



ZFSW
The Biologics Company

ZR 智睿投资
Chongqing Zhirui Investment Co., Ltd.

Chongqing Zhifei Biologicals

Aug. 2022



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Overview

Extending from Vaccine to Bioproducts



ZFSW
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7000+

Professionals

4,000+

R&D and Production Talents

3,000+

Self-built Vaccine Marketing Team



400m+ doses

Global Supplies

2 Exclusive Products

Zifivax®

1st Recombinant COVID-19 Vaccine Approved for Use in the World

7 Products on the Market



\$4.7 b+

2021 Revenues

*30 Billion in RMB

Merck Vaccine Products

Exclusive Distributor in China

30,000+

PoV coverage in China

No.1 Market Share in China

For Recombinant Protein COVID-19 & Meningococcal Vaccine



1.1mil m²

R&D Lab and Manufacture Base

World-class Standard

Manufacturing Facilities

10+

Vaccine Production Workshops

mAb, Insulin, etc.

Production Workshops are under Use

2 Billion+

Doses Annual Capacity



80+

Projects in Pipeline

30+ Vaccines, & 50+ Therapeutics

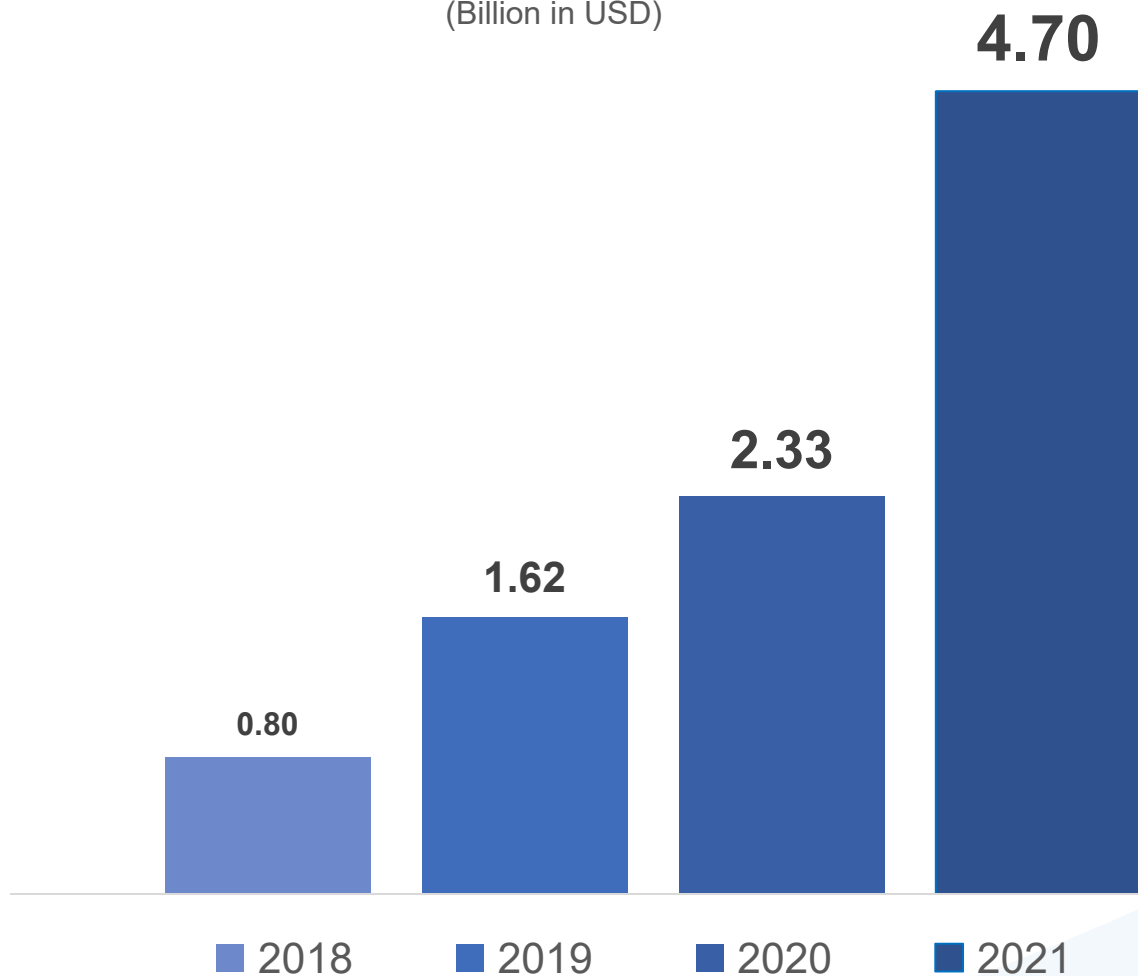
First-in-class, Me-too, Me-better

With Powerful and Innovative Technology Platforms

Applied **180+** Patents

Company Revenue

Yearly Revenue
(Billion in USD)



YEAR 2021

Yearly Revenue: **4.7** Billion USD

Net Profit: **1.6** Billion USD

2

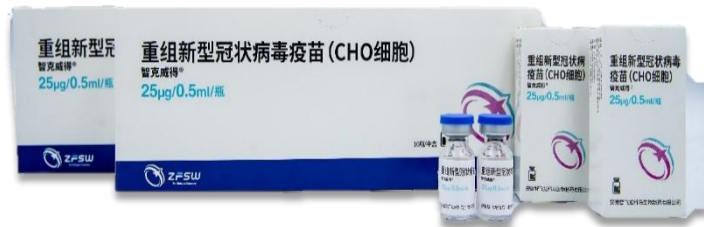


**Products Portfolio
&
Promising Candidates**

7 Self-developed Products

COVID-19 Vaccine

Recombinant COVID-19 Vaccine(CHO Cell) ZIFIVAX®



Tuberculosis Series

Mycobacterium for Injection Vaccae®



Recombinant Mycobacterium tuberculosis fusion protein (EC) C-TST

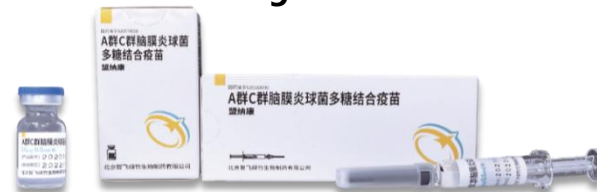


Meningococcal Series

Group A,C,Y,W₁₃₅, Meningococcal Polysaccharide Vaccine Menwayc®



Group A, C Meningococcal Polysaccharide-Conjugate Vaccine MeningACon®



Group A, C Meningococcal Polysaccharide Vaccine

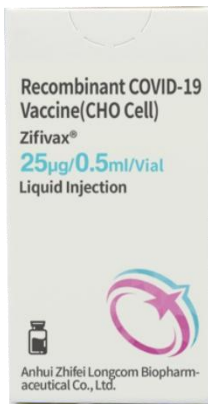


Haemophilus Type b Conjugate Vaccine Hib®



▶ Zifivax® — Most Used Recombinant Subunit COVID-19 Vaccine

1st	2	4	5	29,000+	300,000,000+
<ul style="list-style-type: none"> • Recombinant COVID vaccine approved 	<ul style="list-style-type: none"> • countries initiated local filling 	<ul style="list-style-type: none"> • EUAs obtained 	<ul style="list-style-type: none"> • countries clinical study 	<ul style="list-style-type: none"> • subjects participated in clinical trial 	<ul style="list-style-type: none"> • doses used worldwide

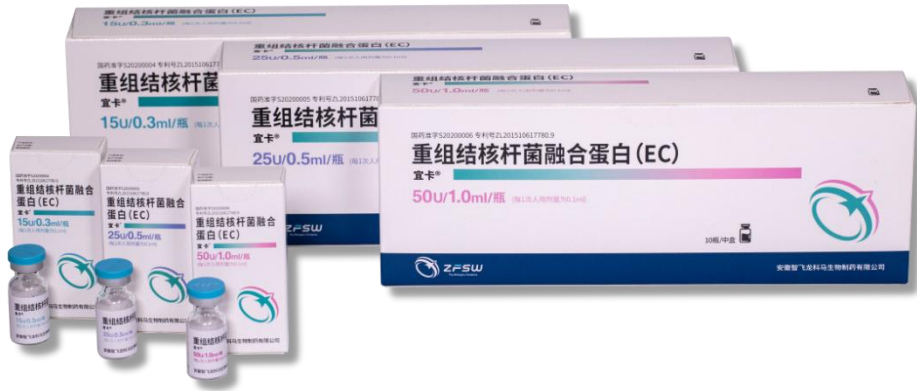


2nd Generation Omicron-Delta COVID-19 Vaccine

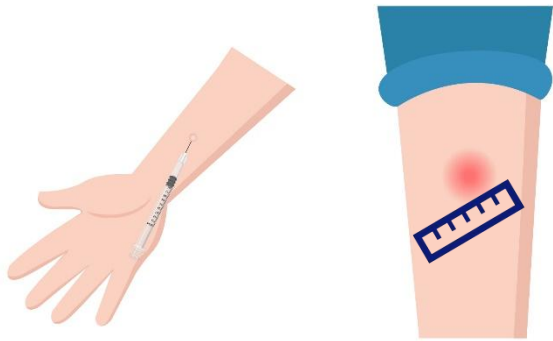
- with broader-spectrum sequence, is about to enter clinical trial.

3rd Generation mRNA BA.4/5 variant is just under development

Recombinant Mycobacterium Tuberculosis Fusion Protein (C-TST™)

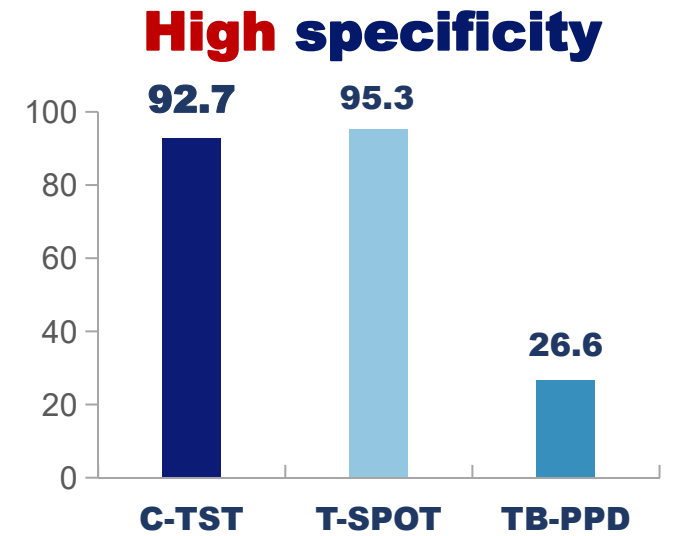
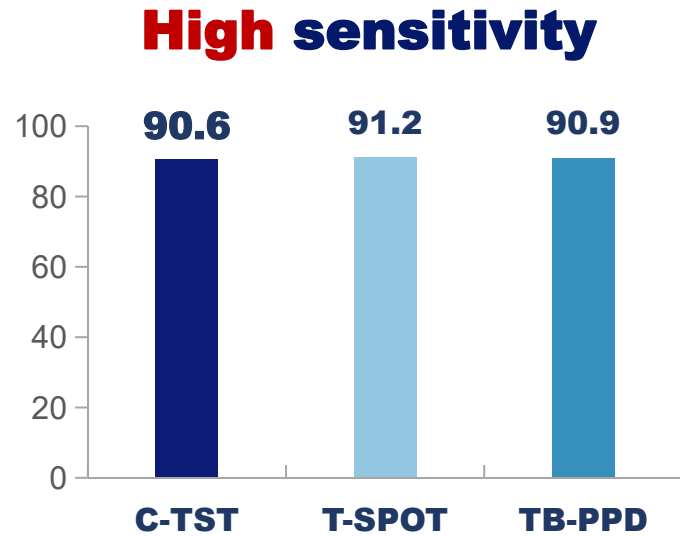


C-TST	PPD	Results interpretation
+	+/-	Mtb infection
-	+	BCG vaccination
-	-	Non-BCG vaccinees/ BCG vaccinees and not infected with Mtb.



Step 1: Injection

Step 2: Examine the reaction



Lower cost; WHO recognized; Suitable for large scale screening

➤ Meningococcal Vaccines

Group A,C,Y,W135, Meningococcal Polysaccharide Vaccine Menwayc®

- Over 50 million doses been used
- No.1 market share in China
- Consecutive production for 15 years
- PIC/s GMP, Halal certificates
- Exported to Indonesia, Pakistan and Ivory Coast

Group A, C Meningococcal Polysaccharide-Conjugate Vaccine MeningACon®

- 36 million doses been used
- The first approval in China
- Consecutive production for 15 years

Haemophilus Type b Conjugate Vaccine Hib®






























- 44 million doses been used
- Unique preparation process ensures high potency.
- Safer and more environmentally friendly

**Open for all-round cooperation:
Finished product export, Bulk filling, Tech transfer**



More Than 30+ Active Project, Strong Follow-up Development



Under Approval	 PPSV 23	 Rabies (MRC-5 cell)	 Flu- Quadrivalent
Clinical Stage	 Recombinant Covid-19 Vaccine(CHO)  ACYW ₁₃₅ MCV  Rabies (Vero cell)  Shigella Conj (Flexneri & Sonnei)	 PCV-15  Recombinant Norovirus-Quadrivalent (Pichia)  Recombinant TB (AEC/BC02)  BCG vaccine for intradermal injection	 DTcP (Tri-component)  Inactivated rotavirus  Inactivated EV71  BCG-PPD
Pre-clinical Stage	 Multi- Valent PCV  Recombinant MenB  DTcP-based combo vaccine  Penta-valent Men  Bivalent HFMD	 HZ (CHO Cell)  Inactivated Varicella HZ  Inactivated JE  Recombinant Bi-valent Rota (Pichia)  O-D Recombinant Covid-19 Vaccine(CHO)	 RSV  Recombinant MERS  Recombinant HBV (Hansenula)  Therapeutic BCG

Upcoming Products Open For Cooperation Opportunities

PPSV 23

Rabies (MRC-5 cell)

QIV(4-Flu)

Noninferior to MSD Pneumovax®

Free of antibiotics and preservatives

Status (Marketing time)	NDA review (2023 H2)	Pre-NDA	Pre-NDA
Schedule	1 dose	5-dose regime	1 dose for ≥3yrs
Specification	0.5ml/dose 25µg of each serotype	1.0ml/vial antigen potency ≥2.5 IU.	0.5ml/dose 15 µg/strain
Packaging	Prefilled Syringe	Lyophilized Powder	Vial/ Prefilled Syringe
Storage	2-8°C	2-8°C	2-8°C
Shelf Life	24 months	36 months	12 months

Several Projects Under Crucial Clinical, and Public Use is Upcoming



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Company	Project name	Progress	Indication
Genrix Bio (mAb)	GR1501 Injection (IL-17A)	Phase III	Plaque psoriasis; Axial spondylarthritis
	GR1801 Injection (RABV)	Phase II	Passive immunization after suspected exposure to rabies virus
	GR1603 Injection (IFNAR1)	Phase II	Systemic lupus erythematosus (SLE)
	GR1802 Injection (IL-4Rα)	Phase II	Atopic dermatitis, chronic sinusitis with nasal polyps, asthma
	GR1803 Injection (CD3*BCMA)	Phase I	Multiple myeloma
	GR1901 Injection (CD3*CD123)	Phase I	Acute myeloid leukemia(AML)
Chenan Bio (GLP-1&insulin)	Liraglutide injection	Phase III	T2DM
	Insulin degludec injection	Phase III	T2DM
	PEGylated recombinant human insulin injection	Phase I	T1DM, T2DM
	Insulin aspartic injection	Phase I	T1DM, T2DM
	Semaglutide injection	Phase I	T2DM
Precision Biotech (CAR-T)	pCAR-19B Cell autotransfusion preparation	Phase II	Recurrent / refractory CD19 positive diffuse large B-cell lymphoma, follicular lymphoma and mantle cell lymphoma aged 75 years and below; 22-70 years old; 3-21 years old patients with CD19 positive recurrent / refractory acute lymphoblastic leukemia (ALL);
	C-4-29 Cell preparation	Phase I	Advanced renal cell carcinoma with positive expression of CD70, ≥ 18 years old with recurrent / refractory multiple myeloma (mm)

▶ A New Option for Patients with Diabetes

Liraglutide injection

Insulin degludec injection

Current Status	Clinical Phase III in China	Clinical Phase III in China
Marketing Time(In China)	Mar.2025	Dec.2026(when patent expired)
Administration Route	SC	SC
Frenquency	Once Daily	Once Daily
Strength	300UI:3ml	300UI:3ml
Packing	Cartridge	Cartridge

**With whole industry chain and much lower cost,
Non-inferiority clinical result compared with original products,
open for all kinds of cooperation.**

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**R&D
Manufacturing
Bases**

▼ Bases for R&D&M

Zhifei Lvzhu Beijing



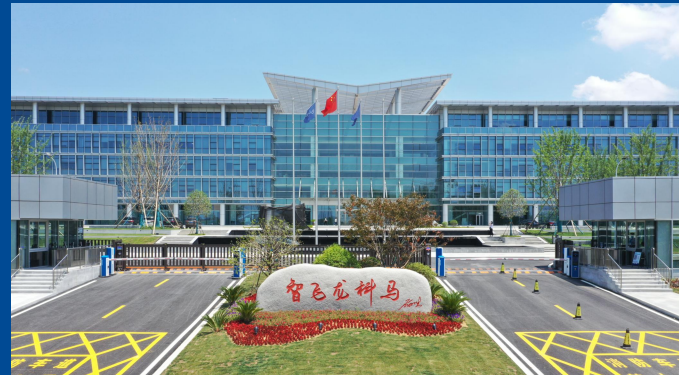
Bacterial vaccines:

Meningitis, Pneumonia, DTcP, Shigella vaccine...;

**PIC/S GMP,
HALAL certificate;**

122,000m²

Zhifei Longcom Anhui



Viral vaccines and TB Bioproducts:

COVID-19, Vaccae, C-TST, Influenza, Rabies,...;

**WHO-EUL, PIC/S GMP
HALAL certificate;**

334,000m²

Zhirui Park Chongqing



Base for Therapeutic Bioproducts:

**IL-17A mAb, Liraglutide, Insulin
degludec, ...;**

667,000m²



OUR DREAMS

Health

Safeguard life, deliver healthy outcomes and make unremitting efforts for the betterment of human health.

Biology

Innovation-driven, deliver the value of vaccination with more high-quality vaccines

China

Based in China, fighting for the wellbeing of people around the world

Zhifei

Shoulder social responsibility, maintain corporate culture, striving towards a centenary enterprise.



Thank You!

please contact

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