


# Master of Microbial Fermentation

## WHAT WE DO

- Microbial Fermentation **Toll Manufacturing**
- **OEM/ODM** Customized Products
- Functional Food **Raw Material**
- **Own Brand Products**





**Microbial  
Fermentation  
Toll Manufacturing**

**Functional Food  
Raw Material**

**Own Brand Products**

**OEM/ODM  
Customized Products**

# Microbial Fermentation Toll Manufacturing



- NDA signing



- Strain Transfer
- 50L Pilot-Scale Trial Run  
Technical Feasibility Evaluation
- Production Processing  
Development & Validation
- Scale-up Production Pricing
- Contract Signing

- Scale-up Production
  - 50,000L Fermentation
  - DSP Production

# Core Technology

Strains Screening



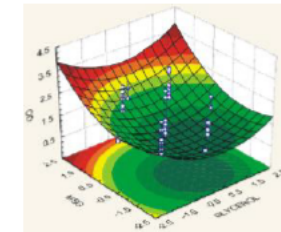
Medium Optimization



**Fermentation**  
Production Technique



Extraction & Purification



Statistics Analysis  
Prediction Technique



Functional Food Design

Herbal Material



# Production



**Strains Screening**



**Medium Optimization**



50L

500L

5,000L

**Pre-culture**



**Product**



**Quality Control**



**Concentration**



**Mass Production**

# Pilot Plant



# Fermentation Facilities

Different scales of fermentor including submerged culture and solid-state fermentors.



Equipment	Quantity
Fermentor	55,000 L x 2 50,000 L x 2 6,000 L x 2 5,000 L x 3 500 L x 4 50 L x 7
Solid-State Fermentor	1,500 L x 1
Medium Preparation Tank	15,000 L x 1
Substrate Feeding Tank	15,000 L x 1 2,000 L x 1
Feeding Tank	500 L x 2

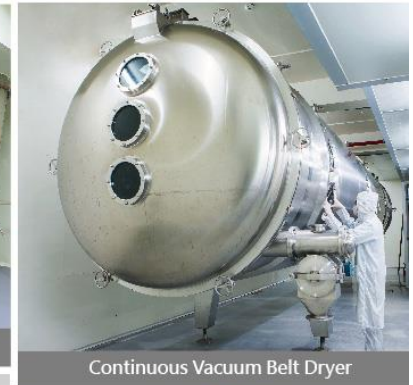
# Extraction, Recovery and Purification Facilities

Complete downstream production facilities for extraction, recovery and purification.

Equipment	Quantity
Auto-Cleaning Membrane Filter Press ( Filtration area 100 m <sup>2</sup> )	2
Ceramic Membrane Filtration Set ( Filtration area 18 m <sup>2</sup> )	1
Ultra-filtration Set (spiral membrane) ( Filtration area 95 m <sup>2</sup> )	3
Continuous Disk Stack Centrifuge	4
Vertical Scraper Peel Discharge Centrifuge	2
Extractor(Stirring Tank Type) / 50,000 L	4
Extractor(Stirring Tank Type) / 10,000 L	1
Continuous Vacuum Evaporator (1,000 L / hr)	1
Vacuum Concentration Stirring Tank / 15,000 L	1
Vacuum Concentration Stirring Tank / 10,000 L	3
Vacuum Concentration Stirring Tank / 6,000 L	1
Vacuum Concentration Stirring Tank / 5,000 L	3
Vacuum Concentration Stirring Tank / 500 L	1



Spray Dryer



Continuous Vacuum Belt Dryer



Ceramic Membrane Filtration



Extractor



Rotated Vacuum Dryer



Vertical Scraper Peel Discharge Centrifuge



Auto-Cleaning Membrane Filter Press



# Extraction, Recovery and Purification Facilities

Complete downstream production facilities for extraction, recovery and purification.

Equipment	Quantity
Stirring Cooling Tank 10,000 L	1
Spray Dryer (120 L / hr)	1
Freeze Dryer (450 L / batch)	1
Freeze Dryer (2,000 L / batch)	2
Continuous Vacuum Belt Dryer (evaporation capacity 50 L / hr)	1
Fluid Bed Dryer	1
Solvent Tank / 50,000 L	3
High Pressure Homogenizer (2T / hr)	1
Low Pressure Column Chromatography	2



Freeze Dryer



Crystallizer Tank



Low Pressure Column Chromatography



Low Pressure Column Chromatography



Fluid Bed Dryer



High Pressure Homogenizer



Disk Stack Centrifuge



Disk Stack Centrifuge

# Filling & Packing Facilities

We has obtained GMP certified by NSF; also meet the filling and packing standard of TFDA. Providing one-stop service for capsule, powder, and liquid filling and packing.

