

SYNBIO TECH Group

2023.05.16



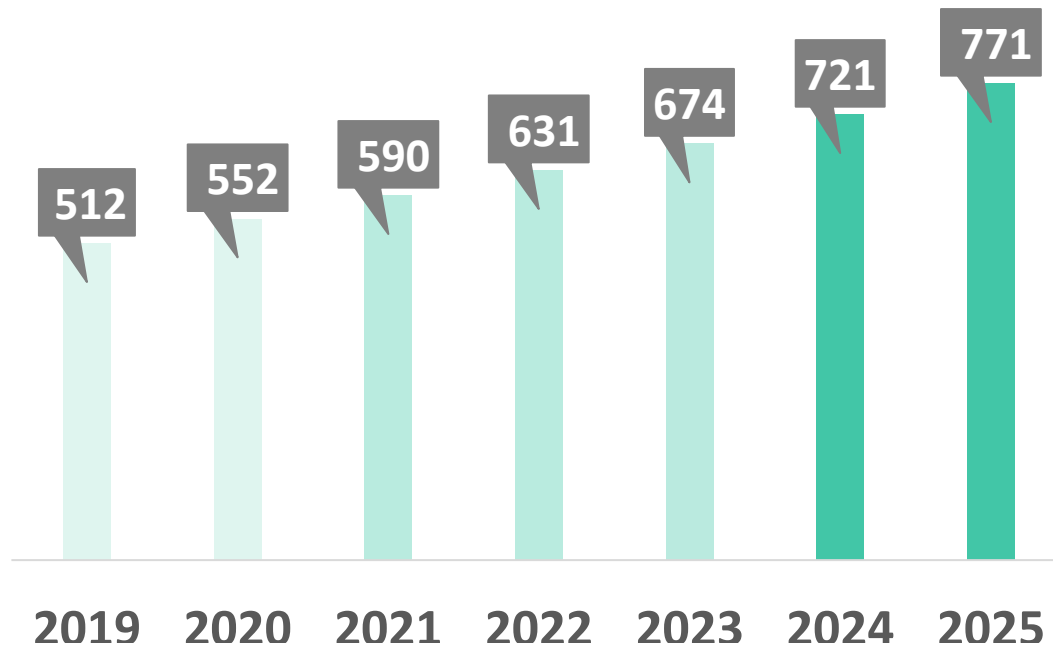


Synbio
TECH.
生合生物

Better Probiotics Better Life

Why do we care about probiotics?

The global probiotics market will grow at a CAGR of 6.9% from 2020 to 2025



Global Probiotics Industry Market Size

Source: Grand View Research

The number of global clinical publications on probiotics increased in 2006-2020

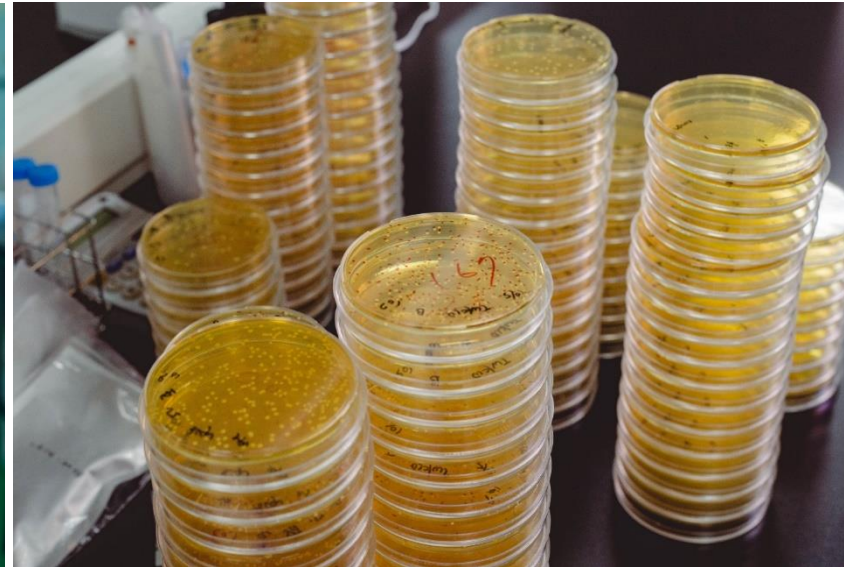


Source: Web of Science Core Collection Database

SYNBIO TECH Group



History	Employees	RD team	cooperation units
20+	300+	30+	13+



Raw material
screening

Formula
design

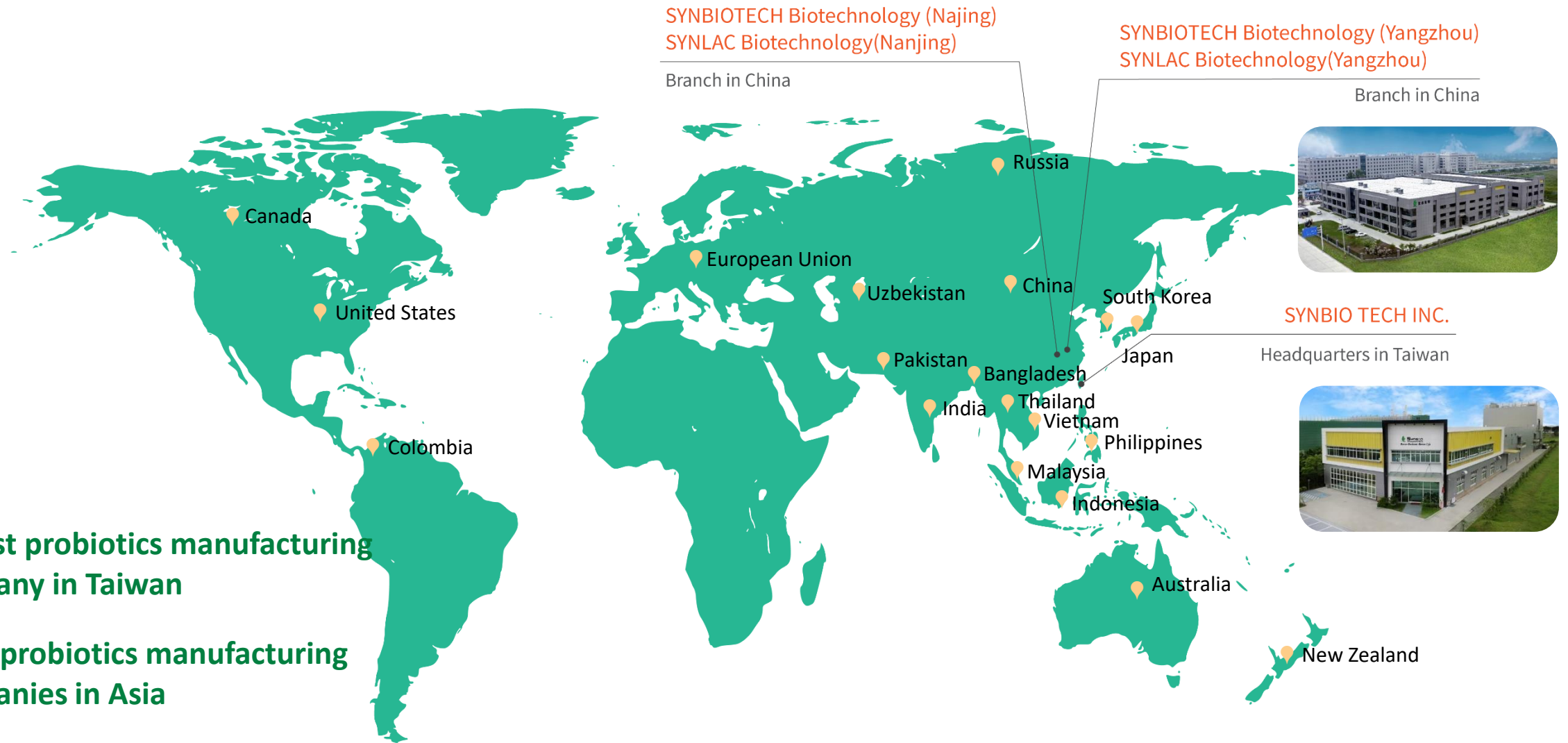
manufacturing

Quality
Controller

Shipment &
Packing

one stop service

Global Market



✓ Largest probiotics manufacturing company in Taiwan

✓ Top 5 probiotics manufacturing companies in Asia

International exhibitions

2022 Supplside west

📍 USA / Las Vegas



2022/10 Hi Japan

📍 Japan/Tokyo



2022/10 Vitafood Asia

📍 Thailand/Bangkok



2022/10 Growth Asia

📍 Singapore/Marina Bay



Clinical Trials

Clinical Trial

Clinical Trial

Enhance Immunity
ImmuUp
Heat-killed M1

Exercise performance
TWK10
Heat-killed TWK10

Gut Health
ABKEFIR

Vaginal Health
HerCare

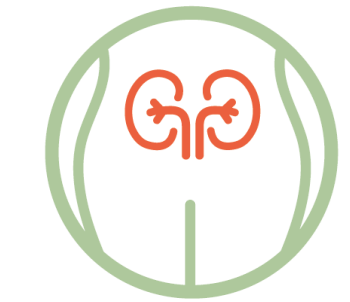


Gastro Health
GastroKeep

Liver Health
HepaAid

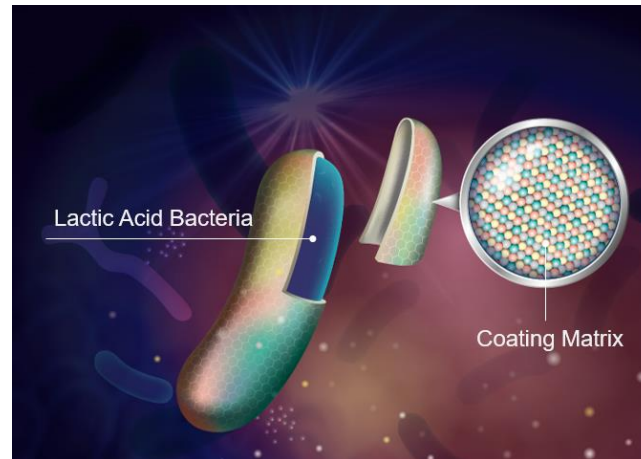
Enhance memory
MemoryUp

Kidney Health
Remain

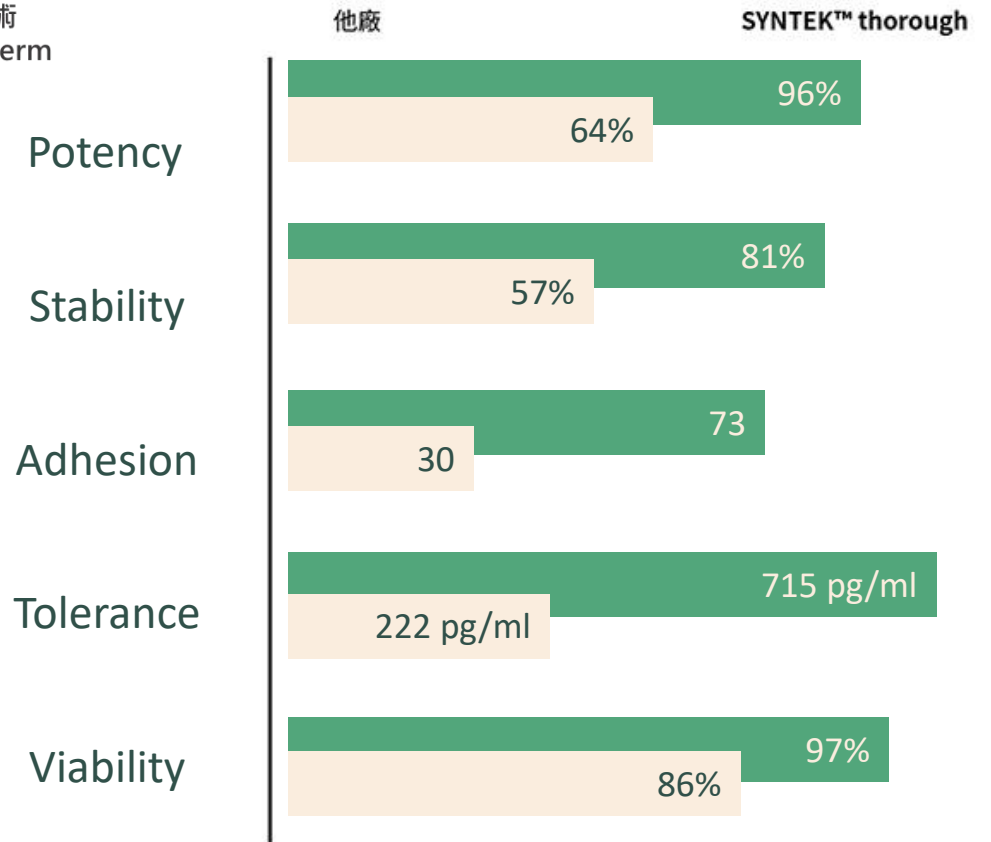


Culture Optimization of Integrated Manufacturing Technologie

SYNTEK[®]



**Promote
20%
in average**



Certificates and Awards



FSSC22000
食品安全管理系統



ISO22000
食品安全管理系統



HACCP
食品安全管制系統



NSF-GMP
美國國家衛生基金會認證



HALAL
清真認證



FAMI-QS
飼料安全管理系統



D-U-N-S
鄧白氏企業認證



US FDA
美國食品級認證



HerCare

For Prevention of Urogenital Infection



SYNBIO TECH INC., Kaohsiung, Taiwan

2023.05.16



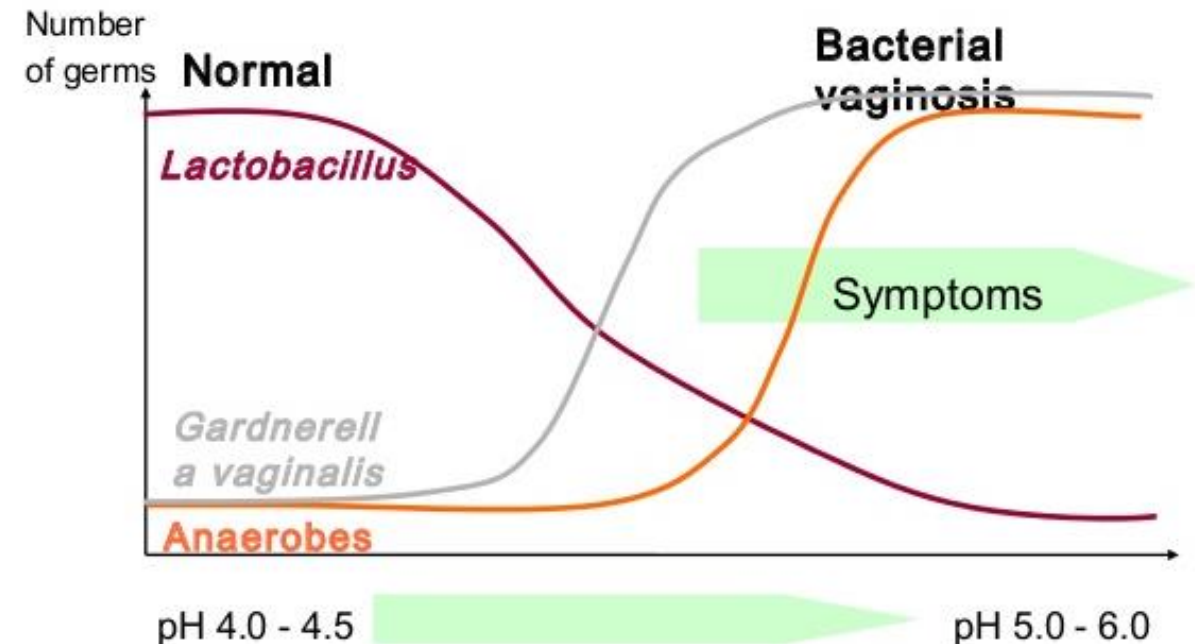
- According to a survey report by WHO, the most common diseases among adult women are not colds, but **urinary tract infections and reproductive tract infections**.
- Due to the **high recurrence rate of vaginitis (20% to 50%)**, many patients adopt self-care methods, and products that claim to prevent urinary tract infections have become a popular topic in the market, indicating its potential for market development.

- Lactic acid bacteria population declines rapidly and pH value increases

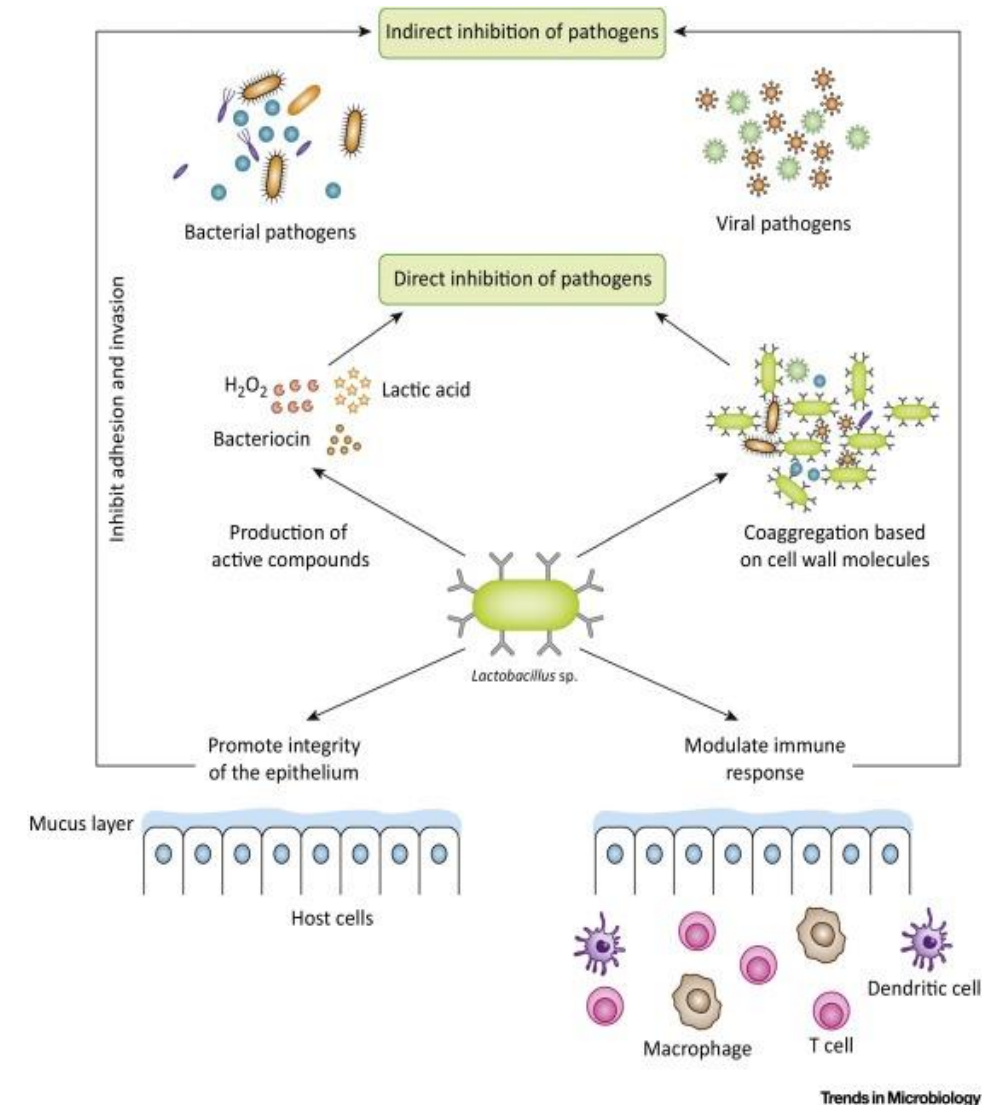
Causes of Vaginitis and Urethritis

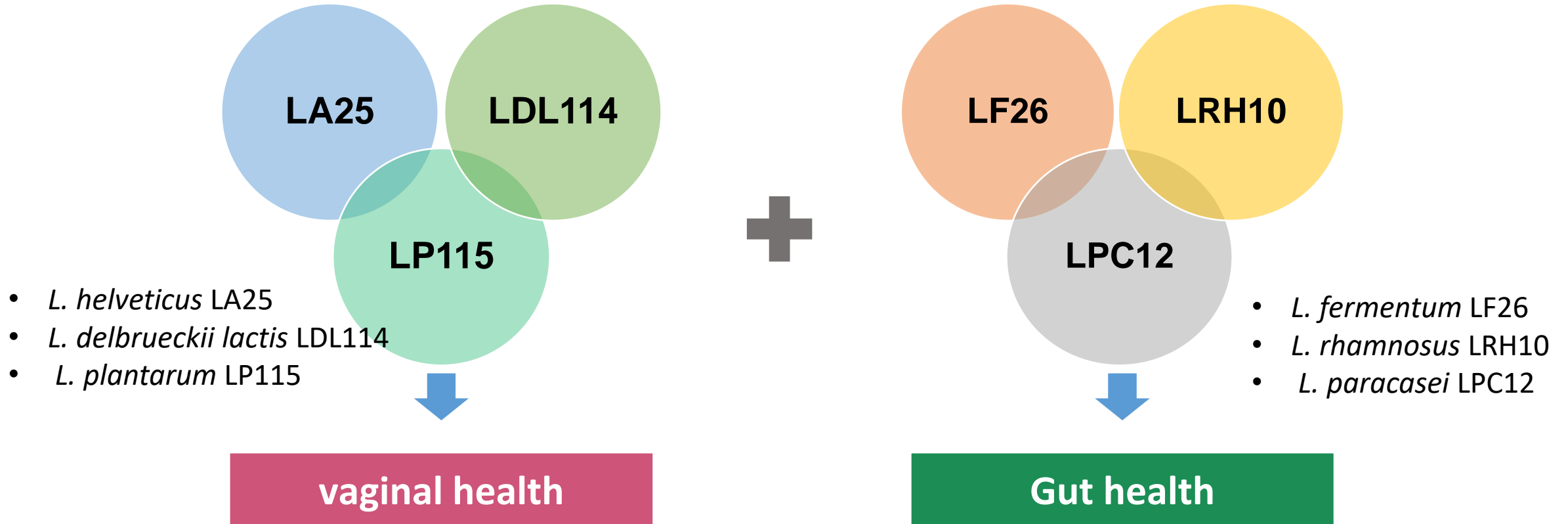
- ✓ Bacterial vaginosis
 - *Gardnerella vaginalis*
 - *Candida albicans*
- ✓ Urinary tract infection
 - *E. coli*

Bacterial vaginosis (BV)



1. Immunomodulation: against infected and recurrence
2. Compete with pathogens for the space of cells
3. Produce antibacterial substances against pathogenic growth
 - lactic acid
 - hydrogen peroxide(H_2O_2)
 - Bacteriocins
4. Keep acidic environment in pH 3.8~4.2 to inhibit pathogens
5. Coaggregate with pathogens





Patent no.: M606378, I 412371, 201310016057.6



Clinical trials

(2021) Lactobacilli Reduce Recurrences of VC in Pregnant Women: A Randomized, Double-Blind, Placebo-Controlled Study

J Appl Microbiol. 2021 May 22. Doi: 10.1111/jam.15158

(2022) Probiotics Reduce Vaginal Candidiasis in Pregnant Women via Modulating Abundance of Candida and Lactobacillus in Vaginal and Cervicovaginal Regions

Microorganisms 2022, 10(2), 285



- **Packaging:** 2g/sachet
- **Flavor:** cranberry powder
- **Specification:** 5.0×10^9 CFU/sachet
- **Usage:** take directly or with water
- **Dosage:** twice a day
- **Ingredients:** non-GMO corn starch, sugar, lactic acid bacteria(HerCare), ascorbic acid (vitamin C), isomalto-oligosaccharide, sage extract (sage extract, maltodextrin, silica), cranberry extract, cranberry flavor, citric acid, DL-malic acid, yogurt flavor



Randomized Controlled Trial > J Appl Microbiol. 2022 Apr;132(4):3168-3180.

doi: 10.1111/jam.15158. Epub 2021 Dec 26.

Lactobacilli reduce recurrences of vaginal candidiasis in pregnant women: a randomized, double-blind, placebo-controlled study

X-Y Ang¹, F-Y-L Chung¹, B-K Lee¹, S N A Azhar², S Sany³, N S Roslan^{2,4}, N Ahmad⁵, S M Yusof⁶, N Abdullah⁷, N N Nik Ab Rahman⁸, N Abdul Wahid⁹, Z Z Deris^{2,4}, C-E Oon¹⁰, W F Wan Adnan^{2,4}, M-T Liong¹

Affiliations – collapse







Affiliations

- 1 School of Industrial Technology, Universiti Sains Malaysia, Penang, Malaysia.
- 2 School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia.
- 3 Advanced Medical and Dental Institute, Universiti Sains Malaysia, Penang, Malaysia.
- 4 Hospital Universiti Sains Malaysia (HUSM), Health Campus, Kelantan, Malaysia.
- 5 Kota Bharu Health Clinic, Ministry of Health Malaysia, Kelantan, Malaysia.
- 6 Kubang Kerian Health Clinic, Ministry of Health Malaysia, Kelantan, Malaysia.
- 7 Pengkalan Chepa Health Clinic, Ministry of Health Malaysia, Kelantan, Malaysia.
- 8 Wakaf Che Yeh Health Clinic, Ministry of Health Malaysia, Kelantan, Malaysia.
- 9 Sejahtera Centre, Universiti Sains Malaysia, Penang, Malaysia.
- 10 Institute for Research in Molecular Medicine (INFORMM), Universiti Sains Malaysia, Penang, Malaysia.



microorganisms

Probiotics Reduce Vaginal Candidiasis in Pregnant Women via Modulating Abundance of *Candida* and *Lactobacillus* in Vaginal and Cervicovaginal Regions

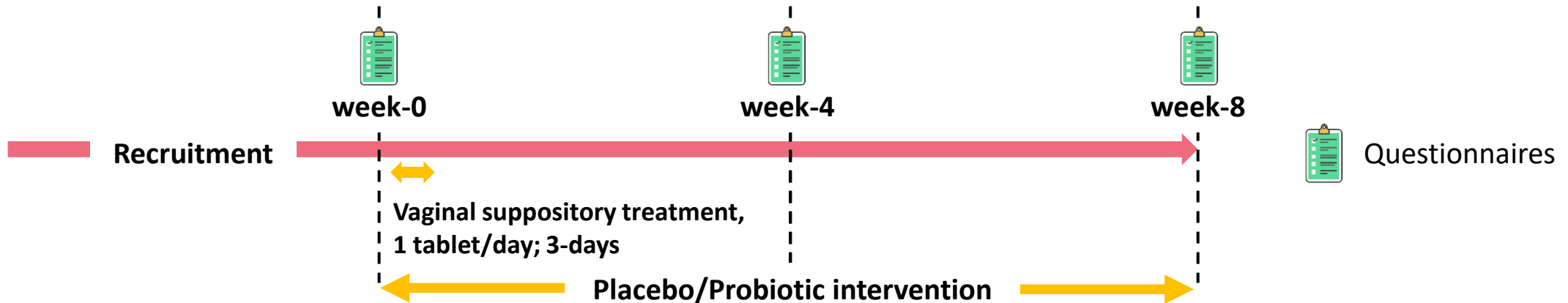
by Xin Yee Ang¹, Uma Mageswary Mageswaran¹, Yi Li Fiona Chung¹, Boon Kiat Lee¹, Siti Nur Afiqah Azhar^{2,3}, Nurhanis Syazni Roslan^{2,4}, Ili Farhana Binti Saufian³, Nor Sheila Mustaffa⁵, Ermadina Mohamad Kalam⁶, Aini Farhah Ibrahim⁷, Normala Abdul Wahid⁸, Zakuan Zainy Deris^{2,4}, Chern-Ein Oon⁹ , Wan Fadhlina Wan Adnan^{2,4},  Salina Sany^{10,*}  and  Min-Tze Liong^{1,*}  

- 1 School of Industrial Technology, Universiti Sains Malaysia, Penang 11800, Malaysia
- 2 School of Medical Sciences, Universiti Sains Malaysia, Kelantan 16150, Malaysia
- 3 Kota Bharu Health Clinic, Ministry of Health Malaysia, Kelantan 15200, Malaysia
- 4 Hospital Universiti Sains Malaysia (HUSM), Health Campus, Kelantan 16150, Malaysia
- 5 Kubang Kerian Health Clinic, Ministry of Health Malaysia, Kelantan 16150, Malaysia
- 6 Pengkalan Chepa Health Clinic, Ministry of Health Malaysia, Kelantan 16100, Malaysia
- 7 Wakaf Che Yeh Health Clinic, Ministry of Health Malaysia, Kelantan 15100, Malaysia
- 8 Sejahtera Centre, Universiti Sains Malaysia, Penang 11800, Malaysia
- 9 Institute for Research in Molecular Medicine (INFORMM), Universiti Sains Malaysia, Penang 11800, Malaysia
- 10 Advanced Medical and Dental Institute, Universiti Sains Malaysia, Penang 13200, Malaysia

* Authors to whom correspondence should be addressed.

Microorganisms 2022, 10(2), 285; <https://doi.org/10.3390/microorganisms10020285>

Double-blind, randomized and placebo-controlled study

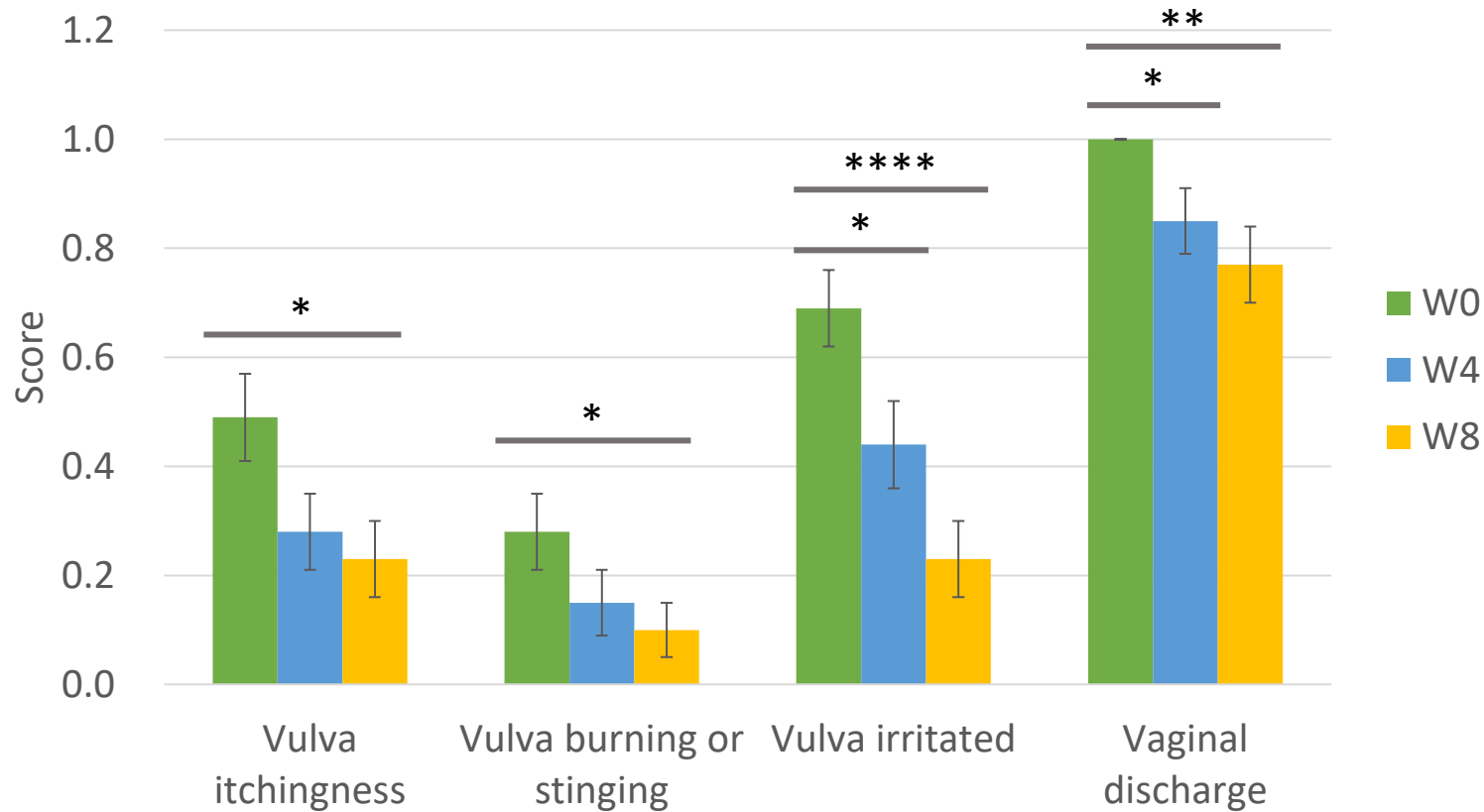


➤ Subject selection

- From Hospital and health clinics in Malaysia
- Inclusion: pregnant women at 14-32 weeks of pregnancy, confirmed with vulvovaginal candidiasis (VC)
- Exclusion: type-I diabetes, long term medication of 6-months or more, and glucose-6-phosphate dehydrogenase deficient

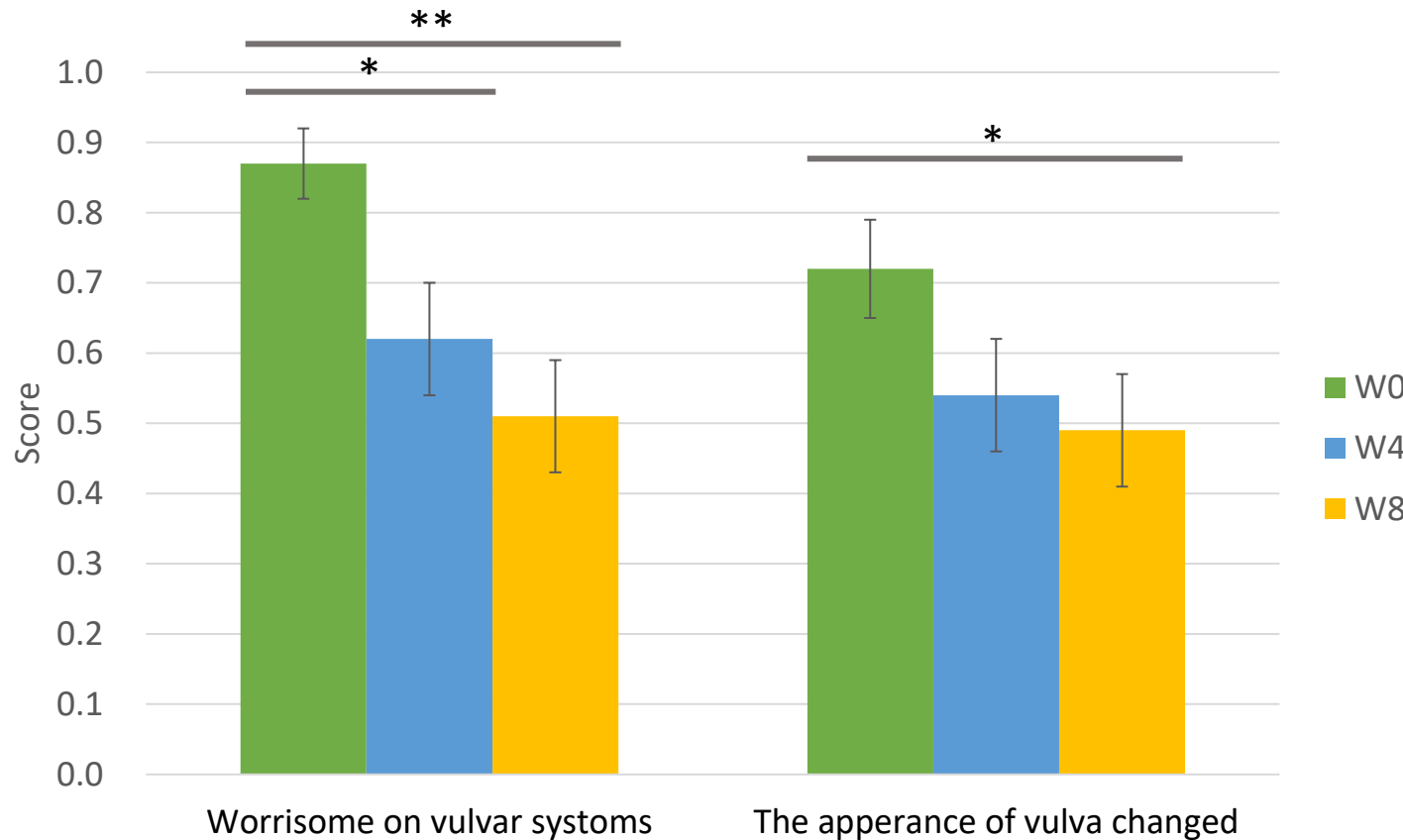
➤ Intervention sample

- Insertion of vaginal suppository Candid V3 (containing 200 mg of clotrimazole per tablet)
- 2 capsules/day of Placebo (maltodextrin) or SynForU-HerCare (3×10^9 CFU/capsule)



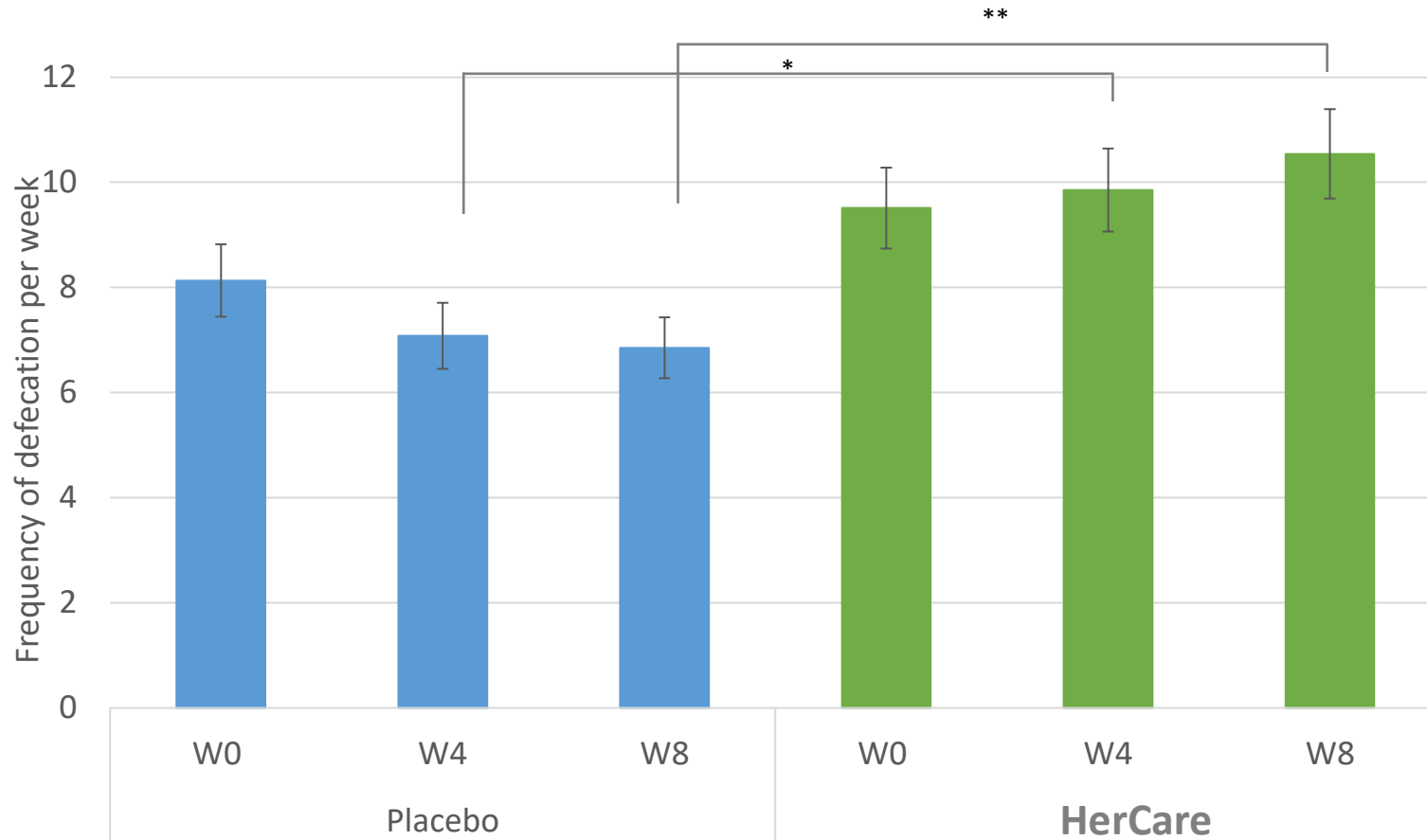
- After continuous use for 4 weeks, there is a significant decrease in vaginal discharge.
- After 8 weeks of continuous use, itching, burning, and irritation of the external genitalia significantly decrease.

Results were expressed as mean \pm s.e.m. and analyzed by Mann-Whitney test.



- Women often suffer from infections in their intimate areas, which can affect their mental health and daily activities. The results of this experimental questionnaire survey showed that taking probiotics for 4 weeks significantly reduced the impact on daily activities.
- After 8 weeks, concerns about the impact on the reproductive system and changes in the external genitalia significantly decreased.

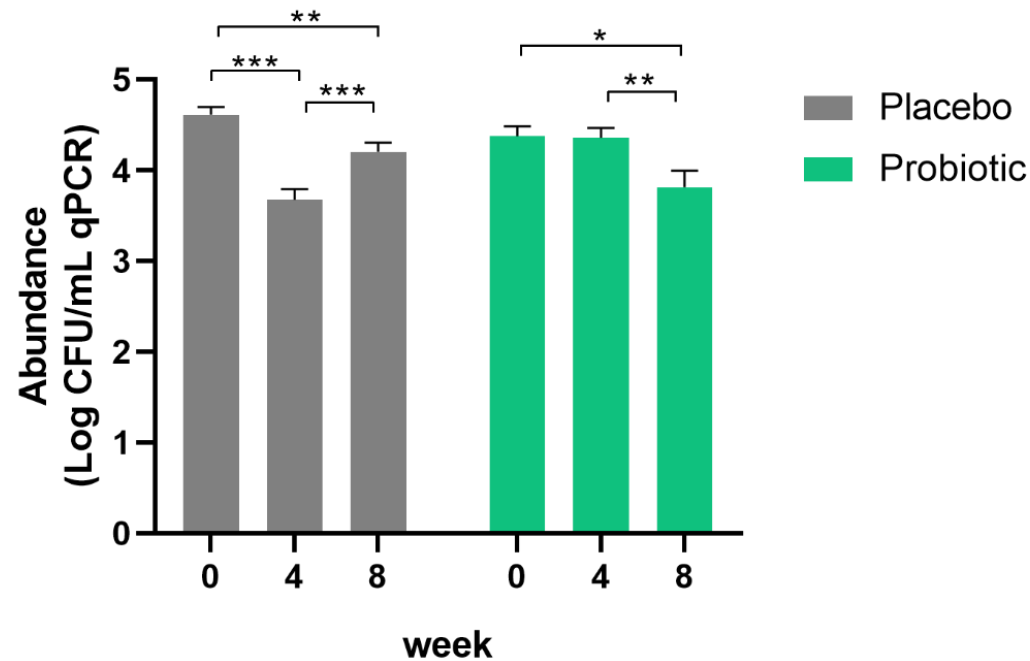
Results were expressed as mean \pm s.e.m. and analyzed by Mann-Whitney test.



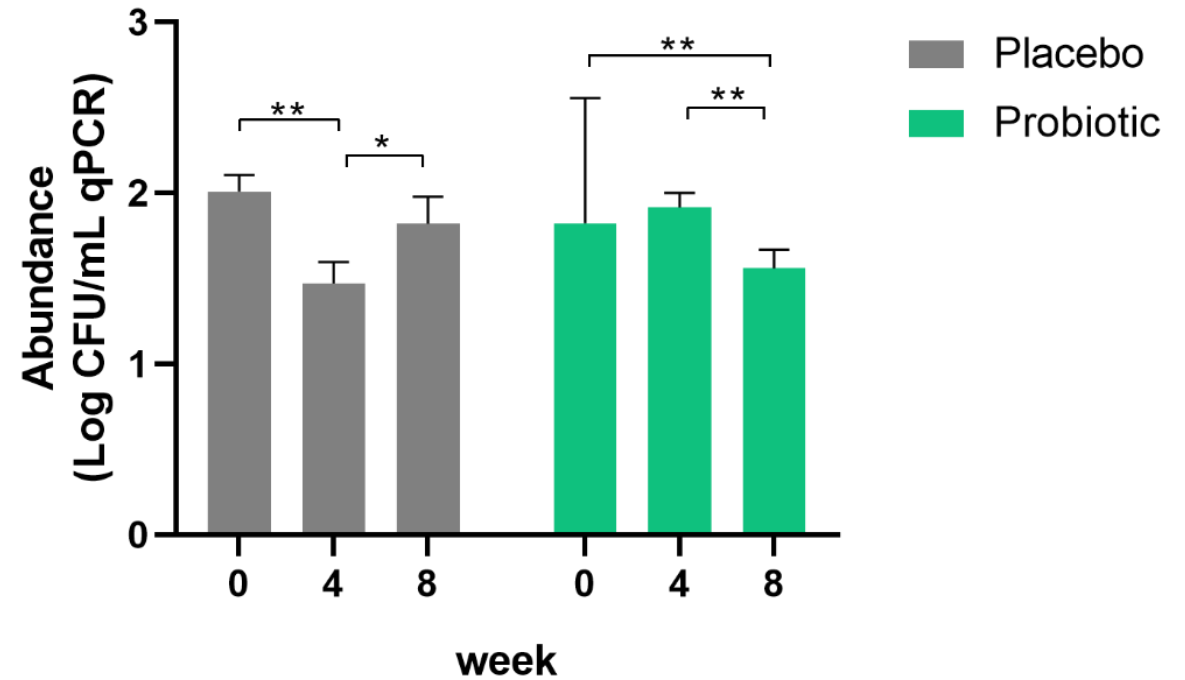
After taking probiotics for 4 weeks, the number of bowel movements in the subjects significantly increased, improving their gut health.

Results were expressed as mean \pm s.e.m. and analyzed by Mann-Whitney test.

**Cervico vaginal lavage (CVL)
*Candida albicans***

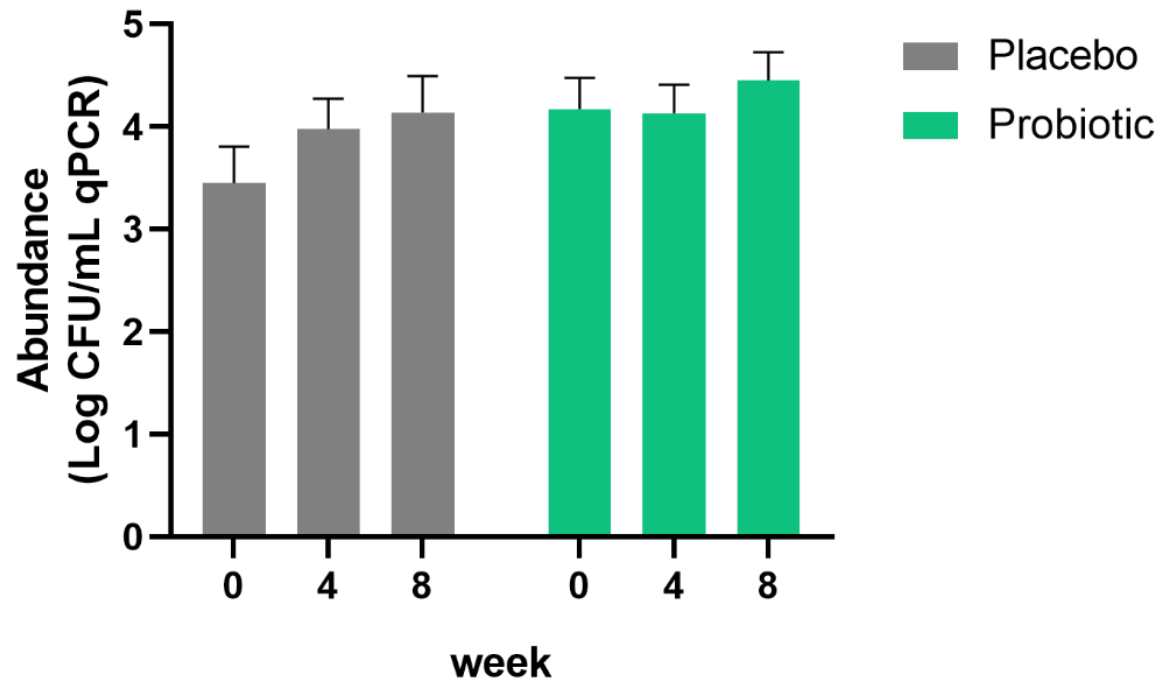


**Cervico vaginal lavage (CVL)
*Candida glabrata***

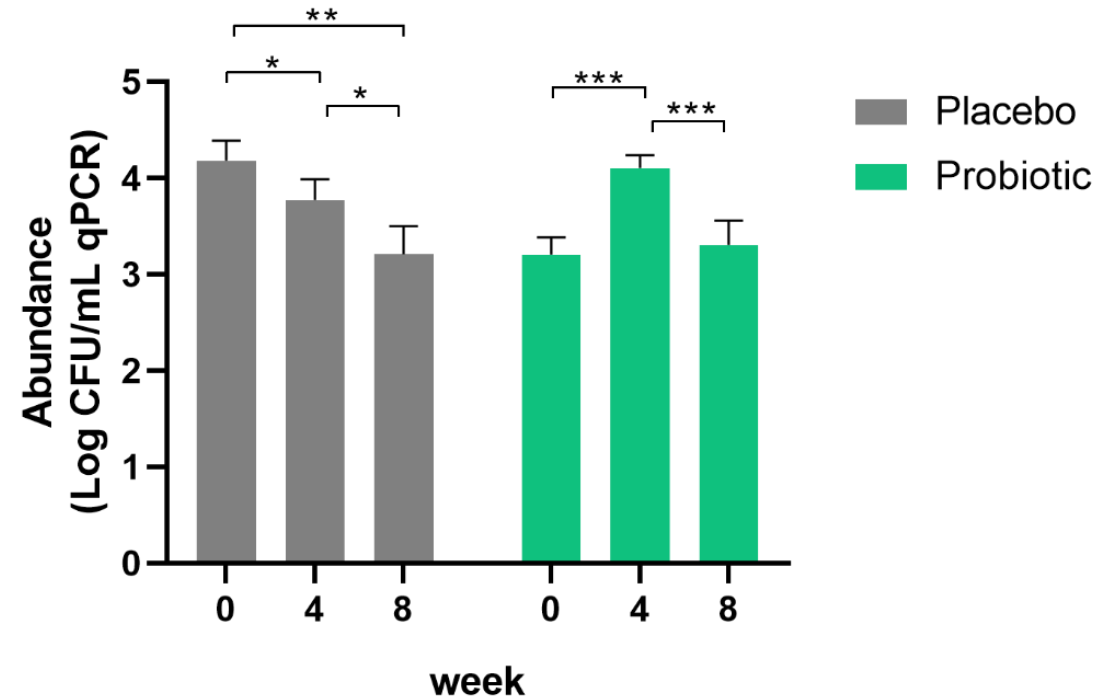


After continuous use of probiotics for 4 and 8 weeks, the number of vaginal pathogens significantly decreased.

**Cervico vaginal lavage (CVL)
*Lactobacillus crispatus***



**Cervico vaginal lavage (CVL)
*Lactobacillus jensenii***



Increasing cervical lactobacilli. After continuous use of probiotics for 4 and 8 weeks, the number of vaginal probiotics significantly increased.

Summary of clinical study



01

Reduced vulvovaginal symptoms and recurrences of VC

02

Improved emotional and social distress attributed to VC

03

Increased defecation times per week

04

Reduced risks of pregnancy-induced constipation



*Thank
you!*



林詩璇 Ellie Lin



www.synbiotech.com



0905-350378



shlin@synbiotech.com.tw