

乳酸菌開發

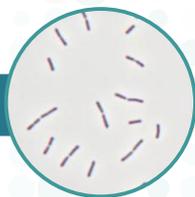
從研發到產業

From Research to Industry

• 生資究中心擁有豐富且多元之乳酸菌資源。開發經驗豐富。是全台研究機構中，唯一擁有完整發酵製程開發設備之單位。能依廠商需求，建立專屬特定乳酸菌產品之生產製程。

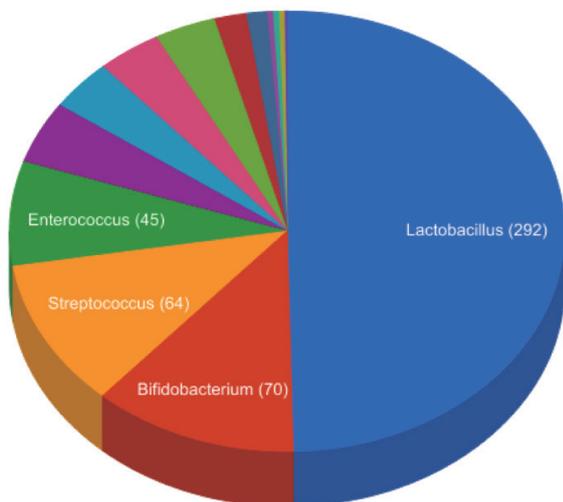
• BCRC at FIRDI has a rich collection of LAB and extensive experience in the field of LAB R & D. BCRC is also the only institution in Taiwan with equipment complete of fermentation-process-development. Our service can establish the manufacturing process of LAB products for you.

菌庫 Culture Collection



- 公開寄存菌種 14 屬 588 株
14 genus 588 resources in Catalog

- 專案保存庫 > 1000 株
Special Collection > 1000 strains in



分離源 分離樣品

人類	嬰幼兒排泄物
動物性	牛、台灣特殊鳥類、梅花鹿等排泄物及豬胃腸道內容物
植物性	牧草、薑、梅、蘿蔔、竹子、植物花葉等
農產加工品	豆腐乳、豆腐(渣)、醃漬蔬果、酸菜、泡菜、肉品等
其他樣品	堆肥、飼料和牧場環境水源等

篩選平台 Screening Platform

◎ 特性篩選 Characteristics screening

- ▶ 耐酸耐膽鹽耐鹽
Acid, Bile salt, Salt Tolerance
- ▶ 吸附能力
Adhesion assay
- ▶ 胞外多醣生產
EPS production
- ▶ 維生素 B 生產
Vitamin B production
- ▶ 發酵風味
Flavour
- ▶ 生物轉化能力
Biotransformation

◎ 功能性篩選 Functional assay

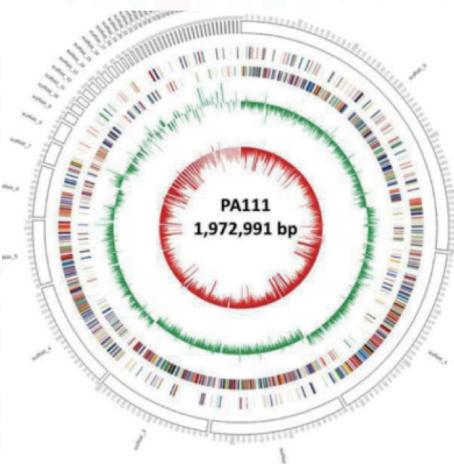
- ▶ Anti-inflammation
- ▶ Immunomodulation
- ▶ Antimicrobial activity
- ▶ Anti-oxidation
- ▶ α -glucosidase inhibition
- ▶ ACE inhibition

◎ 資料庫 Database

- ▶ 特性資料庫
Characteristic Database
- ▶ 免疫反應資料庫
Immune-response Database

基因體分析平台 Genomic Analysis Platform

- 基因體分析技術應用於功能開發及安全性評估
Genetic screening of Functional/safety properties

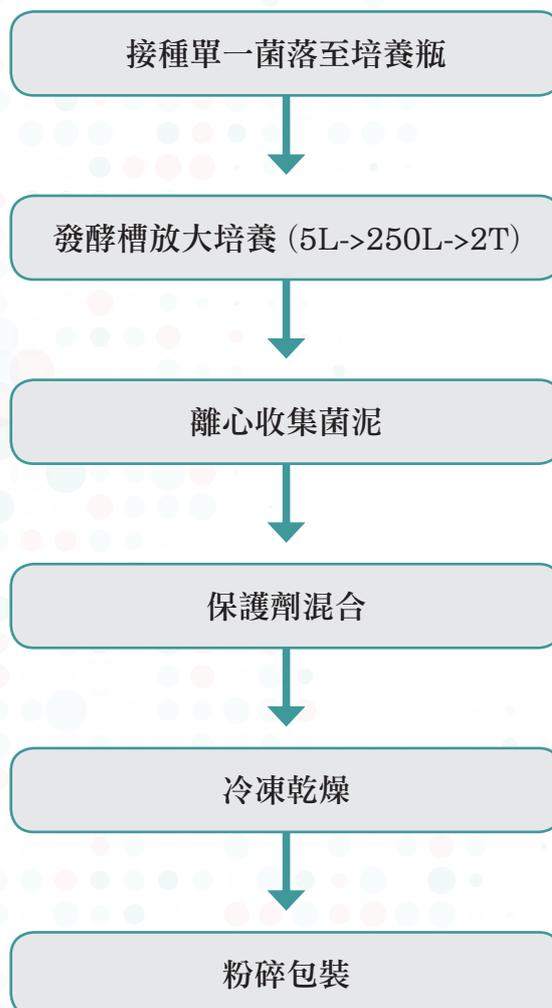


	PA111	PA 73
1.	glucansucrase [<i>Lactobacillus parabuchneri</i>]	glucansucrase [<i>Lactobacillus parabuchneri</i>]
2.	nickase [<i>Lactobacillus pentosus</i> IG1]	
3.	polysaccharide biosynthesis protein [<i>Lactobacillus acidipiscis</i>]	
4.	capsule biosynthesis protein CapK [<i>Lactobacillus acidipiscis</i>]	
5.	glycosyltransferase [<i>Lactobacillus fermentum</i> ATCC 14931]	
6.	polysaccharide biosynthesis protein [<i>Lactobacillus plantarum</i>]	
7.	Polysaccharide biosynthesis protein [<i>Lactobacillus plantarum</i>]	
8.	hypothetical protein, partial [<i>Lactobacillus plantarum</i>]	
9.	α -galactosidase [<i>Enterococcus faecium</i>]	α -galactosidase [<i>Enterococcus faecium</i>]
10.	sortase [<i>Weissella paramesenteroides</i>]	sortase [<i>Weissella paramesenteroides</i>]
11.	α -galactosidase [<i>Weissella thailandensis</i> fsh4-2]	α -galactosidase [<i>Weissella thailandensis</i> fsh4-2]
12.	α -galactosidase [<i>Weissella thailandensis</i> fsh4-2]	
13.	6-phospho-beta-glucosidase [<i>Oenococcus oeni</i>]	
14.	glycosyl hydrolase family 1 phospho-beta-glucosidase [<i>Oenococcus oeni</i>]	
15.	beta-xylosidase [<i>Lactobacillus brevis</i>]	beta-xylosidase [<i>Lactobacillus brevis</i> KB290]
16.		sucrose-6-phosphate hydrolase [<i>Lactobacillus plantarum</i>]

製程開發 Process Development



- ▶ 發酵培養基
Culture Medium
- ▶ 發酵條件最適化
Fermentation process
- ▶ 後端加工製程
Downstream processing
- ▶ 保護劑開發
Cryoprotectant / Coating matrix



成果 Performance

◎ 食品 & 飼料 Foods & Animal Feeds

- ▶ 機能性菌株
Functional Strains
- ▶ 複合性益生菌產品
Multi-strain Products
- ▶ 水果優酪抹醬
Fruit yogurt sauce
- ▶ 植物性優格
Vegan yogurt
- ▶ 乳酸菌發酵芒果乾
Functional Strains
- ▶ 水果優酪抹醬
High nutritional animal feed
- ▶ 益生菌發酵飼料
Probiotic for animal feed



FIRDI 乳酸菌研發歷程

- 1982 生資中心成立
- 1986 第一件鑑定服務 (立佳興業)
- 1988 引進乳酸菌進行液氮保存
- 1988 開始乳酸菌菌株分離及收集
- 1989 第一株乳酸菌銷售
- 1990 第一件技轉案 (掬水軒公司)
- 1995 收集人類腸道乳酸菌
- 2002 功能性乳酸菌研究 (進行專利申請)
- 2013 開始受理產品分群鑑定
- 2015 公告新增 MALDI-TOF MS 快速鑑別服務
- 2016 微生物組研發計畫