Yaohai Bio- Pharma

Microbial Biologics CRDMO

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Large Molecules

Recombinant Proteins

- GLP-1 / Insulin / GH / STH
- Single Domain Antibodies
- Cytokines / IFN / IL
- Growth Factors / CSF
- Enzymes

Nucleic Acid Drugs

- Plasmid DNA
- mRNA
- saRNA
- circRNA
- Long IVT RNA

Vaccines

- DNA/ RNA/ VLP
- Inactive Vaccine
- Live-attenuated Vaccine
- Subunit Vaccines
- Toxoid Vaccine

One-stop Solution

- 15 Year Experience
- ISO Triple Certification
- EU QP Audit
- Rich Project Experience

Meet global regulations: FDA, EMA, TGA, NMPA ···

Strain Engineering
Primary Cell Bank
Master Cell Bank
Working Cell Bank

BSL-2 Lab
7500L Fermentation Scale
5 Drug Substance Production Lines

Cell Bank Development → Process Development → Contract Manufacturing → Fill & Finish

Upstream Process
Downstream Process
Formulation Process
Pilot Scale up

Annual Capacity:
Vials: 10 million
Cartridges: 8 million
Pre-Filled Synringes: 8 million
2 Drug Product Production Lines

Selected Long-term Partners

Recombinant Raw Material

- Collagen III
- Semaglutide
- Conotoxin
- Botulinum toxin
- Tirzepatide
- EGF, TGF

Aesthetic Medicine Product

NoviOrea Medical Recombinant Type III Humanized Collagen

Solution | Cream | Patch

OEM Available

SERVE WITH HEART
BUILD FUTURE TOGETHER

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Animal Health

DNA Vaccine
Insulin for Pet
Serum Albumin
Feline Interferon
DNA Therapeutic
Live Bacterial Vaccine
Canine Leishmania Vaccine

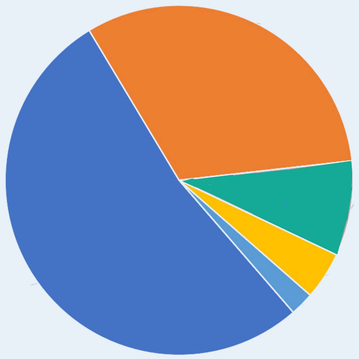
For Companion Animal Use

For Livestocks Use

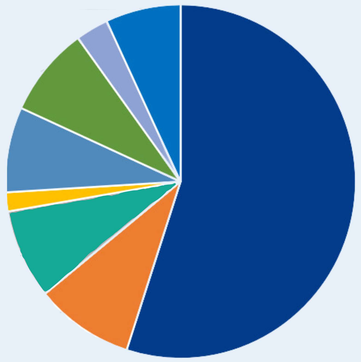
For Aquaculture Use

Rich Project Experience

BASED ON PROJECT PHASE



BASED ON PROJECT TYPE



US APPLICATION
9

EU APPLICATION
2

CAN APPLICATION
2

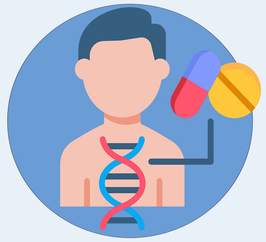
AUS APPLICATION
3

Plasmid DNA

Largest Plasmid Supplier in China

DNA Vaccine
DNA Therapeutics
Virus Vector Production

50+ Projects **2 on Commericial Stage**



* For both human and veterinary use

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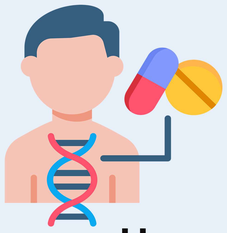
From Concept to Vaccines
One-stop CRDMO

Vaccines

Prophylactic Use

Therapeutic Use



Human Use

Veterinary Use

Infectious Diseases

Parasitic Infections
Bacterial Infections
Viral Infections

Autoimmune

Tumors

Vaccine Modalities

Protein/peptide-based Vaccine
Subunit Vaccine
DNA Vaccine
VLP Vaccine
RNA Vaccine
Conjugate Vaccine
Live Bacterial Vaccine
Polysaccharides Vaccine
Live-attenuated Vaccine

IVT RNA Synthesis

mRNA
circRNA — LNP — saRNA

UBC

LI LAB
UBC PHARMA SCI

Pre-Clinical
IND
Phase I - III
BLA
On Market

Early Research

- Sequence Design & Optimization
- Plasmid construction and seed libraries
- mRNA synthesis and quality control
- Formulation Studies
- *In vitro* activity studies

Process Development

- Plasmid linearization
- Transcription system optimization
- RNA purification
- LNP encapsulation
- Scale up
- Process validation / characterization

Analysis Method Development

- Method Development / Validation (formulations, impurities...)
- CQA Tests (integrity, purity, stability...)
- Stability Studies

GMP Services

- Drug substance manufacturing
- Formulation
- Quality Assurance / Release Testing
- Registration Services

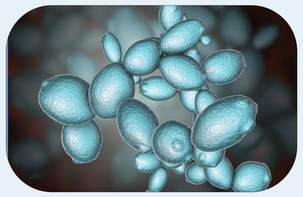
Microbial Expression System

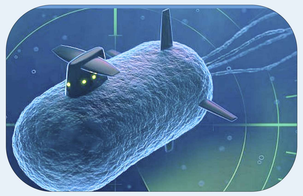
E. coli

K-12 strains & derivatives (DH1, DH5α, RV308, W3110...)
B strains (BL21 (DE3), pLysS...)

Yeast

Pichia pastoris,
Hansenula polymorpha,
Saccharomyces cerevisiae, etc.





Constructed Strains

Strain Engineering
Microbe provided by clients

Biosafety Level 2 Lab

Anaerobic Incubator

16x7 Fermentator
(Bioengineering AG-7L)

QP Audit / GMP Inspection

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