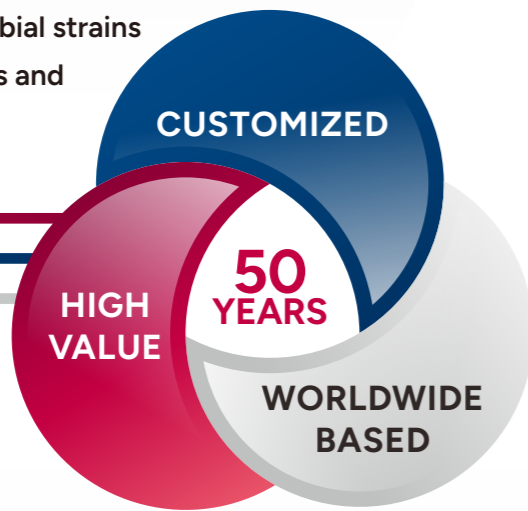


Core Competencies

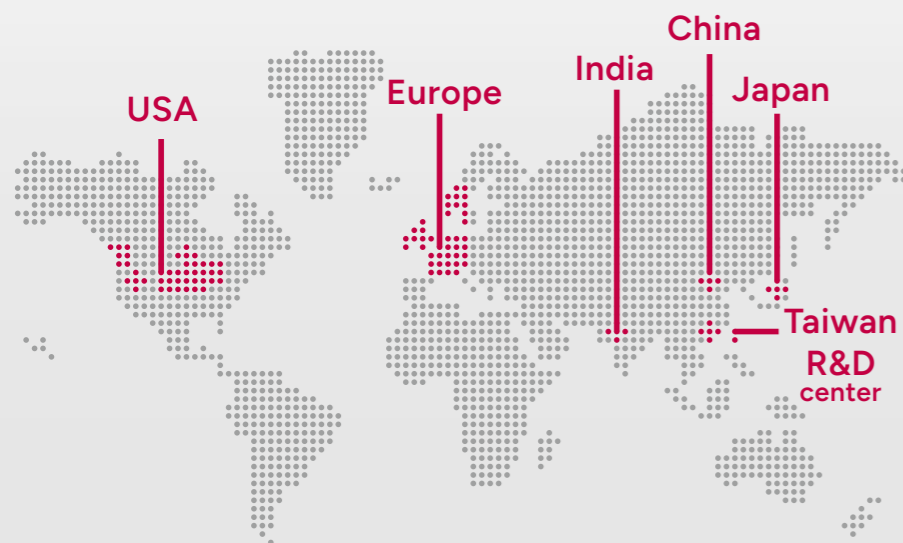
- Over 50 years of expertise in microbial strain improvement and development
- Specialized in the development and production of high-value natural products and microbially derived compounds
- Global collection of microbial strains
- Providing tailored services and demand-driven solutions



Partners & Collaborations

Over 300 projects since 1975

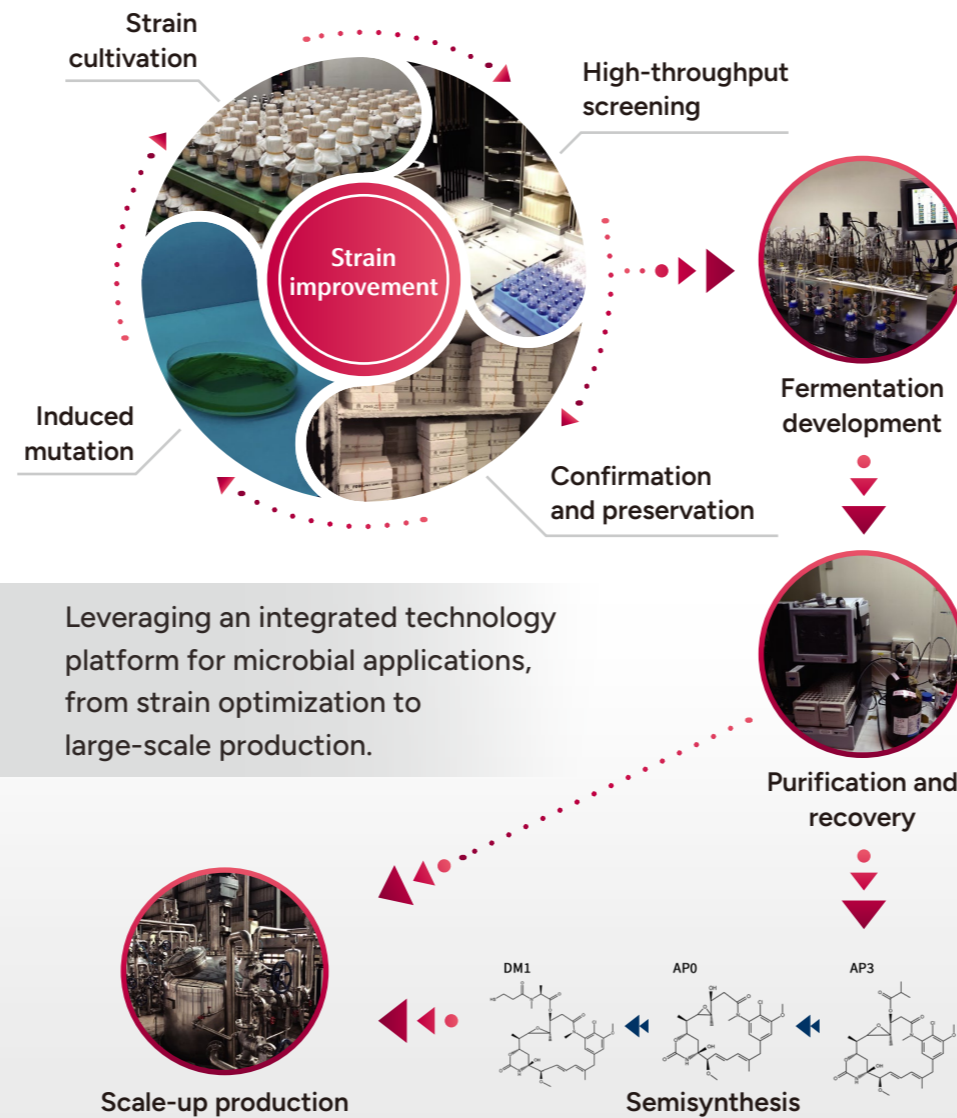
Serving pharmaceutical, chemical, biotech, and food industries.



Global Microbial Strain Library

- Approximately 20,000 strains of fungi and actinomycetes
- Isolated from diverse geographical and environmental conditions, expanding their application potential
- Not subject to the Nagoya Protocol
- Applicable to the discovery and development of bioactive substances

One-Stop Development Model



Leveraging an integrated technology platform for microbial applications, from strain optimization to large-scale production.



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Official Website



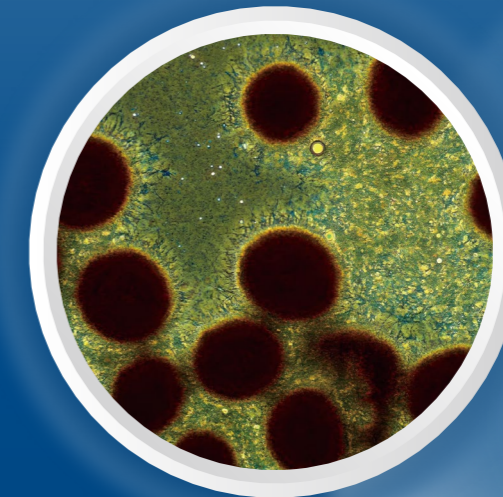
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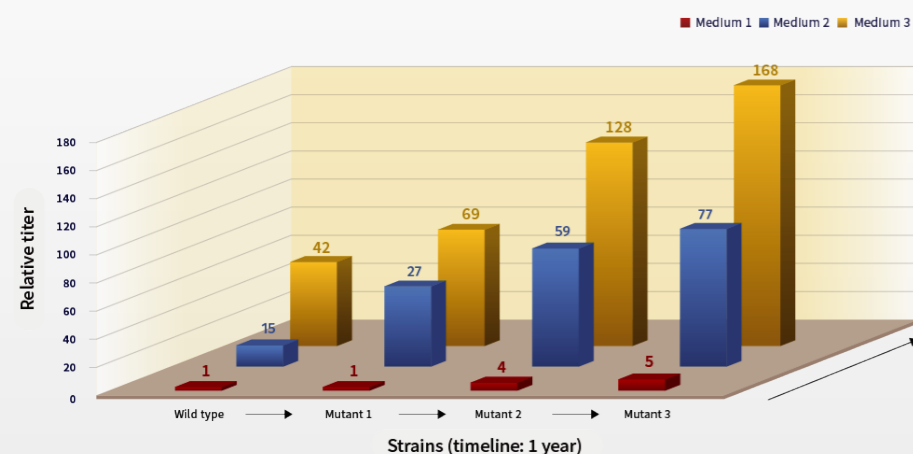
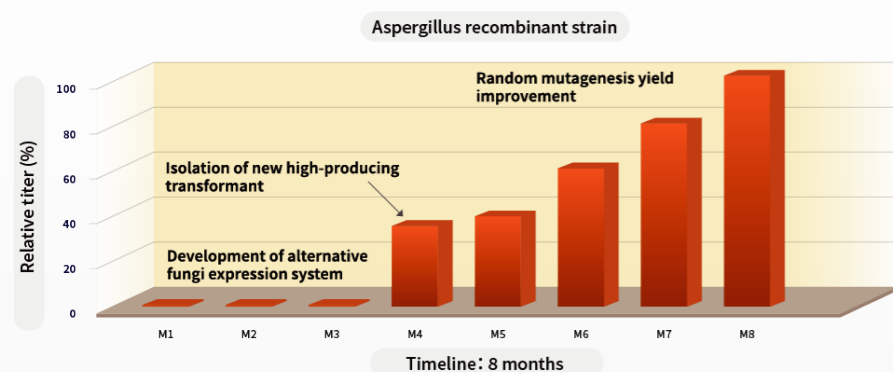
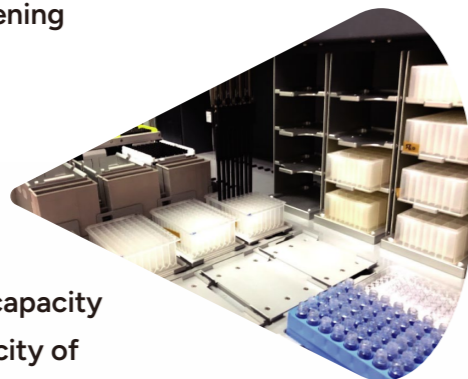
Harnessing the Power of Nature

With over 50 years of expertise, Panlabs has built a strong reputation in strain improvement and fermentation technology. We are committed to delivering customized microbial solutions and investing in in-house R&D, focusing on small molecules, antibody-drug conjugates (ADCs), and sustainable green alternatives.

Our Services

► Strain Improvement

- Enhancing strain productivity through various chemical and physical mutagenesis techniques
- Intensive agar plate colony screening and rational selection
- High-throughput screening
- Miniaturization and automation
- Effective medium optimization and process development
- 210,000 × 250 mL shake flasks capacity
- HPLC/UHPLC/GC analysis capacity of 5,000~6,000 samples per week



► Downstream Process Development

- Development of customized small-scale purification processes
- Optimization of recovery processes and extraction efficiency
- Various purification methods: solvent extraction, precipitation, ion exchange, crystallization, lyophilization, etc.

► Semisynthesis

- Utilizing chemical and enzymatic conversion methods for the production of intermediates and target compounds

► Scale-Up Production

- Providing end-to-end fermentation technology transfer from laboratory to industrial scale
- Production equipment ranging from 500 L to 50,000 L

► Fermentation Process Development

- Tailor-made fermentation process optimization
- Strain evaluation in fermentor culture
- Small-scale trial production
- Fermentation validation prior to pilot production
- In-house fermenters: 1X8 1 L, 1X6 2 L, 5 L (airlift), 6.5 L, 10 L, 30 L, 50 L and 500 L



In-House Developed Products

► High-Value Microbial Products

- Cancer therapeutics: doxorubicin, staurosporine (midostaurin), mitomycin C, ansamitocin P-3 (AP3), and calicheamicin γ 1
- Antibiotics: penicillin, cephalosporin C, and erythromycin
- Antiparasitics: milbemycin, paraherquamide
- Immunosuppressant: tacrolimus
- Health supplements: CoQ10
- Enzyme: glucose oxidase, amylase, lipase and nitrilase

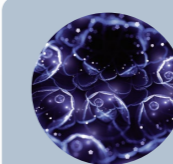
► Pilot-Scale Production

- 50/500 L fermentation tank
- Production of high-value products
 - > Scalable from hundreds of grams to kilogram-scale
 - > Proteins and high-value secondary metabolites
- Fermentation process validation

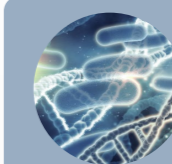
► ADC Payload-Linker Solutions

- ADC payload candidates: DMx, calicheamicin γ 1, belotecan, nemorubicin
- Cytotoxic drug-linker toolkit: includes both cleavable and non-cleavable linkers
- Cytotoxicity: Delivering high anti-cancer efficacy
- Customized solutions: tailored linker selection and payload-linker conjugation services

Antibody-Drug Conjugates (ADC) Toolkit Addressing Tumor Sensitivity



Tubulin Inhibition



DNA Damage



TOPO1 Inhibition



TOPO2 Inhibition

Enable Linker-Payload Screening For ADC Innovators

► Alternative Ingredients & Materials

- Discovery of natural products from microbial libraries
- Developing fungal proteins as sustainable alternatives to animal-based proteins
- Incorporating fungal proteins into meat products and animal feed
- Harnessing mycelium to create innovative biomaterials that serve as eco-friendly substitutes for plastics

