



# Business Plan

## WHU-China

### Acneraser



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# 1 project brief

## 1.1 Project context

Acne is the eighth most prevalent disease worldwide, affecting more than 640 million people worldwide, and it's usually associated with changes in hormone levels during puberty, affecting approximately 85% of adolescents. It is believed that the massive secretion of lipids by sebaceous glands is a prerequisite for the development of acne now, and the proliferation of hair follicle microbes such as *Propionibacterium acnes* is also involved in the development of acne. Currently, commercially predominant acne treatments include retinoids, antimicrobials and so on, but the efficacy of these treatments does not meet the needs of most people, especially the adolescents who lack of awareness about acne. As a result, the long-term acne treatment has led to anxiety and confusion in adolescents, which has been a general problem. At the same time, treatment modalities for acne in different skin and age groups are various, so it's still essential for us to conduct relevant research to find appropriate solutions.

## 1.2 Project overview

Generally speaking, acne is related to the blockage of pores by oil and the proliferation of *Propionibacterium acnes* in this anaerobic environment. Our project aims at the acne caused by these factors, and we hope to develop a more convenient drug treatment for acne with fewer side effects. On the one hand, our engineered bacteria have stronger ability to decompose fatty acids, dredge the blocked pores, and destroy the *Propionibacterium acnes*'s anaerobic environment for survival, competing with the *Propionibacterium acnes* for fatty acids as a nutrient source. On the other hand, our engineered bacteria can secrete bacteriocin that can specifically kill *Propionibacterium acnes*. At the same time, in order to ensure the accurate synthesis and appropriate secretion of killing substances, we added a fatty acid sensitive promoter in front of bacteriocin, and we hope to prevent our engineered bacteria from polluting the environment and causing other security threats by using a nutrient deficient strain.

## 1.3 Project characteristics

Using the method of synthetic biology, engineered bacteria are transformed to produce bactericidal substances needed to fight acne. Different from traditional genetic engineering, we created new artificial life in this process. At the same time, the engineered strain competing with *Propionibacterium acnes* to grow in the skin environment, has a better biological affinity, small clinical dosage, high pharmacological activity, small side effects and causes few allergic reactions. Moreover, by designing nutrient deficient strains, we can skin the strains when necessary, which is safe and reliable.

## 2 Market and competition analysis

### 2.1 PEST analysis

In this part, we use PEST analysis to make a detailed analysis of the current business environment of our products belonging to live acne drugs in China from four aspects, so as to have a better understanding of the current market situation and pave the way for product positioning, marketing mode and looking for product value.

#### 2.1.1 Politics

In recent years, with the development of people's living standards and the transformation of social values, people paid more and more attention to appearance, and the medical beauty industry has developed rapidly. Medical resources have always been one of the scarce resources in China. The total number of people diagnosed and treated by medical and health institutions in China reached 8.72 billion, an increase of 4.9% over 2018.

The main political environment currently facing the domestic health and beauty industry is Internet + medical. In "The General Office of the State Council on promoting the development of Internet + medical health opinion", it was clearly stated that to improve the Internet + medical service system, medical institutions are encouraged to apply information technology such as the Internet to expand the medical service space and content, and construct an online offline integrated medical service model covering pre diagnosis, intra diagnosis and post diagnosis.

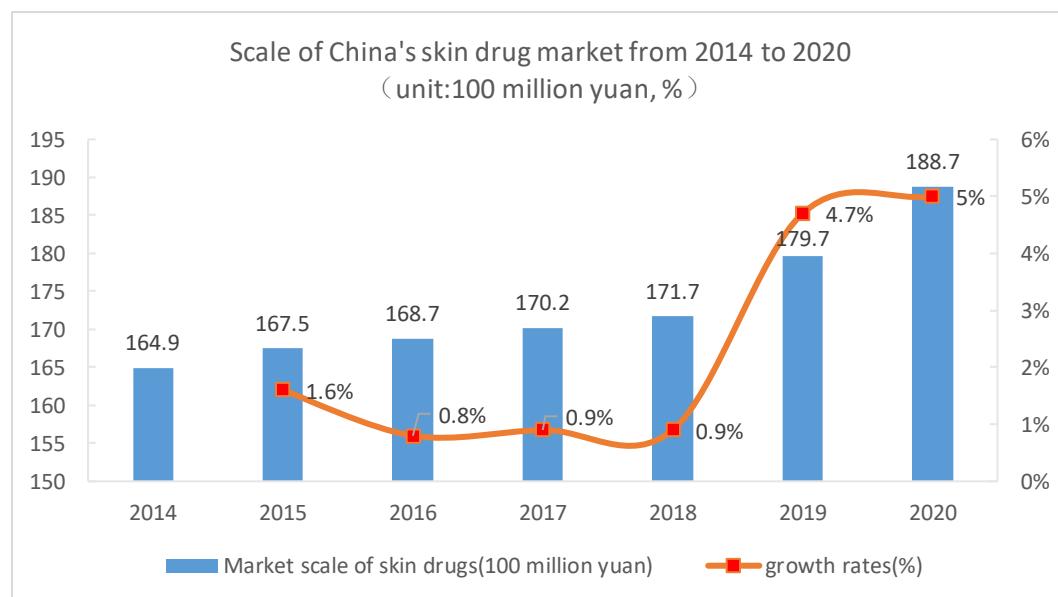
While in 2020 State Council's notice on Further Strengthening the comprehensive medical cosmetic services, it was pointed out that in 2017-2018, 7 departments such as the former national health and Family Planning Commission jointly deployed to carry out a year-long special operation to severely fight illegal medical cosmetic products, which had achieved certain success. Medical cosmetic services should be implemented by the attending physician or the practicing physician under the guidance of the attending physician, and in accordance with the registered medical beauty service items in the medical institutions with medical cosmetology related subjects according to law. In April 2021, in order to strengthen the supervision and management of medical cosmetology institutions in Jianghan District, Wuhan City, Hubei Province, the medical administration supervision meeting of medical beauty institutions was held to further standardize the practice of beauty medical institutions and promote the healthy development of medical beauty services. In view of the political environment's encouragement for the Internet plus medical integration mode of medical beauty industry and the strengthening of supervision and enforcement of medical beauty industry, it is imperative for our products to be sold in the form of live bacteria drugs.

## 2.1.2 Economics

According to the data entitled "July's National Economy Continues stable recovery trend" released by the National Bureau of Statistics in August 2021, under the background of the impact of the epidemic on China's economy, the economic growth level is in line with expectations, employment prices are generally stable, the balance of payments is basically balanced, the main macro indicators are in a reasonable range, and the national economy continues to recover steadily.

As the largest organ to protect the human body, the skin is the first line of defense to protect the human body. It receives the most direct external invasion, such as the infection of bacteria, fungi and viruses in the air and ultraviolet radiation. Dermatosis is a common and frequently occurring disease affecting human health. The incidence rate of human dermatosis is high. It usually does not threaten life. But with the continuous growth of the national economy and the improvement of people's economic level, people have higher consumption ability. Because of the change of people's concept brought about by economic growth, people's sense of image and health have been improved. People's demand for the treatment of skin diseases is gradually increasing. In 2019, the scale of China's skin drug market was 17.97 billion yuan, with a year-on-year increase of 4.7%. In 2020, the scale of China's skin drug market was 18.87 billion yuan, with a year-on-year increase of 5%. In recent years, the market regulation of China's skin drug field was in a period of rapid growth, which is suitable for new products to enter the market.

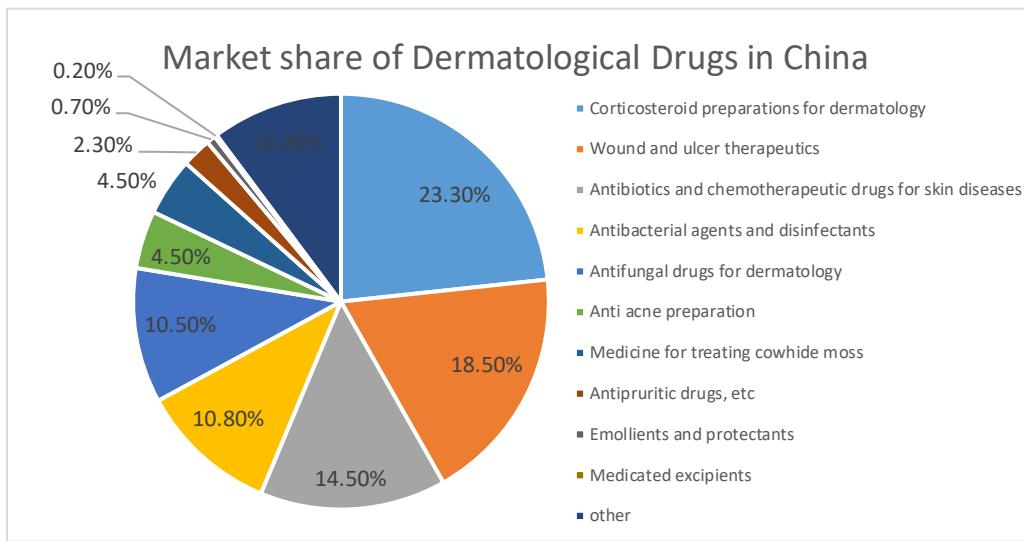
Meanwhile, due to the rapid economic growth and the increasing market size, the marketing methods of business have also undergone innovations in recent years. The promotion of sales mode of Internet platform tiktok and Xiaohong app has become a new trend. And considering that the main target of acne is 13-19 year old young people, whose adaptability to new things is the best and the interest is the highest. It can be seen that the Internet sales model of our products is imperative.



Data source: compiled by prospective industry research institute

The main dermatological drugs in China include corticosteroids, drugs for the treatment of trauma and ulcer, antibiotics and chemotherapeutic drugs, antibacterial agents and disinfectants,

and antifungal drugs, accounting for 77.55%.



Data source: compiled by micnet and China Commercial Industry Research Institute

As can be seen from the figure, anti acne preparations account for 4.5% of the market share in the skin drug market, which can not be underestimated. The market scale of dermatology drugs is relatively small, but there are many participants and fierce competition. At the same time, the current market acne treatment drugs are mainly based on the old Adapalene Gel, Erythromycin Ointment and so on. The new products are less in the field of acne treatment, and there is the barrier of public awareness preventing its entrance into the market. The launch cycle of new acne products is long, which is also an inevitable challenge after the new products enter the market. However, compared with the traditional chemotherapy, we use the latest biotechnology to pursue a more efficient and safe way to solve the problems that have plagued people for a long time. When the new products are launched, they will have enough competitiveness to impact the market. If our live bacteria acne drug products are listed, it will bring major changes to the medical and American pharmaceutical industry and lead the trend of innovation. Even in the industry with extremely fast iterative update speed, it can promote the development of research in the whole industry and better solve problems and provide services for consumers.

### 2.1.3 Society

According to official statistics of the National Bureau of statistics, the total population of Chinese mainland is 1 billion 411 million 780 thousand. By 2020, the natural population growth rate would be 1.45 %, the population mortality rate would be 7.07 %, and the population mortality rate would be 8.52 %. In terms of gender structure, the gender ratio of the total population would be 105.07 (100 for women), 688.44 million women and 723.34 million men. In terms of age structure, 967.76 million people of working age aged 15-64 account for 68% and 55% of the total population, and 190.64 million people aged 65 and over account for 13.5% of the total population. The urban population accounts for 63.89% of the total population.

In recent times, the pace of life has accelerated. Basically, people have more bad working, resting and eating habits. With the further deterioration of the external environment, the

prevalence of skin diseases in China has increased year by year. Research shows that there are common skin problems in China, which also greatly promotes the growth of drug sales in skin areas. The field of anti acne preparations is no exception, so we will seize the opportunity to create marketing opportunities and promote our live acne drugs.

## **2.1.4 Technology**

In the "the thirteenth Five-Year Plan" of scientific and technological innovation, China listed synthetic biotechnology as a key strategic and forward-looking development direction. Several cutting-edge key technologies required to be broken through in the key tasks include all aspects of synthetic biotechnology, including breakthrough in artificial life components, gene lines and biological computing, artificial life bodies, artificial multicellular systems, designing and constructing regulatory principles, developing large fragment DNA and artificial genome, designing and synthesizing technologies, and designing and constructing diagnosis and treatment of major diseases, artificial cell factories for the utilization of light and electric energy, nitrogen or carbon fixation, and the production of chemicals, materials, natural products, drugs and bioenergy. Using the knowledge and technology in the field of synthetic biology to design and produce live bacteria anti acne drugs has great potential. At the same time, because of its relative complexity, it is more flexible and appropriate compared with traditional drugs. We will take technological breakthrough and scientific and technological innovation as the spear to enter the skin market and anti acne market.

Today is the era of interconnection of all things. As a new force of the Internet, social media has the characteristics of large amount of information, fast communication speed, low technical threshold, strong interaction and entertainment. Our marketing strategy will rely on accurate target audience and technical conditions to achieve more significant results than the original marketing strategy.

## 2.2 SWOT analysis

Acneraser SWOT Analysis			
Markt / Produkte	► STRENGTH	WEAKNESS	
OPPORTUNITY			
▼	<ul style="list-style-type: none"> <li>Using the innovation of live acne drugs to attract the public's attention, in the popular science publicity for more live bacteria treatment drugs in the future to lay the theoretical knowledge base</li> <li>Grasp the advantages of the Internet, expand the promotion of this product, through entertainment, advertising and other forms into people's vision</li> </ul>		<ul style="list-style-type: none"> <li>The needs of external markets, complemented by Internet publicity, will help us collect more questions and suggestions related to this product so that our products can be perfected</li> </ul>
THREATS	<ul style="list-style-type: none"> <li>It is precisely because of our innovation is significant, in the future accepted by the public, in more and more professionally trained talent to enter the market, will certainly make the production of our live bacteria products more automated, standardized, watered, procedural.</li> </ul>		<ul style="list-style-type: none"> <li>At the beginning, we must be firmly established to ensure that the safety of the product is resolved. After continuous testing, commercialization is a prerequisite to ensure our success without similar product reference</li> </ul>

### Strength:

- Antimicrobial peptides play a role in many ways to reduce the tendency of drug resistance and can be used for a long time
- It has a strong clearing effect on the overflow cortex of acne patients
- Live bacteria can regulate themselves to a certain extent to achieve automatic appropriate administration and bacteriostasis

### Weakness:

- Antibacterial acne treatment depends on the concentration of drugs
- Lack of similar products for comparison and reference

### Opportunities:

- At present, most of the systemic drugs for acne patients with moderate or above have a high drug resistance rate or a greater possibility of skin irritation
- Internet media may provide opportunities for direct communication and publicity with consumers

### Threats:

- The society is lack of understanding of synthetic biology. At present, it is difficult for consumers in the medical industry to accept the use of synthetic biology drugs
- The production of live bacteria drugs has high requirements, so it is difficult to realize assembly line automatic production like other drugs
- At present, there are few live bacterial drugs for external use, and there are many clinical trials, audit and safety problems

# 3 Products or Services

## 3.1 Product technology overview

Because the engineered bacteria developed by us need to play a role in the condition of living bacteria, the problems of strain activity, the maintenance of strain metabolic ability and the non-pollution of engineered bacteria are the most important. Based on this, we expect that the engineered bacteria culture will be freeze-dried into freeze-dried powder by freeze-drying method. This method requires the dried products to freeze the water contained in them into ice at low temperature, and then dry them in a vacuum environment, so that the ice rises and the water vapor is removed from the products to maintain a dry environment. When customers use our products, they only need to mix the lyophilized powder products with the fresh culture solution products provided by us, and then apply them after activation at a suitable temperature.

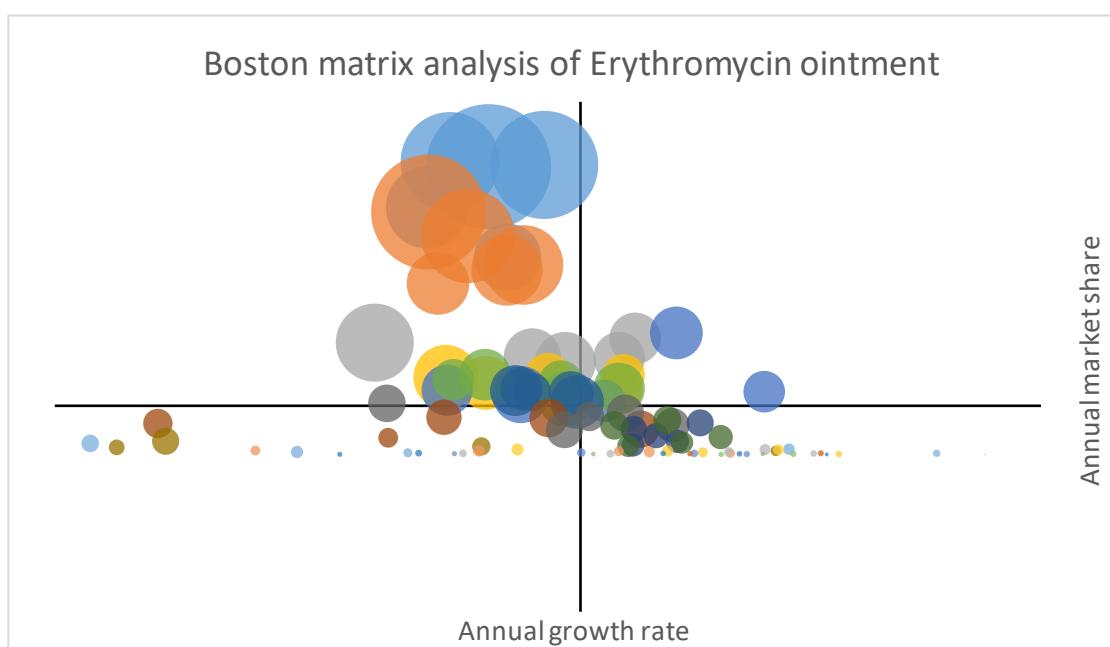
## 3.2 Product introduction and value

In view of the good therapeutic effect of our products on mild to moderate acne, it can effectively alleviate people's acne symptoms, and will no longer be troubled by long-term acne, which greatly reduces the appearance anxiety of people, especially teenagers, and makes them glow with self-confidence. At the same time, it is not easy to cause drug resistance problems, and has a long-term control effect on people's acne. At the same time, the product is activated from bacteria dry powder and applied on the face. Therefore, the product is named acneraser, which means that our product can remove acne like an eraser.

## 3.3 Related product analysis

According to the top20 data of acne preparations at the hospital and retail ends from HUMANWELL HEALTHCARE, we conducted Boston matrix analysis on various acne preparations at the retail ends, and we use the average market share(5%) of the TOP20 major acne preparations as the criterion of whether there was a favorable status on the market share, and the 10% market growth rate as the cut-off point. Therefore, we can see the micro market situation of acne preparations and lay a foundation for the follow-up development of our products.

## Boston matrix analysis of Erythromycin ointment



● Erythromycin ointment	● Adapalene gel
● tretinoin cream	● Isotretinoin soft capsules
● Clindamycin metronidazole liniment	● clindamycin phosphate gel
● Sulfur ointment	● benzoyl peroxide gel
● Clindamycin hydrochloride gel	● Isotretinoin erythromycin gel
● Tretinoil Lipogel	● Tretinoin Vitamin E cream
● Nafloxacin cream	● Vitamin B6 Ointment
● Lincomycin vitamin B6 cream	● Isotretinoin pellets + compound perilla oil soft capsules
● Isotretinoin gels	● Zinc oxide sublimate sulfur ointment
● Clindamycin Phosphate Topical Solution	● Compound Tretinoin gels

From the previous questionnaire survey, we found that the crowd has a high degree of concern and understanding for Adapalene Gel, Erythromycin Ointment and vitamin A cream. We have focused on these drugs. After analyzing the Boston matrix, we found that most of these drugs were star products, with a higher market share and growth rate, and a higher market competition status. They belonged to the main competitors of these products. What's more, these drugs are all used as acne treatment drugs, but there is no change in the mechanism of drugs. On the whole, except for a small number of star products, the vast majority of products are in the lower left and right quadrants, belonging to Taurus products or thin dog products. Taurus products are products with low growth rate and high market share. A large number of Taurus products in the field represent the mature market, generally belong to the cash source of enterprises in enterprises, and no longer pay attention to the expansion of market scale; thin dog products refer to products

with low growth rate and low market share. They are products that should adopt withdrawal strategy. Taurus products and thin dog products account for the vast majority in the field of acne treatment in China, which represents the overall maturity of the market. Many old brand products occupy a high market share, while many new products occupy a small market share, with low growth rate and no good development prospect. It represents that it is not easy for new products to enter the acne treatment market.

### 3.4 Product technical advantages:

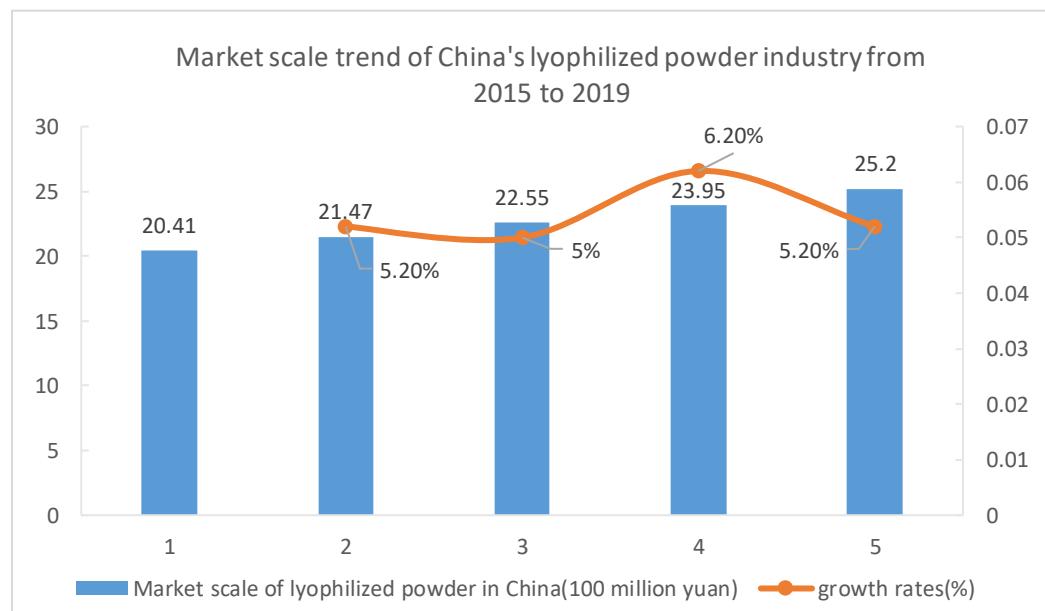
The freeze-drying products prepared by freeze-drying method well meet the requirements of our research results for product form, and have the following advantages:

Freeze drying is carried out at low temperature, so proteins and microorganisms will not denature or lose biological vitality.

1. When drying at low temperature, the loss of some volatile components in the material is very small.
2. In the process of freeze-drying, the growth of microorganisms and the action of enzymes cannot be carried out, so the original properties can be maintained.
3. After adding water, it dissolves rapidly and completely, and almost immediately restores its original properties. Since drying is carried out under vacuum and there is little oxygen, some easily oxidized substances are protected.

### 3.5 Market prospect of products

At present, China's lyophilized powder market has not fully developed, and the market is in a typical blue ocean market and rising period. The latest data shows that the industry scale of lyophilized powder in 2019 is about 2.54 billion yuan, up 6.01% year-on-year, and has maintained a stable growth trend in recent years, with great development prospects in the future.



## 3.6 Comparison of mainstream products

As an acne treatment drug applied locally on the skin, we sorted out the action mechanism and application methods of mainstream products on the market, so as to deepen the understanding of our product positioning.

Topical medication of acne is the basal treatment. Low-grade and mild-to-moderate acne can be mainly treated with topical medication, while moderate-severe and severe acne should be treated systematically and supported by topical medication.

### 3.6.1 Retinoids Medicine

Topical retinoids medicine can improve keratosis of sebaceous gland ducts of hair follicles, dissolve microacne and acne, fight inflammation, prevent and improve pigmentation and acne scar after acne inflammation. In addition, it can increase skin permeability and increase the efficacy of topical antibacterial and anti-inflammatory drugs in combination therapy.

### 3.6.2 antibacterial agents

#### 1. Benzoyl peroxide

Benzoyl peroxide which can slowly release of new ecological oxygen and benzoic acid, can kill *Propionibacterium acnes*, have anti-inflammatory action and mildly dissolve acne. There is no resistance of *P. acnes*, so it can be used as preferred antimicrobial drugs against inflammatory acne.

#### 2. Antibiotics

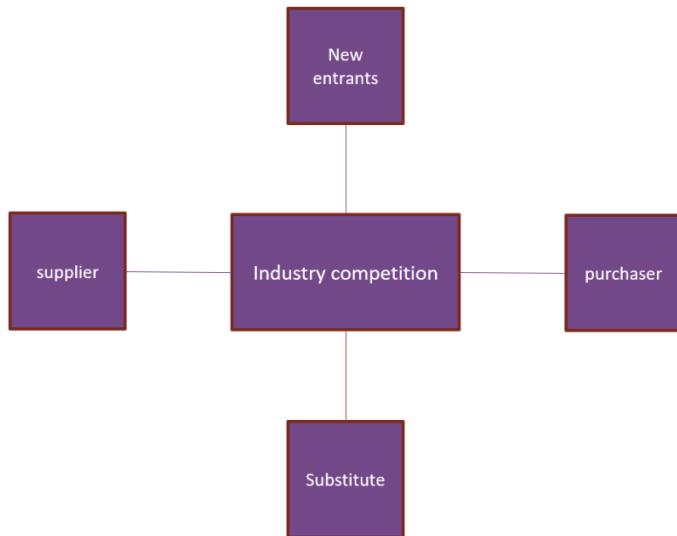
Those antibiotics with anti-inflammatory and anti-*P. acnes* efficacy can be used in treatment of acne. Common topical antibiotics include erythromycin, lincomycin and its derivatives clindamycin, chloramphenicol, and fusidic acid and so on. However topical antibiotics might induce the presence of resistance, so it's not recommended to use antibiotics as the first choice.

### 3.6.3 Others

Different concentrations and dosage forms of azelaic acid, dapsone, selenium disulfide, sulfur and salicylic acid can inhibit *Propionibacterium acnes* and have anti-inflammatory or slight stripping effects, so it can also be used as candidates for topical treatment of acne.

## 3.7 Competitive strategy analysis

We use Porter's five forces model to analyze the competitive environment after our products enter the market.



### 3.7.1 Threat of entry barriers

The pharmaceutical industry is not only a high investment, high profit, but also a high-risk industry. In China, the pharmaceutical industry is subject to more stringent policy restrictions. At the same time, in recent years, the management of medical beauty is more strict and the operation will be more difficult. At the same time, the product R & D of drugs requires huge R & D costs and high technical requirements when participating in market competition for a long time.

In addition, when drugs enter the pharmaceutical industry, we must first consider the pharmaceutical distribution channels, otherwise it is difficult to continue to operate. In China, the drug distribution channels are strictly restricted and supervised, making it almost impossible to change the drug distribution channels. However, the traditional distribution channels take a lot of time and capital costs.

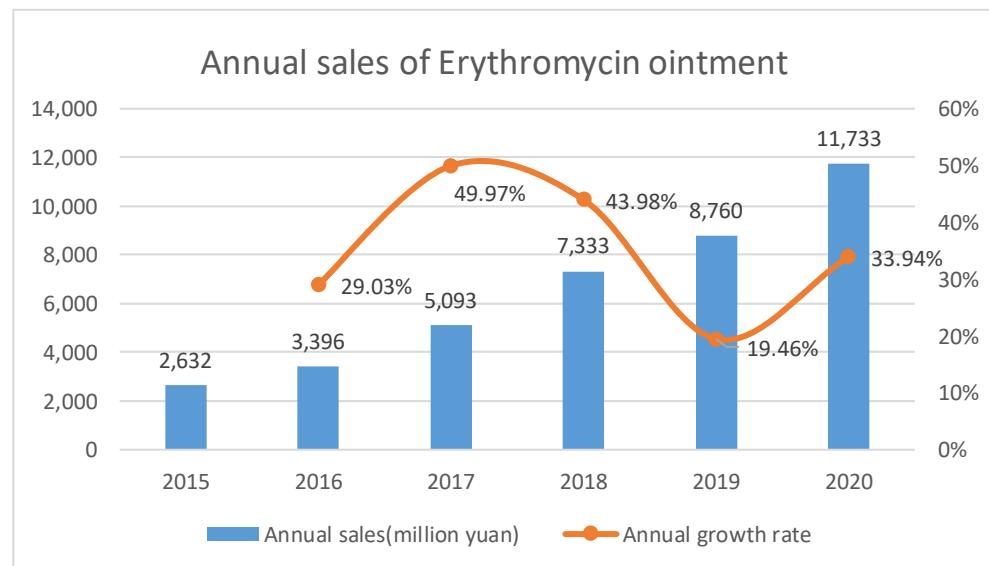
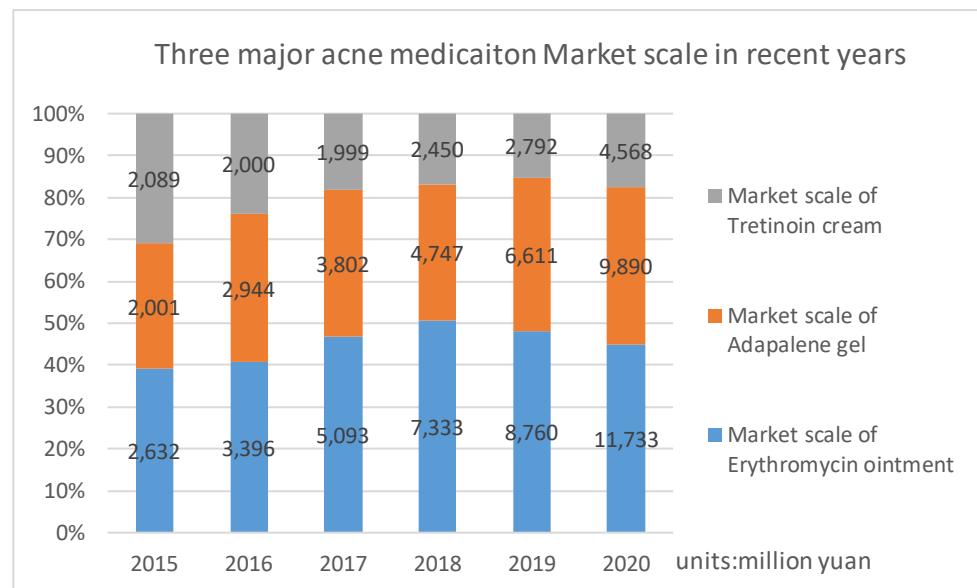
Moreover, as a new technology industry, the public does not know much about live fungus drugs, and drugs applied to the face will cause people's concerns. It is likely to be difficult to promote sales at the initial stage of listing, and there are entry barriers.

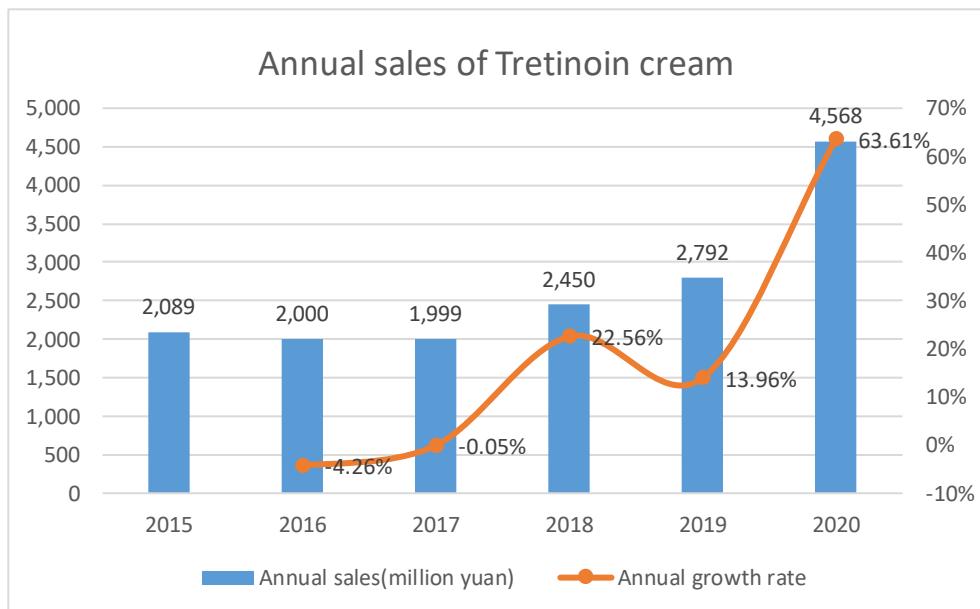
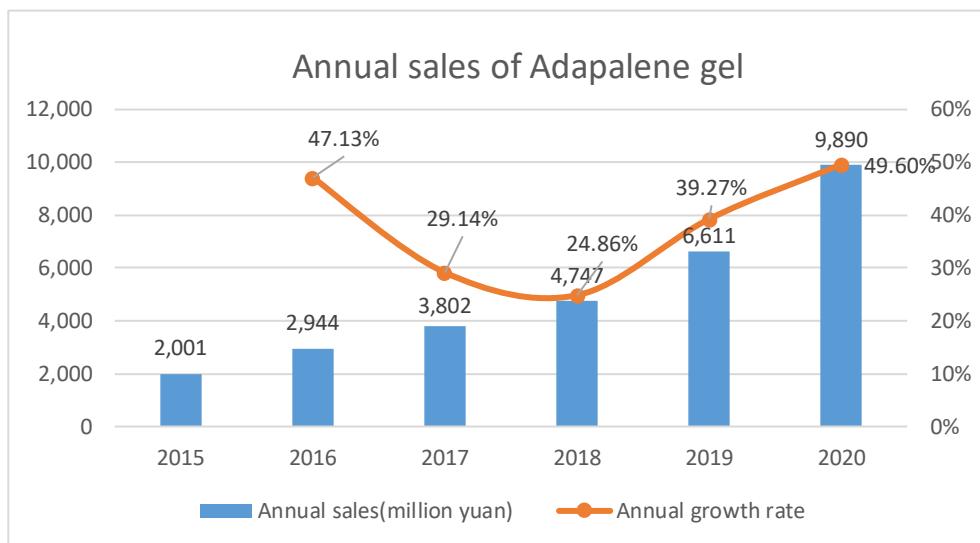
As a high threshold industry, according to the above analysis, the pharmaceutical industry has a great threat of entry barriers.

### 3.7.2 Existing intra industry competition

According to the market research results provided by Narita pharmaceutical company, the market size of Erythromycin Ointment, Adapalene Gel and vitamin A yogurt from the 2015 to 2020 was analyzed and compared for the three star products in the TOP20 acne treatment products at retail outlets. They were found to be more than 200 million yuan in size and 1 billion yuan in 2020. In recent years, the proportion of their market scale has changed little. Comparing the annual sales and annual growth rate of each product, it is found that in recent years, except for the two-year negative growth of retinoic acid cream, other products have maintained an annual growth rate of about 30% in recent years, even as high as 70% at the peak.

From the perspective of the competitive environment in the industry, the market expansion speed of acne preparations and drugs in recent years is rapid, the market potential is amazing, and they are all mainstream chemical preparations and drugs with high market acceptance. From the perspective of product structure, it is not conducive for products to enter the market in the early stage, but from the perspective of market capacity, the future marketing of products has a certain market foundation guarantee.





### 3.7.3 Bargaining power of the buyer

Due to the particularity of the pharmaceutical market, the conventional pharmaceutical distribution is divided into retail and hospital. We will discuss it here in two cases.

First, for the retail end, the retail market mainly focuses on pharmacies. The prices of most skin drugs range from a few yuan to several hundred yuan, but the prices of the main sales varieties are about 30 yuan, which is also more in line with the purchasing power of consumers. Because acne and other skin diseases are often difficult to cure and often relapse, consumers often consume continuously when buying, and have a certain brand dependence on products. When selling products, they should flexibly use marketing means to promote consumer consumption and enhance customers' dependence on products.

For acne treatment products at the hospital end, the government restricts drug reimbursement, prescription and medication, strictly controls drug prices, and controls the profit

margin of wholesalers and retailers, so as to achieve the purpose of controlling the drug market. Therefore, in the whole market, consumers have almost no initiative, and can not make a simple market evaluation on the price of drugs, which lacks of market elasticity. Only through administrative intervention, that is, different control and incentive measures taken by the competent government departments to affect the demand and supply of drugs.

To sum up, consumers have no bargaining power for drugs at the hospital end. We can control the price through the retail end, and make patients get more positive product information from us through the marketing publicity of social media and new Internet platform, so as to improve the acceptance of products.

### **3.7.4 Bargaining power of the supplier**

The cost of investing in the research and development of new drugs is very high, and this product is still in the stage of preliminary research and development. The uncertainty of research and development results make it impossible for us to predict the actual investment. At the same time, due to the lack of pricing information of our new live bacteria drugs by the regulatory authorities, it is difficult to evaluate the market income. At the same time, the product technical route has not been determined, and the manufacturer and cost of product production are uncertain. Therefore, we still can not effectively regulate the price of products.

### **3.7.5 Threat of substitutes**

The intellectual patent protection of drugs limits the product choice of new entrants. During the patent period, other manufacturers shall not copy drugs, so as to limit the choice of other market entrants. As a new technology-oriented product, we have our own advantages and greatly reduce the threat of substitutes.

## **4 Business model**

### **4.1 Profit model**

In our business model, we mainly have three profit models:

- ① Provide technical services to help relevant enterprises carry out research and development related to synthetic biology or acne treatment.
- ② Sell some technology platforms or a technology or patent in the whole technology system to relevant R & D units to help them develop related similar products more quickly and effectively and promote the development of the whole market environment.
- ③ Promote the developed products through the cooperation of medical representatives, hospitals, pharmacies and Internet platforms, and sell them to acne patients. Profit by selling products.

## 4.2 Research and development mode

We are now using the laboratory provided by the school of life sciences of Wuhan University for independent research. The project is independently researched and developed by the team. In terms of R & D, on the one hand, we are seeking cooperation with companies or institutions engaged in acne treatment or synthetic biology research. On the other hand, we are trying to apply the latest research results in relevant fields for research, so as to expand the application of our product technology, further improve the quality of products and enrich the functions of products.

## 4.3 Production mode

At the initial stage of development, our products will be produced by OEM companies with production qualification around Wuhan. Through large-scale production with appropriate manufacturers, we can reduce production costs, improve production efficiency, enhance our market competitiveness, and enable our business team to focus on product R & D.

In the middle and later stage of the project, we plan to invest in our own factory to produce products.

## 4.4 Channel sales model

### 1. Offline:

The product sales adopts the combination of direct sales and commission sales. The sales plan in the foreign market is realized through distributors. The sales team in the domestic sales team is set up to be responsible for the product promotion, directly facing hospitals, biological products enterprises, universities and biological products research institutes.

### 2. Online:

Online sales we will adopt B2B business model and establish official sales centers on multiple e-commerce platforms.

Moreover, the company plans to establish an official website, build a vertical B2B platform, concentrate all efforts to build a professional information platform, efficiently connect hospitals, biological products enterprises, universities and biological products research institutes, and develop more in-depth and unique service contents and profit models in continuous exploration.

## 4.5 Marketing Strategy

### 4.5.1 Target market

At this stage, our main target market is acne patients. In 2019, 127 million Chinese consumers suffering from acne were college students. 133 million were college students, and 294 million were white-collar workers over the age of 25. Acne is a common skin problem among young consumers,

and the market demand is also growing.

### 4.5.2 Product strategy

Our products have core competitiveness in principle. In order to show our product strategy to the market, we have made the following analysis on our product level.

## production strategy

product hierarchy	description
core product	The core product of our project is the biological agent for the treatment of acne. The advantage is that it can decompose fatty acids and produce bacteriocin at the same time, and treat acne from multiple angles, which is more targeted.
formal product	Our expected product is to produce gel containing engineering bacteria, which can be applied to fixed-point when used.
future product	It is hoped that we can use our principle to make biological agents that can be used to treat more skin diseases by regulating microorganisms on the skin surface, so as to improve the applicability of the products
potential product	Promote new technologies and patents in our product R & D process, promote the development of the industry and accelerate drug R & D.

### 4.5.3 Price

In the early stage of the company's development, we will focus on the core business, accumulate early capital through technical services, patent transfer and other ways, and actively cooperate with drug companies and research institutions. For this part of business, considering the traditional acne market and the positioning of our innovative product engineering bacteria, we decided to adopt skimming pricing strategy. With the expansion of business scale and the increase of sales volume, the company will maximize profits at any time by appropriately adjusting prices and affecting sales changes.

### 4.5.4 Channel

According to the market characteristics of bacteriostatic therapy, we have formulated a channel strategy combining point-to-point sales in the early stage and agent distribution in the later stage to meet the needs of improving market coverage, channel flexibility and channel control.

#### 1. Channel Selection

For our three profit models, we will choose different channels:

(1) Technical services and patent transfer: make use of the cooperative relationship between Wuhan University and other relevant hospitals or biological research institutes for point-to-point supply.

(2) Product sales: cooperate with medical representatives, hospitals, pharmacies and Internet platforms, and use two modes of online sales and market sales to promote synchronously.

In order to further consolidate the market share, while expanding the sales scope, we will adjust the business model and try to establish a national sales network through the network or offline institutions, so as to give more timely feedback to customers' opinions, provide better services, or further improve product technology.

## 2. Channel expanding

Basic steps for developing sales channels:

1) Find the target market and delineate the target customers: collect the information of all target markets in the city, such as scientific research institutes, hospitals and pharmaceutical companies, gradually visit, make visit records, and delineate the target customers according to the response of each customer.

2) Unannounced visit: visit the market secretly to understand the background of target customers: after selecting your target customers, you can visit the market twice to understand the business philosophy, management ability, financial ability, business location, brand identity, etc. of these intended customers.

3) Screening: sort out data, select effective information, visit target customers again, select customers more in line with the company's culture and direction, and determine the final sales and cooperation object.

4) Entrapment: publicize the company's favorable policies in recent years, the team's rapid development and brand expansion in recent years, and focus on the new policies for new customers.

5) Signing: establish the contract, carefully explain each clause in the contract, and ask him to sign the contract explanation receipt.

6) Encouragement: keep abreast of the changes in customers' mentality and business dynamics. In case of patent authorization cooperation, track the situation of the cooperative enterprise in time and make timely adjustments to relevant work.

7) At the same time, the team plans to expand brand awareness through exhibitions, lectures, academic conferences and other activities, carry out word-of-mouth marketing, and carry out long-term and effective cooperation with hospitals, scientific research institutes and other institutions.

## 3. Channel control

1) Vision control: timely communicate with relevant hospitals, scientific research institutes and biomedical companies to share research ideas, corporate culture, development ideas and vision; the official account or publication of an enterprise should be established, and the information on research progress and development status should be released regularly.

2) Brand control: brand is an important resource of the enterprise. The team adheres to brand construction and brand marketing. Establish a good brand image at the level of relevant hospitals, scientific research institutes and biomedical companies and exert influence on channels. Through this brand, it will reduce the sales cost and improve the sales efficiency, so as to control the sales channel.

3) Service control:

Control the production and manufacturing process of products to ensure the implementation of product quality;

Adjust the sales channels at different stages of the product life cycle;

Make adjustments to channels at different stages of the product life cycle;

Ensure the quantity and quality of products and services through the supervision and management of dealers;

Guarantee the quantity and quality of various services for products through the supervision and management of dealers;

Establish a special supervision and evaluation department to supervise and evaluate the technical services and patent authorization, and pay a return visit to customers in time.

#### 4) Interest control

Control the price of products and services;

Improve product and service quality;

Expand publicity channels;

Make appropriate promotions and discounts;

If the distribution is adopted, appropriate rebate and distribution standards will be determined in time through communication with distributors.

