke need to receive specific treatments. In particular, compared to thrombolytic therapies which improves cerebral blood circulation of patients, statins and neuroprotective pharmaceuticals can improve prognosis of patients, thereby minimizing potential damage as well as recurrence risk.

In China, the prevalence of stroke grew at a CAGR of 4.7% from 13.2 million in 2015 to 15.9 million in 2019, and is expected to continue to grow at a CAGR of 4.5% from 16.6 million in 2020 to 19.8 million in 2024, indicating increasing market demand for relevant pharmaceuticals.

Prevalence of Stroke in China, 2015-2024E

| Period      | CAGR |
|-------------|------|
| 2015-2019   | 4.7% |
| 2020E-2024E | 4.5% |
|             |      |

| Period      | CAGK |
|-------------|------|
| 2015-2019   | 4.7% |
| 2020E-2024E | 4.5% |
| -           |      |



Million

Source: Frost & Sullivan analysis

Commonly-used neuroprotective pharmaceuticals primarily include calcium channel blockers, free radical scavengers, membrane stabilizing agents, glutamate antagonists. The representative pharmaceutical of free radical scavengers is edaravone, which accounted for 11.6% of the neuroprotective pharmaceutical market in China in terms of sales revenue in 2019. Since 2015, local governments in the PRC have successively issued policies to regulate the usage of ancillary pharmaceuticals in medical institutions. In June 2019, the PRC government issued the "First Batch of National Key Drug List for Monitoring and Prescription Control (Chemical and Biological Products)"(《第一批國家重點監控合理用藥藥品目錄(化藥 和生物製品)》) which included neuroprotective pharmaceuticals. Similar to the overall neuroprotective pharmaceutical market, edaravone pharmaceutical market in China has also

experienced shrinkage since 2016. The sales revenue of edaravone in China in 2019 totaled RMB2.9 billion, of which RMB1.1 billion was generated by Bicun (edaravone injection), our major product. With a market share of 36.8%, we ranked first in edaravone pharmaceutical market in China in terms of sales revenue in 2019. We also hold a leading position in neuroprotective pharmaceutical market in China.





Source: Frost & Sullivan analysis

# Selected Information of Top Five Players in Edaravone Pharmaceutical Market in China in 2019

| Rank | Group     | Year of<br>Establishment | Headquarters | Business Focus               | Listing Status |
|------|-----------|--------------------------|--------------|------------------------------|----------------|
| 1    | Our Group | 1995                     | China        | Pharmaceutical manufacturing | Private        |
| 2    | Group H   | 2003                     | China        | Pharmaceutical manufacturing | Listed         |
| 3    | Group G   | 1971                     | China        | Pharmaceutical manufacturing | Private        |
| 4    | Group I   | 1996                     | China        | Pharmaceutical manufacturing | Private        |
| 5    | Group J   | 2003                     | China        | Pharmaceutical manufacturing | Listed         |

Source: Company website, Frost & Sullivan analysis

In recent years, the prevalence of stroke increased year by year in China, indicating increasing market demand for relevant pharmaceuticals. Meanwhile, the restricted clinical use of neuroprotective pharmaceuticals led to a decrease in the prescription for pharmaceuticals for treatment of stroke, therefore releasing vast market potential for innovative pharmaceuticals with an intended indication of stroke. As of June 30, 2020, there were 12 pharmaceutical candidates for treatment of stroke at clinical stages or pending NDA approval in China, two of which were developed by us. We obtained the NDA approval for Sanbexin (edaravone and dexborneol concentrated solution for injection) in July 2020 and launched this pharmaceutical in China in August 2020. It is the only pharmaceutical for the treatment of stroke to obtain approval for sale in the past five years worldwide. We are also conducting the phase I clinical trials for Y-2 sublingual tablets in China. With Sanbexin and Y-2 sublingual tablets, we expect to further enhance our market penetration in stroke pharmaceutical market in China and to capture future business opportunities therein.

#### Cerebral Edema

Cerebral edema, a severe clinical complication of acute ischemic stroke, refers to life-threatening swelling of the brain due to excess accumulation of fluid in intracellular or extracellular spaces of the brain. Clinically significant cerebral edema requires medical intervention. Incidence of clinically significant cerebral edema in China grew from 551.3 thousand in 2015 to 677.5 thousand in 2019, and is expected to grow further at a CAGR of 3.1% from 2020 to 2024, reaching 793.4 thousand in 2024. In China, commonly-used pharmaceuticals for treatment of cerebral edema caused by acute ischemic stroke include mannitol, glycerol fructose and furosemide.

Aquaporin-4 (AQP4) inhibitor is a potential option for treatment and control of cerebral edema. Aquaporins are membrane proteins in the membrane of biological cells, mainly facilitating transportation of water between cells, while AQP4, a subtype of aquaporin, contributes most to brain fluid regulation. AQP4 inhibitor functions by decreasing expression level of AQP4 and thereby treating and controlling cerebral edema. As of June 30, 2020, there was no AQP4 inhibitor approved for sale worldwide, and no AQP4 inhibitor was under clinical research in China. Therefore, it is expected to be a first-in-class innovative pharmaceutical. We have an AQP4 inhibitor candidate. We are currently preparing for IND application for this product candidate and expect to initiate phase I clinical trials in China in 2021.

#### Key Drivers and Future Trends of Central Nervous System Pharmaceutical Market in China

The central nervous system pharmaceutical market in China is expected to continue its growth leveraging several key drivers, including increasing number of patients as well as their increasing disposable income, launch of new products and indication expansion of existing products. The central nervous system pharmaceutical market in China is also expected to be influenced by several trends, including development of innovative central nervous system pharmaceuticals, the launch of a large number of generic pharmaceuticals and the issuance of guidance on clinical use of central nervous system pharmaceuticals.

### Autoimmune Pharmaceutical Market in China

Autoimmune diseases occur when the immune system mistakenly attacks a person's own tissues and organs. There are approximately 100 types of autoimmune disorders, which can affect substantially all parts of human body, including brain, heart, nerves, blood vessels, eyes, lungs, kidneys, glands, digestive tract, joints, muscles and skin. Based on the targeted antigen, autoimmune diseases can be classified into systemic ones where immune system attacks self-antigens in several organs, and organ-specific ones where immune response targets antigens in a single organ.

Patients of autoimmune diseases suffer from impairment of physical function and decreases in quality of life, productivity and social participation, and require careful nursing as well as continuous and expensive pharmaceutical treatment, thus imposing a substantial burden on patients, carers and the society. Autoimmune diseases are associated with generic factors. They have complex mechanisms and diverse clinical manifestations. By far, limited disease-modified therapies are available for autoimmune diseases as it's hard to identify specific antigens. While systemic immunosuppressive therapy broadly suppresses immune activation, and is considered the major clinical treatment option for autoimmune diseases, all currently available therapies do not cure autoimmune diseases and also cause a variety of side effects, including infections, hematological system impairment, bone mineral density loss, glucose intolerance, metabolic imbalance and psychiatric disturbance.

With the increases in prevalence of autoimmune diseases, sales revenue of the relevant pharmaceuticals in China grew from RMB9.8 billion in 2015 to RMB16.2 billion in 2019, and is expected to grow rapidly at a CAGR of 27.2% from 2020 to 2024, reaching RMB53.2 billion in 2024.



#### Autoimmune Pharmaceutical Market in China, 2015-2024E

Source: Frost & Sullivan analysis

### **Rheumatoid** Arthritis

Rheumatoid arthritis is a long-term systemic autoimmune disorder characterized by chronic inflammation in the synovium of joints and pannus formation in joint cavities, leading to destruction of both cartilaginous and bony elements of joints and eventually resulting in joint stiffness, tumidness, pain, deformity and destruction. Although there is no cure for rheumatoid arthritis, clinical studies have indicated that long-term and routine use of DMARDs at early stage of diseases can alleviate symptoms as well as postpone the progression of diseases. In the event of failure of pharmaceutical treatment, patients may receive surgeries to repair, reconstruct or replace damaged joints.

In China, the prevalence of rheumatoid arthritis grew at a CAGR of 0.6% from 5.8 million in 2015 to 5.9 million in 2019, and is expected to continue to grow at a CAGR of 0.7% from 6.0 million in 2020 to 6.1 million in 2024. Meanwhile, the sales revenue of rheumatoid arthritis pharmaceuticals in China increased rapidly from RMB8.4 billion in 2015 to RMB13.3 billion in 2019, representing a CAGR of 12.3%, and is expected to increase further at a CAGR of 22.2% from 2020 to 2024, reaching RMB35.2 billion in 2024.



## Rheumatoid Arthritis Pharmaceutical Market in China, 2015-2024E

Currently, pharmaceuticals for treatment of rheumatoid arthritis include conventional synthetic DMARDs, other DMARDs (mainly comprising biological DMARDs and targeted synthetic DMARDs), glucocorticoid and non-steroidal anti-inflammatory pharmaceuticals. Conventional synthetic DMARDs and targeted synthetic DMARDs are collectively referred to as small molecule DMARDs.

Source: Frost & Sullivan analysis

### Conventional Synthetic DMARDs

Conventional synthetic DMARDs are widely recognized as the first-line therapy pharmaceuticals for rheumatoid arthritis.

The sales revenue of conventional synthetic DMARDs in China grew from RMB1.9 billion in 2015 to RMB3.1 billion in 2019, representing a CAGR of 12.4%, and is forecasted to grow further at a CAGR of 11.2% from RMB3.8 billion in 2020 to RMB5.8 billion in 2024. Commonly-used conventional synthetic DMARDs mainly include methotrexate, leflunomide, sulfasalazine, hydroxychloroquine and iguratimod. Iremod (iguratimod tablets), one of our major products and the only iguratimod drug in the market, took up a market share of 18.4% in terms of sales revenue in China in 2019.



## Competitive Landscape of Conventional Synthetic DMARDs Market in China, 2019

Source: Frost & Sullivan analysis

## Other DMARDs

Other DMARDs mainly consist of biological DMARDs and targeted synthetic DMARDs, both of which are effective in alleviating symptoms for, and may suppress joint damage and deformities of, patients with moderate or severe active rheumatoid arthritis. Other DMARDs mainly include tocilizumab, adalimumab, golimumab, infliximab, etanercept, tofacitinib and baricitinib. Biological DMARDs are part of biological pharmaceuticals for treatment of autoimmune diseases, the sales revenue of which grew at a CAGR of 31.5% from RMB1.2 billion in 2015 to RMB3.7 billion in 2019, and is expected to grow rapidly at a CAGR of 45.5% from RMB5.8 billion in 2020 to RMB26.0 billion in 2024 in China, indicating vast market potential.



#### Market of Biological Pharmaceuticals for Autoimmune Diseases in China, 2015-2024E

Source: Frost & Sullivan analysis

T-cell activation is considered to be one of the core pathogenesis of rheumatoid arthritis. Abatacept injection, the first and only CTLA4-Fc fusion protein approved for sale in China and the first and only selective T-cell co-stimulation modulator in the autoimmune disease therapeutic area worldwide, is a new type of biological DMARDs with a unique mechanism of action which prevents activation of T cells by binding to the natural ligands CD80 and CD86 on antigen-presenting cells, thereby blocking their interaction with CD28 on the T cells, and consequently reduces inflammation. According to another head-to-head comparison study in 2019, abatacept injection shows higher efficacy among HLA-DRB1 SE-positive patients compared with adalimumab. In China, the prevalence of HLA-DRB1 SE-positive rheumatoid arthritis was 4.7 million in 2019.

### Non-steroidal Anti-inflammatory Pharmaceuticals

Non-steroidal anti-inflammatory pharmaceuticals can be used to reduce acute inflammation caused by rheumatoid arthritis, therefore alleviating pain and improving function of involved joint. For patients with moderate or severe active rheumatoid arthritis, non-steroidal anti-inflammatory pharmaceuticals can be used in combination with DMARDs. Non-steroidal anti-inflammatory pharmaceuticals are also widely used for treatment of pains caused by other diseases, such as osteoarthritis, migraine and periodontitis.

The sales revenue of non-steroidal anti-inflammatory pharmaceuticals in China grew from RMB13.1 billion in 2015 to RMB21.8 billion in 2019, representing a CAGR of 13.6%, and is forecasted to grow further at a CAGR of 12.0% from RMB24.8 billion in 2020 to RMB39.0 billion in 2024. Non-steroidal anti-inflammatory pharmaceuticals mainly include aspirin, ibuprofen, celecoxib and diclofenac sodium. We ranked first in mono-ingredient diclofenac sodium pharmaceutical market in China in terms of sales revenue in 2019, with a market share of 18.1%.

# Competitive Landscape of Mono-ingredient Diclofenac Sodium Pharmaceutical Market in China, 2019



Source: Frost & Sullivan analysis

# Selected Information of Top Five Players in Mono-ingredient Diclofenac Sodium Pharmaceutical Market in China in 2019

| Rank | Group     | Year of<br>Establishment | Headquarters | Business Focus               | Listing Status |
|------|-----------|--------------------------|--------------|------------------------------|----------------|
| 1    | Our Group | 1995                     | China        | Pharmaceutical manufacturing | Private        |
| 2    | Group K   | 1996                     | Switzerland  | Pharmaceutical manufacturing | Listed         |
| 3    | Group J   | 2003                     | China        | Pharmaceutical manufacturing | Listed         |
| 4    | Group L   | 1917                     | Germany      | Pharmaceutical manufacturing | Private        |
| 5    | Group M   | 1992                     | China        | Pharmaceutical manufacturing | Listed         |

Source: Company website, Frost & Sullivan analysis

### Gout

Gout is a common but complex form of metabolic disease caused by disruption of metabolism of uric acid. When uric acid crystals accumulate in joints, gouty arthritis may occur. In recent years, gout prevalence in China has shown an upward trend from 23.9 million in 2015 to 32.0 million in 2019, and is forecasted to grow further at a CAGR of 6.1% from 34.2 million in 2020 to 43.3 million in 2024.

Selective URAT1 inhibitor is a new treatment option for gout. It functions by selectively inhibiting the re-absorption of uric acid by URAT1 and increasing the excretion of uric acid, thereby significantly controlling blood uric acid level. As of June 30, 2020, there was no selective URAT1 inhibitor approved for sale in China, while five selective URAT1 inhibitor candidates were at clinical stages in China. We have submitted the IND application for our URAT1 inhibitor candidate in China and we expect to obtain the IND approval by the end of 2020.

#### Key Drivers and Future Trends of Autoimmune Pharmaceutical Market in China

The autoimmune pharmaceutical market in China is expected to continue its growth leveraging several key drivers, including an increasing number of patients as well as their increasing disposable income and health awareness, inclusion of additional pharmaceuticals into the NRDL, improvement of diagnosis and treatment level, and the development of innovative therapies and pharmaceuticals. The autoimmune pharmaceutical market in China is also expected to be influenced by several trends, including increasing market demand for biological pharmaceuticals, further inclusion of autoimmune pharmaceuticals in the NRDL and larger amount of innovative pharmaceuticals.

## Other Key Therapeutic Areas in China

In addition to the aforementioned three therapeutic areas, we also commercialize or develop therapies in cardiovascular and infectious diseases, among others.

#### Cardiovascular Pharmaceutical Market in China

Cardiovascular diseases refer to a class of diseases that involve heart or blood vessels, mainly including coronary artery disease, rheumatic heart disease, congenital heart disease, peripheral arterial disease and cerebrovascular disease. Due to increasing prevalence of cardiovascular diseases, the market size of relevant pharmaceuticals in China grew from RMB158.8 billion in 2015 to RMB212.2 billion in 2019, representing a CAGR of 7.5%, and is expected to grow further at a CAGR of 3.3% from RMB217.5 billion in 2020 to RMB247.7 billion in 2024.

#### Cardiovascular Pharmaceutical Market in China, 2015-2024E



Source: Frost & Sullivan analysis

Hypercholesterolemia is a common cardiovascular disease. Due to ageing population and unhealthy diet, the prevalence of hypercholesterolemia has been increasing in recent years, showing increasing market demand for relevant pharmaceuticals. Statins are the most commonly-used cholesterol-lowering pharmaceuticals, and rosuvastatin, as a third-generation statin, shows high potency with superior safety profile. The sales revenue of rosuvastatin in China in 2019 totaled RMB6.8 billion. With Softan (rosuvastatin calcium tablets), our major product, we ranked fifth in rosuvastatin pharmaceutical market in China in terms of sales revenue in 2019 with a market share of 5.4%.

Hypertension is a long-term medical condition in which the blood pressure in the arteries is persistently elevated which results in damage to end organs such as the eyes, kidney, heart, blood vessels and others. The prevalence of hypertension in China increased from 289.9 million in 2015 to 317.4 million in 2019, representing a CAGR of 2.3%, and is expected to grow further at a CAGR of 2.0% from 324.4 million in 2020 to 351.4 million in 2024. Currently, we market and/or sell OLMETEC PLUS (olmesartan medoxomil and hydrochlorothiazide tablets), which is developed and manufactured by Daiichi Sankyo.

#### Anti-infective Pharmaceutical Market in China

Infectious diseases are disorders caused by organism invasion of human body. After organisms enter into human body, they reproduce and release toxin, and stimulate host tissues to react. Anti-infectives are pharmaceuticals used for treatment of infectious diseases. In China, the sales revenue of anti-infectives increased from RMB195.8 billion in 2015 to RMB225.5 billion in 2019, and is forecasted to further increase at a CAGR of 3.2% from 2020 to 2024, reaching RMB260.7 billion in 2024.

#### Anti-infective Pharmaceutical Market in China, 2015-2024E

| Period      | CAGR    |       |       |       |       |       |       |       |
|-------------|---------|-------|-------|-------|-------|-------|-------|-------|
| 2015-2019   | 3.6%    |       |       |       |       |       |       |       |
| 2020E-2024E | 3.2%    |       |       |       |       |       |       |       |
| Billion RMB |         |       |       |       |       |       |       |       |
| 195.8 203   | 6 210.7 | 217.9 | 225.5 | 230.0 | 236.9 | 244.0 | 251.8 | 260.7 |
|             |         |       |       |       |       |       |       |       |

Source: Frost & Sullivan analysis

Anti-infectives can be classified into antifungals, antibacterials, antivirals and other types of anti-infectives, among which, antibacterials account for the largest portion of the overall anti-infectives market in China in terms of sales revenue.

Carbapenem is a commonly-used antibacterial for treatment of severe or high-risk bacterial infections. In 2019, the carbapenem drug market in China totaled RMB8.1 billion, and biapenem drug market accounted for a market share of 11.9%, totaling RMB1.0 billion. With Newanti (biapenem for injection), our major product, we are the second largest player in the biapenem drug market in China in terms of sales revenue in 2019, with a market share of 32.5%.



## **Competitive Landscape of Biapenem Pharmaceutical Market in China, 2019**

Source: Frost & Sullivan analysis

# Selected Information of Top Five Players in Biapenem Pharmaceutical Market in China in 2019

| Rank | Group     | Year of<br>Establishment | Headquarters | Business Focus               | Listing Status |
|------|-----------|--------------------------|--------------|------------------------------|----------------|
| 1    | Group N   | 1997                     | China        | Pharmaceutical manufacturing | Listed         |
| 2    | Our Group | 1995                     | China        | Pharmaceutical manufacturing | Private        |
| 3    | Group O   | 1971                     | China        | Pharmaceutical manufacturing | Listed         |
| 4    | Group P   | 1998                     | China        | Pharmaceutical manufacturing | Private        |
| 5    | Group Q   | 1970                     | China        | Pharmaceutical manufacturing | Listed         |

Source: Company website, Frost & Sullivan analysis

Amoxicillin is an antibacterial that can be used to treat various bacterial infections. In 2019, the mono-ingredient amoxicillin drug market in China totaled RMB3.0 billion, and we ranked fourth in terms of sales revenue with a market share of 7.1%.



# Competitive Landscape of Mono-ingredient Amoxicillin Pharmaceutical Market in China, 2019

Source: Frost & Sullivan analysis

# Selected Information of Top Five Players in Mono-ingredient Amoxicillin Pharmaceutical Market in China in 2019

| Rank | Group     | Establishment | Headquarters | Business Focus               | Listing Status |
|------|-----------|---------------|--------------|------------------------------|----------------|
| 1    | Group R   | 1990          | Hong Kong    | Pharmaceutical manufacturing | Listed         |
| 2    | Group O   | 1971          | China        | Pharmaceutical manufacturing | Listed         |
| 3    | Group S   | 1992          | China        | Pharmaceutical manufacturing | Listed         |
| 4    | Our Group | 1995          | China        | Pharmaceutical manufacturing | Private        |
| 5    | Group T   | 2001          | China        | Pharmaceutical manufacturing | Private        |

Source: Company website, Frost & Sullivan analysis

### SOURCE AND RELIABILITY OF INFORMATION

We engaged Frost & Sullivan, an independent market research consultant, to conduct an analysis of, and to prepare a report on, the pharmaceutical market in China for use in this prospectus. Founded in 1961, Frost & Sullivan provides market research on a variety of industries, among other services. The information from Frost & Sullivan disclosed in this prospectus is extracted from the Frost & Sullivan Report, a report commissioned by us for a fee of RMB1,280,000, and is disclosed with the consent of Frost & Sullivan.

In compiling and preparing the Frost & Sullivan Report, Frost & Sullivan used the following key methodologies to collect multiple sources, validate the data and information collected, and cross-check each respondent's information and views against those of others: (i) secondary research, which involved reviewing published sources including national statistics, annual reports of listed companies, industry reports and data based on Frost & Sullivan's own research database; and (ii) primary research, which involved in-depth interviews with the industry participants.

Frost & Sullivan also adopted the following primary assumptions while making projections on the macroeconomic environment, the overall pharmaceutical market and various segment markets in China:

- China's economy is expected to grow at a steady rate supported by favorable government policies as well as global economic recovery, among other factors;
- China's total population continues to show an upward trend and the proportion of elderly population will grow rapidly;
- No material changes in government policies in regards of the pharmaceutical market in China;
- No major technological breakthrough in the relevant industry will occur from 2020 to 2025;
- In addition to macroeconomic factors, certain industry drivers, including but not limited to the increasing disposable income and increasing awareness of health, are likely to drive demand in the forecast period; and
- The negative impact caused by COVID-19 outbreak in 2020 on the industry is expected to be limited, taking into account the impact of the COVID-19 outbreak and estimating market growth for 2020 in a conservative manner based on the industry and economic recovery in China since the second quarter of 2020.

Frost & Sullivan's projections are made based on various market determinants and their coefficients assigned to a market which indicate their relative importance. The market determinants represent both subjective assumptions and objective factors, therefore, the projected data may not be consistent with the real data.

Except as otherwise noted, all of the data and forecasts contained in this section are derived from the Frost & Sullivan Report. Our Directors confirm that after taking reasonable care, there is no material adverse change in the overall market information since the date of the Frost & Sullivan Report that would materially qualify, contradict or have an impact on such information.