



Baiyu Pharm

**A Global Fully Integrated Innovative
Pharmaceutical Group**

Corporate Presentation Contents

- 1、 Corporate Overview**
- 2、 Product Research & Development**
- 3、 Manufacturing and Supply**
- 4、 Domestic Marketing & Distribution**
- 5、 International Business Development**

Corporate Overview

A Glance At Baiyu (2019)



RMB 1.8 billion

Total asset



1300+

Employees



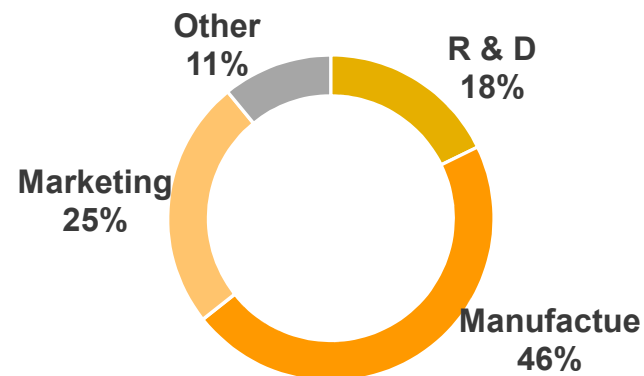
RMB 1.5 billion

Annual revenue



RMB 310 million

Annual tax



Manufacturing & Supply:

Chengdu Chuanyu Pharmaceutical Co., LTD.
Sichuan Yujian Pharmaceutical Co., LTD.
Chengdu Baiyu Ginkgolide Pharmaceutical Co.,LTD.
Tibet Shangshan Ginkgo Agricultural Development Co., LTD.
Chengdu Baiyu Medical Supplies Co., Ltd.

Domestic Sales & Marketing:

Chengdu Jinbaiyu Pharmaceutical Co., LTD.
Jinyuda Pharmaceutical Co., LTD.

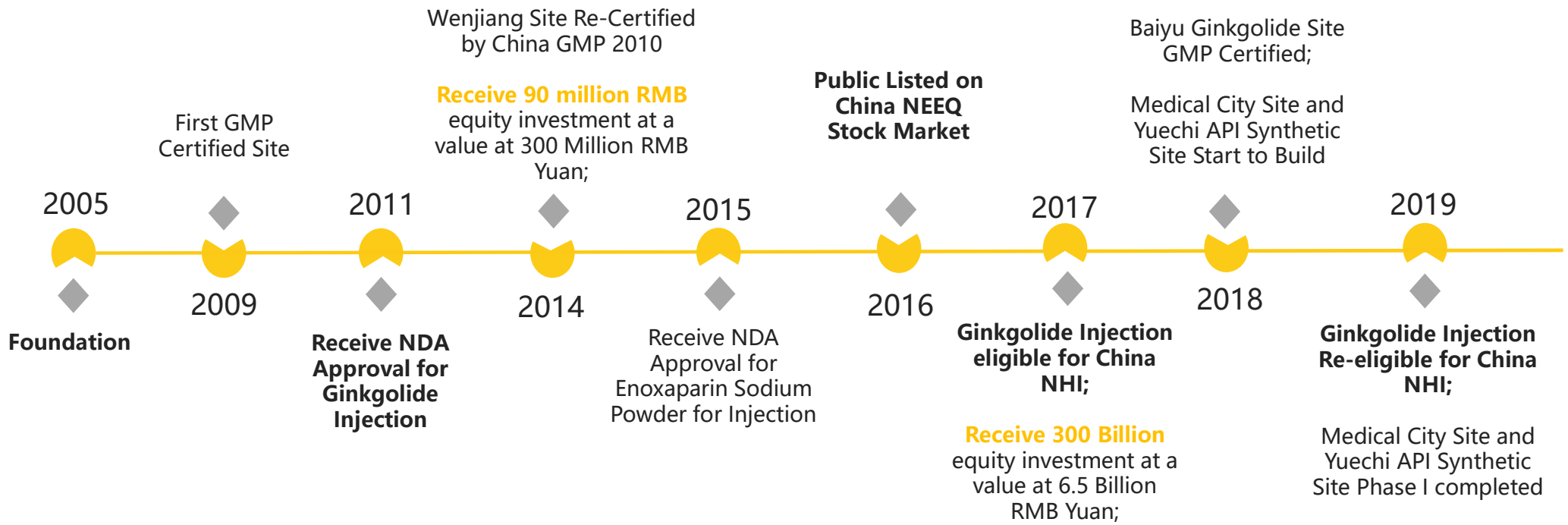
Information Service:

Ginkgo Yukang Information Services Co., LTD.



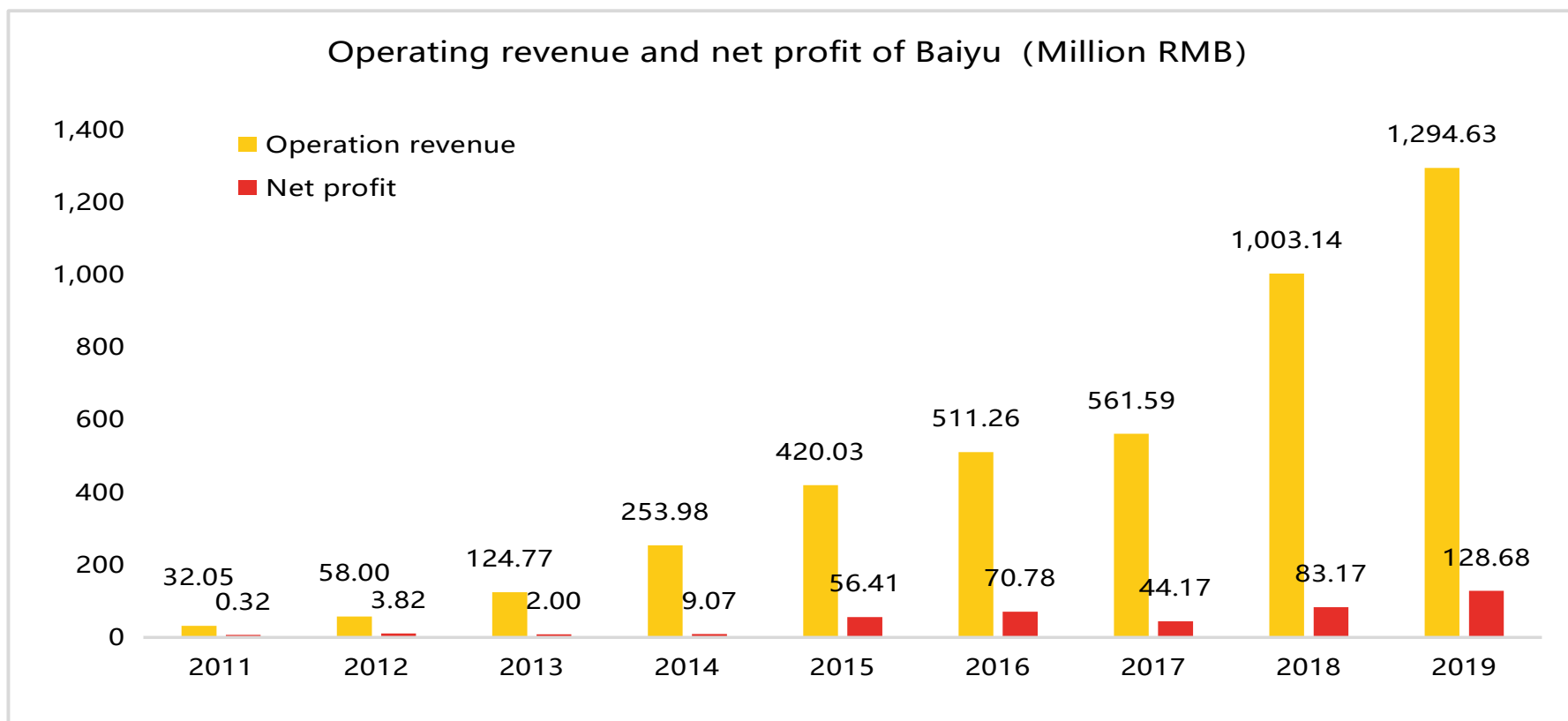
Chengdu Baiyu Co.,Ltd.

Corporate Overview-Development History



Corporate Overview

Annual Operating Revenue Exceeds **RMB 1.2 Billion** in 2019 with Annual Growth > 20%;





Product R&D

Driven by Innovation to Satisfy Unmet Medical Needs

Product R&D-Platform

International Standard of R&D Platform Consisting of Two Research Division (Innovative & Generic)

2019 R&D Expenditure Investment exceeds 90 million RMB Yuan, accounting for 8% of the annual operating revenue.

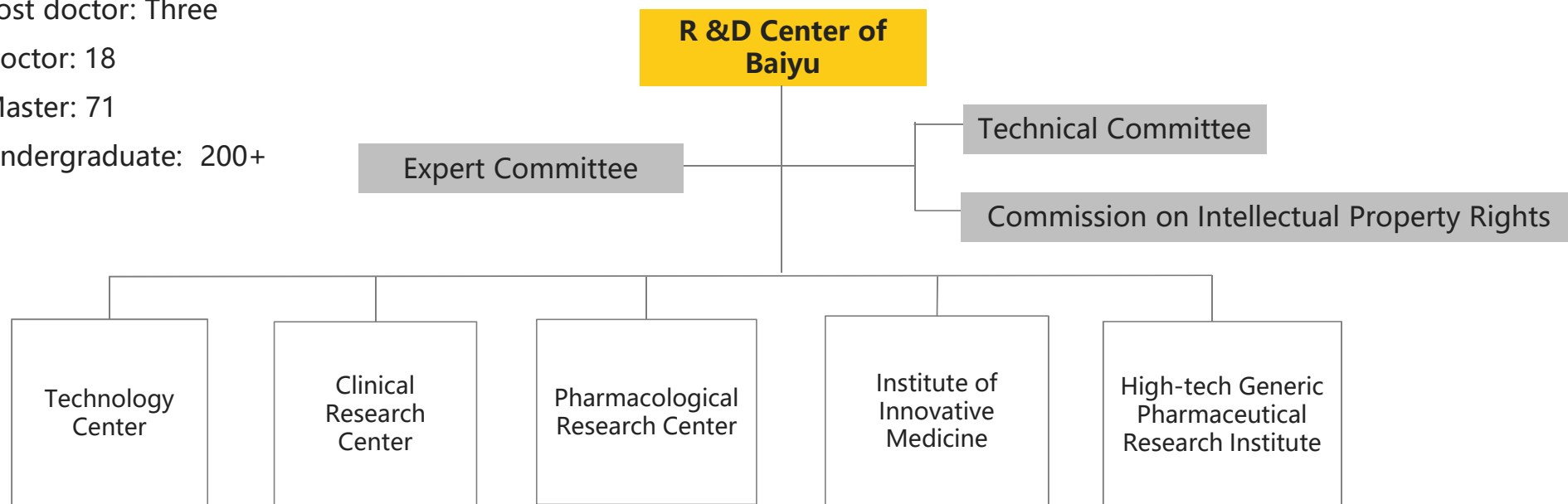
300 Researchers

Post doctor: Three

Doctor: 18

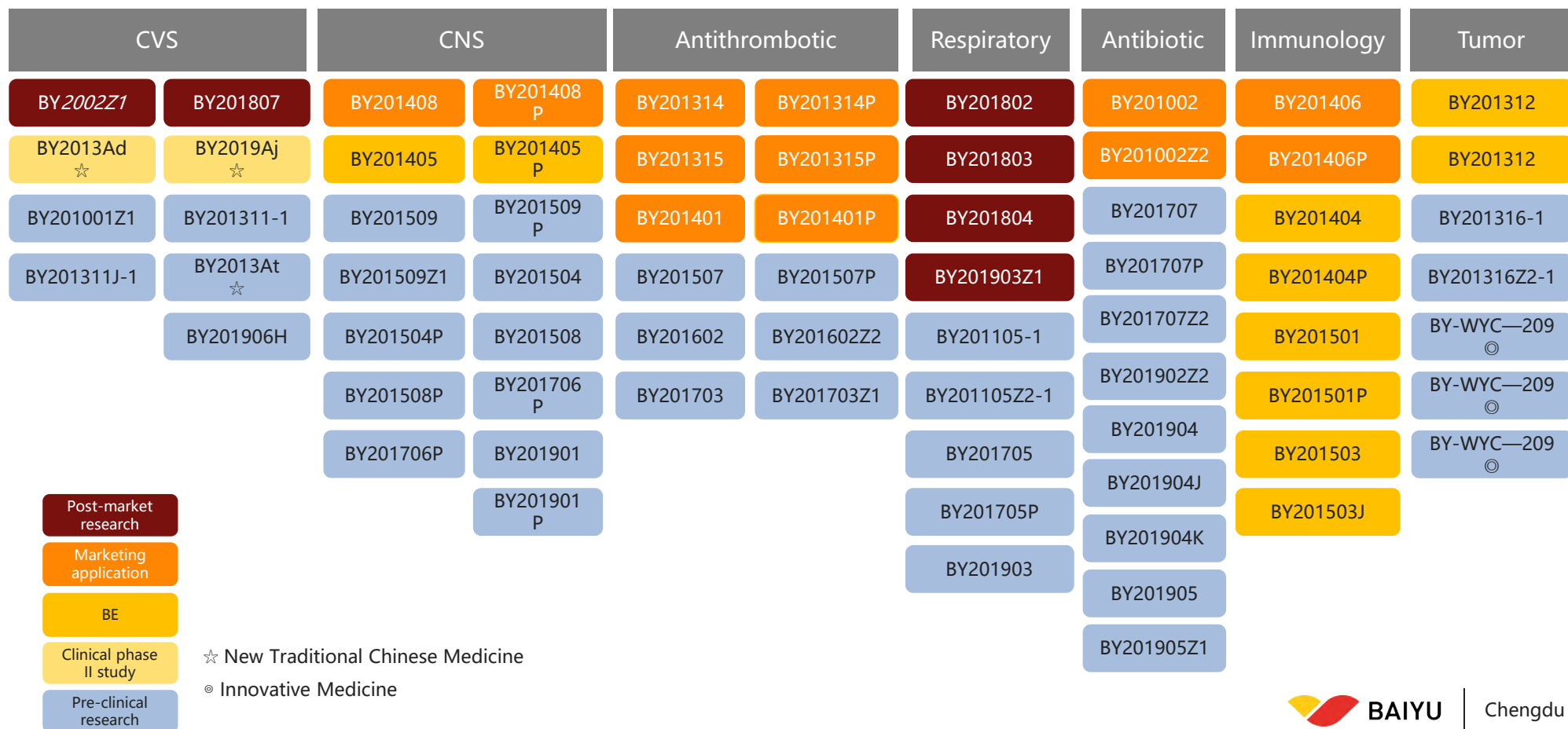
Master: 71

Undergraduate: 200+



Product R&D Pipeline

Product Pipeline



Product R&D-NCE Pipeline

Innovative Drug Pipeline Review

DD-2001

Indication: Hemiplegia
Best-in-class

DD-1002

Neuroprotection
Best-in-class

DD-2003

Anti-inflammation
First-in-class

DD-1004

Inhibiting tumor proliferation
First-in-class

DD-2005

Cardiovascular protection
First-in-class

DD-2006

Inhibiting tumor mutation
Best-in-class

DD-1008

Central nervous protection
First-in-class
Best-in-class

DD-2113

Antiviral
Best-in-class

Summary:

Category: New chemical entity

Designation: First-in-class
Best-in-class/Me-Better

Therapeutic Area:
CVS, Tumor, Inflammation Immunology

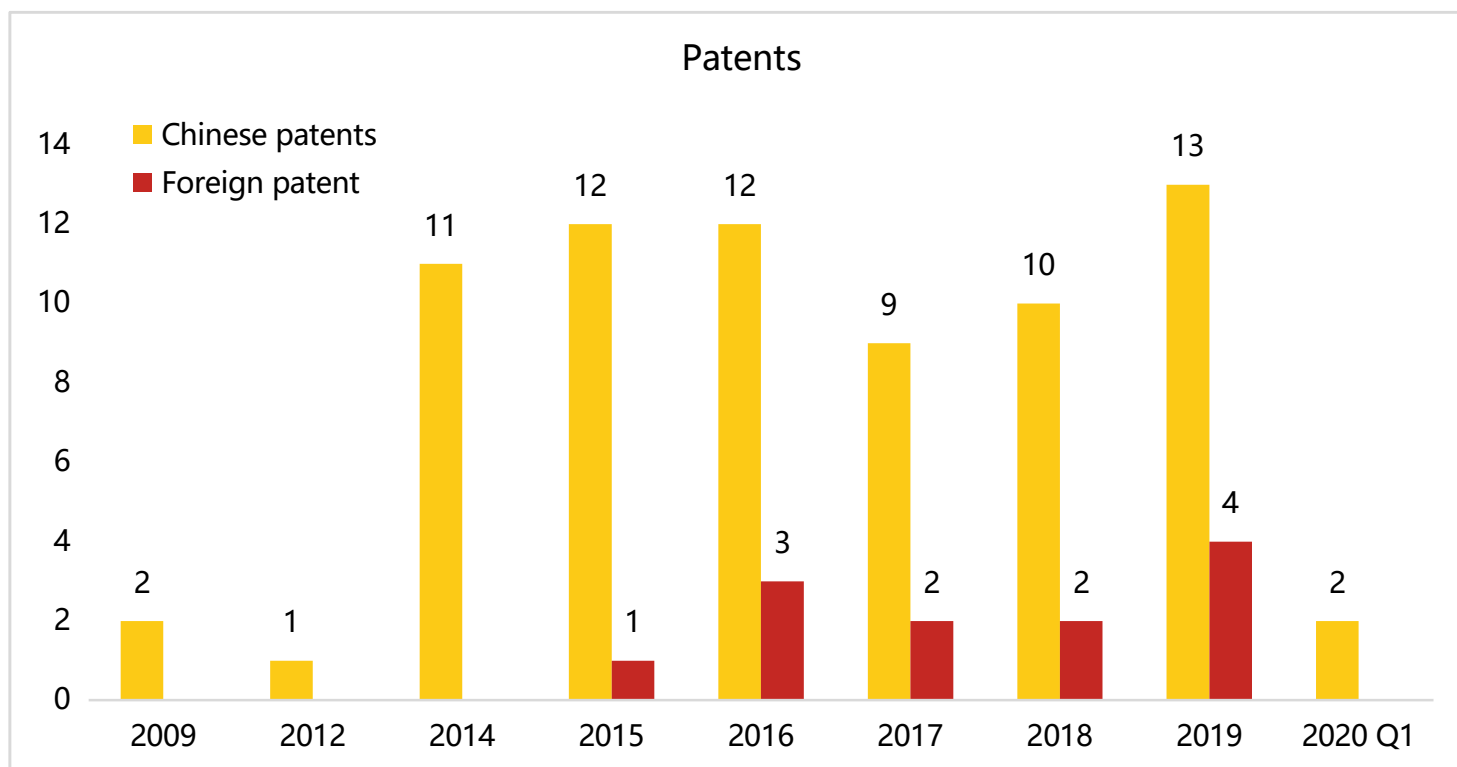
Category:
Antibody (Monoclonal antibody, Double-antibody, New antibody);

Designation: First-in-class;

Therapeutic Area: CVS, Inflammation, Immunology;

Product R&D-IP& Patent

Well Established IP Protection, Patent Designation Review



Chinese patents

Patents filed: 184

Patents granted : 72

International patents

Patents filed: 29

Patents granted : 12

Europe, America, Japan, Korea,
Canada, Singapore

Product R&D-Pipeline

List of Commercialized FDF Product Portfolios

Baiyu focuses on **cardiovascular** and **cerebrovascular** diseases with a variety of product portfolios in the therapeutic areas of cardiovascular, neuropsychiatric, digestive system, anti-infection, Pain Management, tumor and other areas.



Product R&D-Ginkgolide

Highlight Product: GINKGOLIDE[®]: Global leader in Ginkgo Herbal Drugs

Injection Extracted from Herbal



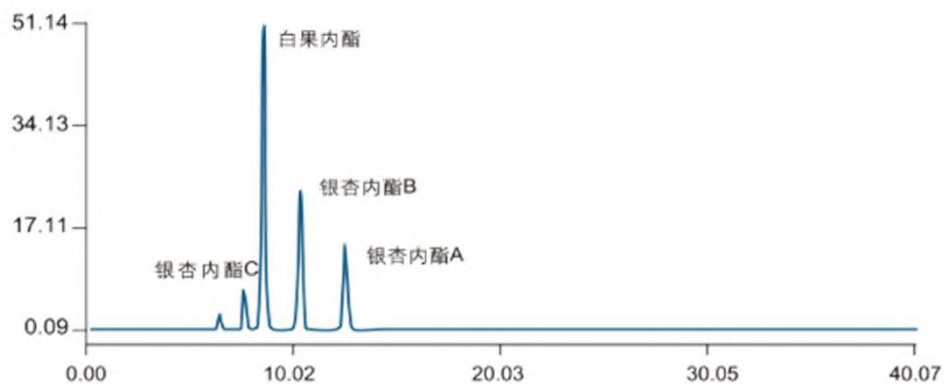
- Advanced technology lead global ginkgo drugs from the extraction mixture into the molecular-based era;
- In 2019, the Chinese National Administration Law classified GINKOLIDE as Class 1.1 of Innovative Traditional Chinese Medicines;
- The first innovative anti-PFA drug launched globally;
- Accumulated sales volume has reached 3.6 billion RMB Yuan in last 7 years;
- Global Market under evaluation and promotion in Key Regions.

Product R&D-Ginkgolide

Highlight Product: GINKGOLIDE[®]: New Standardized Ginkgo with better stability

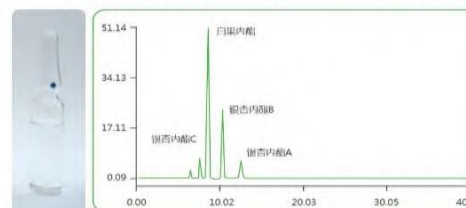
Different from the compatibility theory of traditional Chinese medicine, Baiyu Ginkgolide breaks through the problems of unclear ingredients, unclear mechanism and uncertain effect of traditional Chinese medicine;

Optimized Product Impurity Profile compared with EGb761[®], Cage-like molecular structure acts at the PAF target.



金阁菜®指纹图谱

金阁菜® (银杏内酯注射液)

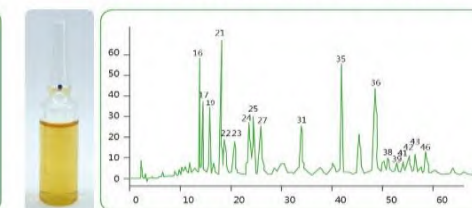


有效成分

杂质含量

质量标准

普通银杏叶提取物注射液



有效成分

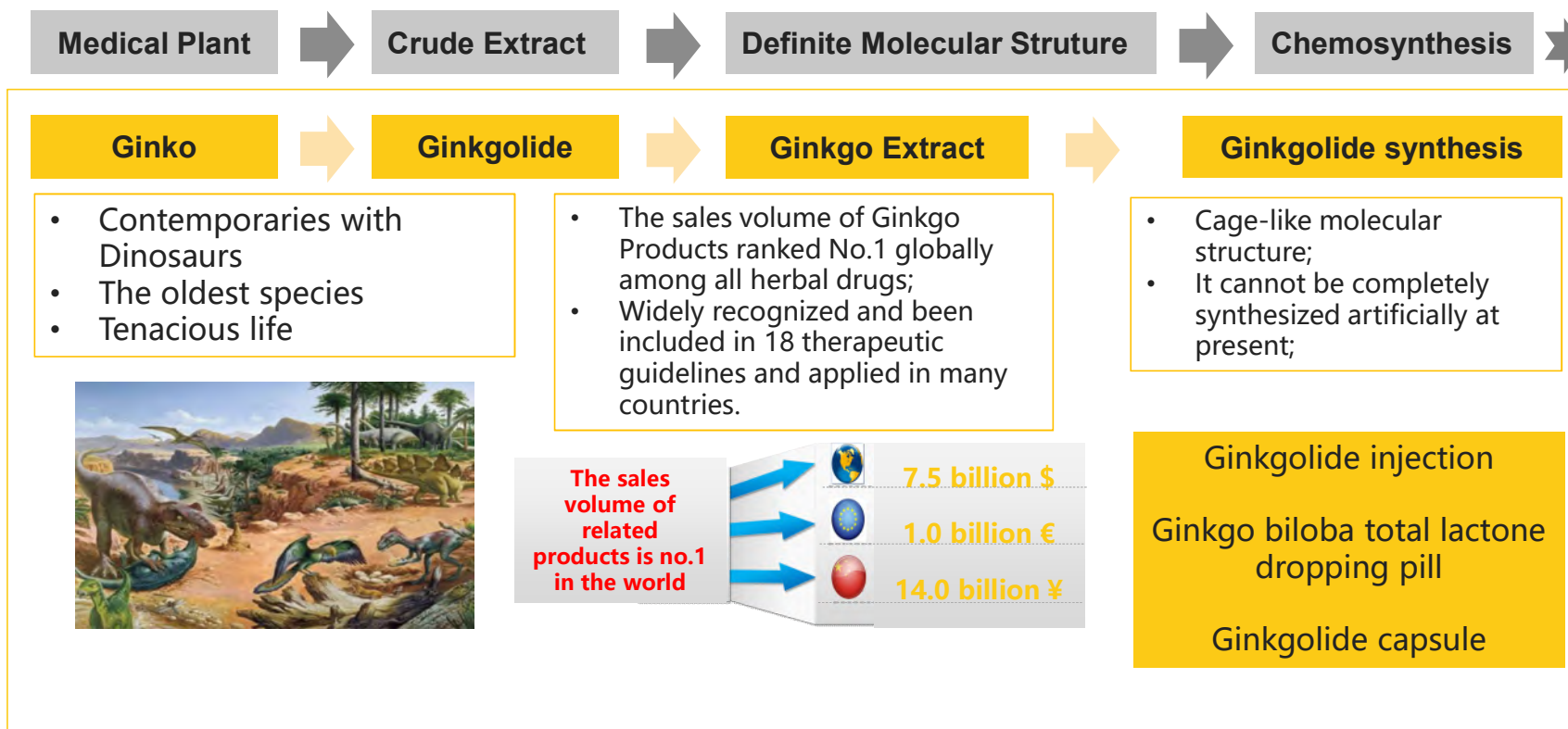
杂质含量

质量标准

指纹图谱显示

Product R&D-Ginkgolide

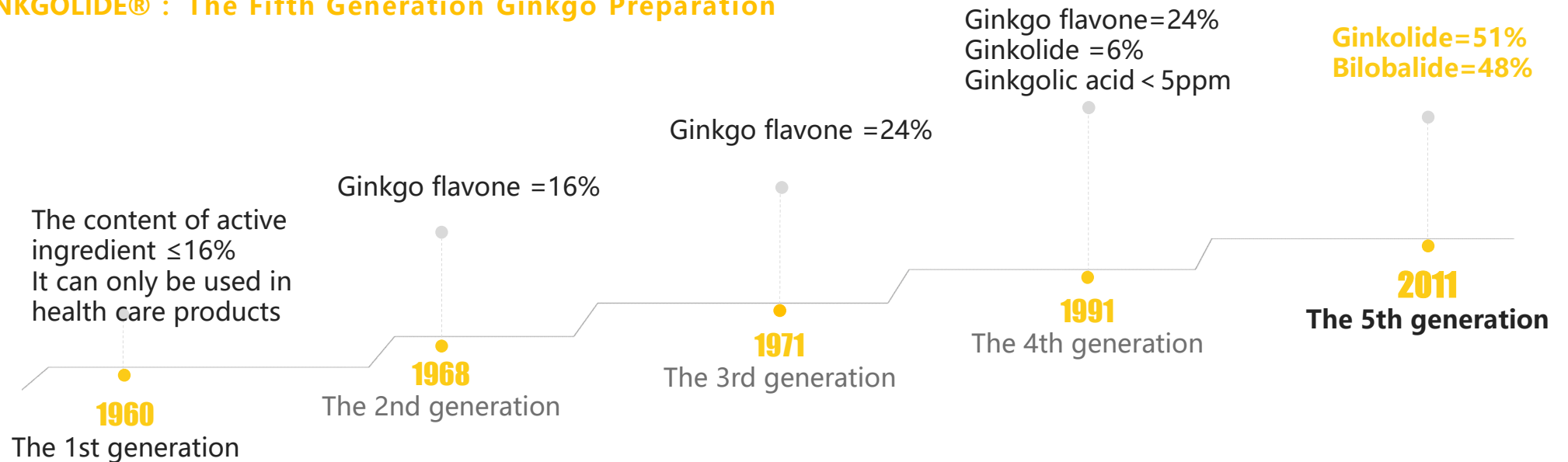
Global leading extracting technology to be the first molecular-level GINKGOLIDE®



Pathways for R&D of plant-based Herbal Drugs

Product R&D-Ginkgolide

GINKGOLIDE® : The Fifth Generation Ginkgo Preparation




- Dr. Schwabe, a plant medicine expert with 150 years of history, has successively launched the First to Fourth generation of Herbal preparations containing ginkgo biloba extract;
- Baiyu launched the Fifth generation of Ginkgo biloba extract preparation with technical breakthrough and lead the development of modern Chinese Herbal Drugs.

Product R&D-Ginkgolide


GINKGOLIDE® : Using breakthrough Formulation Technology

Published in *Angew Chem Int Ed Engl* in 2004:
Bilobalide and ginkgolide are the core components of Ginkgo biloba extract (EGB761), which are effective ingredients that regulate the function of the nervous system.



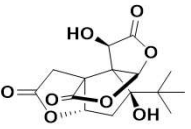
In 2008, the U. S. Pharmacopeia raised the standard for ginkgolide content in ginkgo biloba extract from 6 percent to 12 percent.

Dr. Zhongxi Xianger
(The discoverer of the ginkgolide structure)

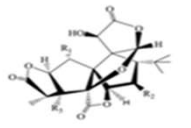


Characteristics of ginkgolide:

- ❑ Cage-like molecular structure
- ❑ A fat-soluble ingredient can pass through the blood-brain barrier
- ❑ Very low content
- ❑ Insoluble in water, hardly soluble in many organic solvents
- ❑ The ring structure is easy to be destroyed in the extraction process
- ❑ Cannot be synthesized artificially



Bilobalide



Ginkgo diterpene lactone

Ginkgolide is the most important effective component of Ginkgo biloba leaves, and it cannot be synthesized artificially because of "cage-like molecular structure". Modern extraction, separation, purification and preparation technology are the key to solve the problems of ginkgolide, such as insoluble raw material, unstable chemical structure and unstable preparation.

Technology on extraction

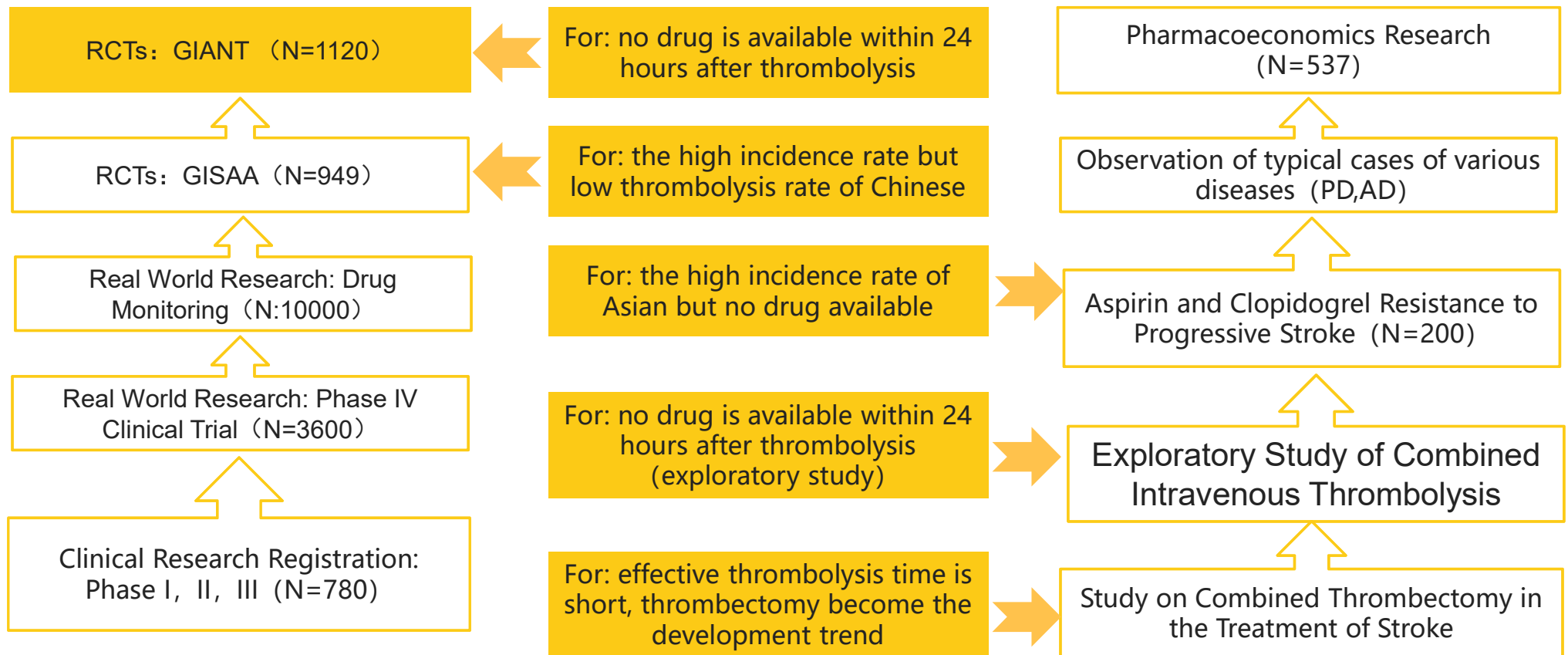
Overcomes the extremely low content of ginkgolide in leaves, and the extraction purity is as high as 99%

Technology on preparation

Solves the problems of insoluble raw materials, unstable structure in organic solvents, easy destruction of cyclic structure and impurities.

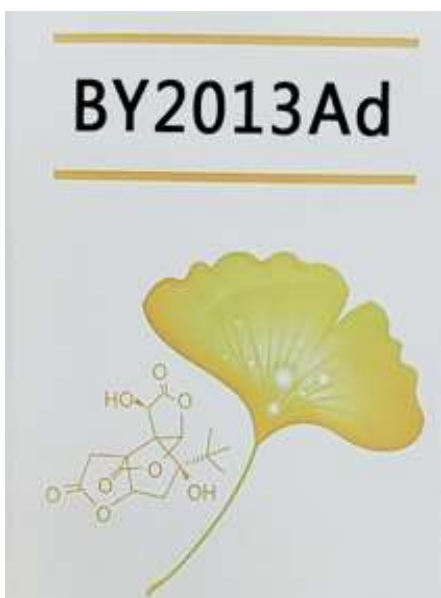
Product R&D-Ginkgolide

GINKGOLIDE® : Proven to be effective and Safe through Clinical Evidence-Based Record



Product R&D-Ginkgolide Pallet

GINKGOLIDE Pallet® : Promising Alternative Therapy Against Anti-Aspirin Asian



- **Innovative Target with New Mechanism:** The global unique medicines capable of **combining Neuroprotection and antiplatelet aggregation of neurovascular units double mechanism.**
- **Evidence-Based:** Proved to be effective and safe with more than 20,000 subjects clinical evidence data for treatment of cerebral apoplexy and coronary heart disease;
- **Patented Tech.:** 36 Steps of patented technology to control and ensure the consistency of molecular-level quality;
- **Marketing Value:** Plan to submit as Herbal Drugs in EU/US with potential market value to be US 1 billion.
- **Clinical Stage: Stage II in P.R. China.**



Chengdu Baiyu Co.,Ltd.



Manufacturing & Supply

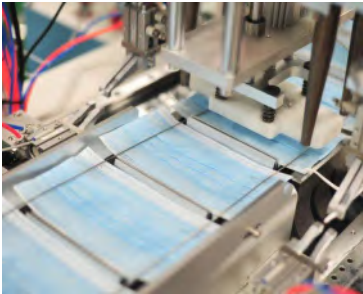
Operates in Compliance with Strictly cGMP Regulation

Manufacturing and Supply

Integrated Manufacturing and Supply Chain

- Four Ginkgo Biloba Leaves planting bases;
- One API Manufacturing Site (Sichuan Yujian);
- Three FDF Manufacturing Sites;
(Wenjiang/Ginkgolide and Medical City Site)
- One Medical Devices Factory (Mask Medical Supply);

Masks



Chengdu Baiyu Mask Supply Co., Ltd.

4 adult face masks line: 500,000 pieces per day;
1 children's mask line: 120,000 pieces per day;
13 KN95 Standard masks 480,000 pieces per day;



Sichuan Yujian Pharm. Co., Ltd.

- Established in 2017 covering a area of 130k square meters;
- Operates in compliance with US/EU cGMP.

API



Medical City Site

- Established in 2019 covering area of 105k square meters for FDF Manufacturing;
- Operates in compliance with US/EU cGMP;



Baiyu Ginkgolide Pharma Co., Ltd.

- Established in 2013 covering area of 53k square meters for FDF Manufacturing;
- Operates in compliance with US/EU cGMP

FDF



Wenjiang Site

- Established in 2005 covering area of 20k square meters for FDF Manufacturing;
- Operates in compliance with China GMP.

Manufacturing and Supply

Start of Art Manufacturing Facility



◆ Intelligent Informalized System

ERP+OA System: Enable traceable online management.

◆ Real Time Remote Recording and Monitoring

All data automatically submitted and recorded in SCADA server to enable real-time recording and monitoring of process.

◆ Process Automation

DCS System, Automatically and precisely control CPP;

◆ Compact Warehousing

Tridimensional warehouse saving 90% space through

WCS+WMS:

◆ Standardized EHS

Three-stage condensation + distillation plus 'Activated Carbon fiber adsorption and desorption, and the real-time online monitoring of end exhaust gas.

Manufacturing and Supply

Medical City Site Introduction

Design Capacity: Capable of processing 4.5 tons of Ginkgo biloba leaves per day, with 7.5 tons output of ginkgolide crystallized raw materials per year;

Design Objective: one of the most automatic extraction workshops in China;

Design Concept:

- **High level of automation:** Rockwell DCS controller enable precise automatic control of materials charging and processing of plant extraction through more than 6000 I / O control points, 3500 sets of automatic valves and more than 1000 sensors and meters.
- **In-Process Quality Control:** High level of quality in-process control and automagical recording system to enable permanent traceability of manufacturing CPP and other parameters covering all quality control and quality assurance activities;
- **Improved Efficiency:** the system enables the using 72 column through intelligent scheduling resulting in the six times output by saving 90% of labor resources.



Manufacturing and Supply

Baiyu Ginkgolide Site Introduction



Ginkgolide Production Line:

Advanced Equipment Makes Advanced Production Line.

- ◆ **Select advanced aseptic process using real-time monitoring equipment:**
Dynamic monitoring of the whole process and continuous, effective, safe and reliable clean production environment
- ◆ **Global leading washing, drying and filling automatic production line (German Made):**
Capable of handling small-volume injection and lyophilized powder injection with 400 vials /min.
- ◆ **Automatic dispensing system:**
Automatic recording, adjustment and feedback information plus automatic cleaning sterilization.

Manufacturing and Supply

Target to be the global leading Mask Supplier

Capacity:

Medical Standard Grade 99 melt blown cloth production line, with an annual output of 1000 tons

Annual production output of medical surgical masks: 300 million pieces and medical protective masks are 300 million pieces with 3,000 square meters clean Room workshop and 40 automatic mask production lines

Certification:

EU CE Certified, Germany EUA Certified, Ministry of Commerce white Clean list;

Currently under qualification process for US Niosh 95, Japan PMDA and China Medical Devices;

OEM: Under qualification process for OEM Supplier of Honeywell.

Melt blown Cloth Workshop



Clean Room(ISO 8/100K) for Mask Workshop



Domestic Marketing & Distribution

Country-wide Distribution & Marketing Network



Domestic Marketing & Distribution

Baiyu establishes a effective and broad nation-wide drug product Marketing & Distribution System to cover entire China Hospital and Retail Drug Market through working flexibly with our sub-contractor /Sales agents and partners.



- **Almost 300 FTES**
Marketing Team
- **Marketing Channel**
Across 31 Provinces/districts/municipalities
- **Sales Office**
31 sales office across China;
- **Sub-Distributor/Partner**
813 Clients
- **No. of Covered Hospital**
Almost 2,500 Hospital

A world map in a light olive green color, centered on the Atlantic Ocean, serving as a background for the text. The map shows the outlines of all continents.

International Business Development

To Build A Global Marketing Network

International Business Development

Strategy & Executive Business Plan

API

Keep filing API products with continuous marketing



FDF

High Quality Products by filing with global marketing authorities

Intern. BD & License

Identify products to license-in to fill pipeline and develop both domestically and globally



Mask & PPEs

Build Baiyu Mask Brand to promote in global market

CDMO/CMO

Leverage Baiyu expertise and technology to serve global customer;



Strategic Cooperation

Identify with global partner for Strategic Cooperation

Ginkgolide

Develop Baiyu Ginkgolide FDF internationally to global patients



International M&A

Identify suitable asset to bid to make aggressive expansion

International Business Development

Build International Operational System

International Management

- Introduce top international and overseas background talents to Baiyu.
- The current team used to work in well-known companies such as SUGEN, Hawaii Biotech, GlaxoSmithKline, Sanofi, Pfizer, Novartis, Bayer, Dr. Reddy'S, Deloitte, PWC, IMS Capital, etc.

Intenational R&D

- License-in: License-in from EU top 5 countries, expand the product pipeline.
- NDA: To submit the European clinical trial application of global innovative drug-ginkgolide injection.
- International R & D institutions: Invest and acquire international advanced technology research institute, and build overseas research branches around Chengdu Central Research Institute.

International Marketing Manufacturing System

Continue to promote the establishment of overseas centers to develop international sales channel and to conduct:

- Ginkgo Product Marketing
- Generic Marketing
- API Marketing
- Inovatinve Drug Marketing
- PPEs Marketing

Continue to promote Baiyu Ginkgolide factory, Yujian factory, Wenjiang Medical City factory to pass EU certification and more international certifications, also considering high-quality matching overseas investment and acquisition opportunities.

▪ Contact US

International Business Department

Address: No.343 Hezuo Road, West Hi-Tech Zone,
611731, Chengdu, Sichuan, China.

Tel: +86-28 83379750, ext 8011

Email: sales@baiyu.cn