



# Imdermalab<sup>®</sup> V-Equib

- 0** anti bacteria agents
- 3** triple buffer systems
- 4** steps vaginal equilibrium.



PATENT  
PENDING



## According to the statistics published by the WHO :

More than 90% of women suffer from gynecological diseases to varying degrees. According to statistics, the total female population in China in 2020 is 688 million, and there are 528 million women over the age of 15. If 90% of them have suffered from gynecological diseases, then more than 475 million women have this problem.

## The main symptoms of gynecological diseases :

Vulvar itching, burning pain, increased leukorrhea, odor, back pain, abdominal pain, vaginal bleeding on contact.

3 common types of gynecological inflammation

**(Vaginitis, Pelvic Inflammatory Disease, Cervicitis)**





# Vaginal infection

Vaginal infection factors



## Factors that cause vaginal infection

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1. Menstruation
2. Sexual activity
3. Menopause
4. Wrong way to clean
5. Eating too many sweets
6. Insufficient water intake
7. Holding urine
8. Medication side effects



## Vaginal bacterial growth

Vaginal bacterial growth is mainly due to the decrease of lactic acid bacteria in the vagina, and the vagina's long-term humid and stuffy environment increases the chance for bacterial infection.

### Common vaginal bad bacteria

**Candida albicans and Gardnerella vaginalis.**

There are bad bacteria in the vagina itself, but the lactic acid bacteria in the vagina will inhibit the growth of bad bacteria and keep the vagina in a balanced state. Once the lactic acid bacteria in the vagina are reduced, it is easy for bacteria to proliferate, leading to bacterial infections.

### Common symptoms of vaginal infection.

Increased leucorrhea, odor, burning, itching, pain



**✘Serious vaginal infection may cause cervical erosion**



## Healthy Vaginal Environment

N a t u r a l   P r o t e c t i o n

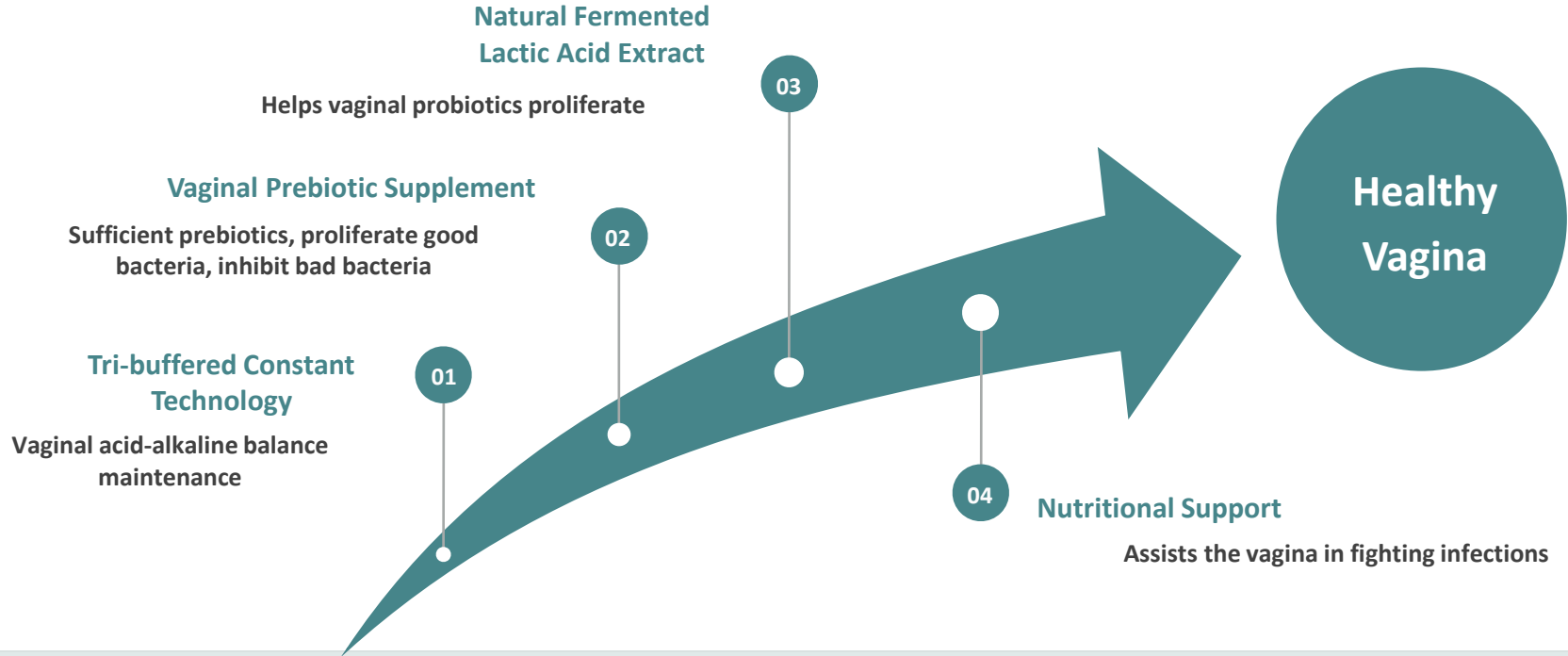


## Vaginal Health Environment-Natural protective acid mantle

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- The pH of normal human skin is weakly acidic ( pH 5.5 )
- Vagina needs a more acidic environment to be healthy. (pH 3.8-4.5)
- Lactobacilli need an acidic environment to survive and can decompose liver sugar in vaginal epithelial cells into lactic acid. Lactic acid forms a natural acidic Mantle on the vaginal mucosa at pH 3.8-4.5, which inhibits the overgrowth of bad bacteria, thus maintaining vaginal health.
- If this weak acidic balance in a woman's vagina is disrupted, or if foreign bacteria invade, it can lead to vaginal inflammation.

# V-Equib - 4 steps to restore vaginal health environment







## Step 1.

# Tri-buffered Constant Technology

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- Efficient and constant acid-base combination  
( Citric Acid/Sodium Citrate , Lactic Acid/Sodium Lactate, HEPES )
- Resists foreign bacteria, effectively neutralizes pH, and makes the vaginal environment effective and constant.



## Natural acid mantle maintenance

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- Use arginine to adjust to pH 8.3 to simulate human body fluid, as a titrating solution.
- The titration observation is 3 cups of 100 g of solution :
  1. Pure water without the addition of V-Equib with lactic acid adjusted to pH3.8
  2. Add 5%V-Equib - pH3.8
  3. Add 10%V-Equib - pH3.8

The purpose of the experiment is to simulate V-Equib maintaining vaginal acid-base capacity.

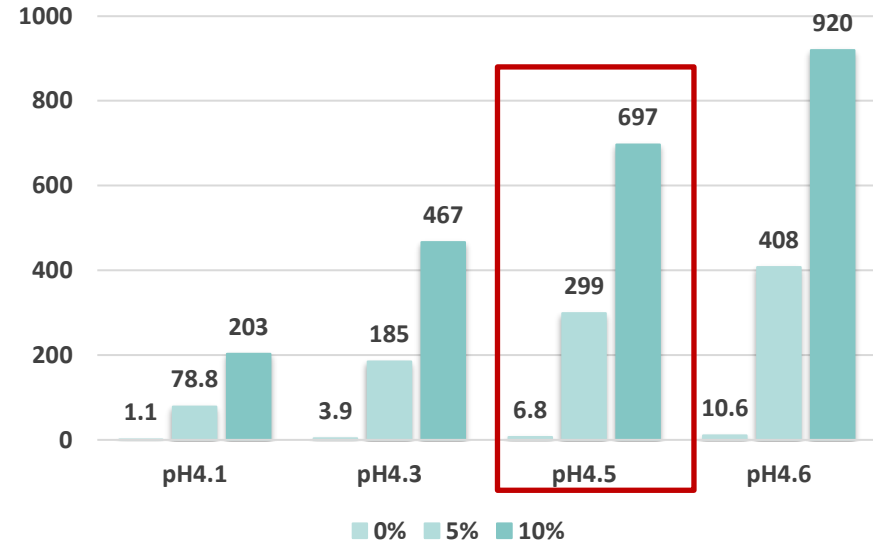


## Natural acid mantle maintenance

- Test results :
- The solution with V-Equib 5% and 10% has excellent ability to maintain pH 3.8-4.5 (the pH range required for a healthy vagina).
- Add 5% V-Equib to tolerate **3** times the dose of alkaline solution at pH 8.3.
- Add 10% V-Equib to tolerate **9** times the dose of alkaline solution at pH 8.3.
- Compared with unused, the acid mantle maintains **40-100** times more.

\* Adding V-Equib effectively improves vaginal acid barrier maintenance

Vaginal acid-base simulation





## Step 2.

# Vaginal Prebiotic Supplement

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- Prebiotics provide "food" for probiotics.
- **Mannose** and **inulin** are the most popular prebiotics for Lactobacillus.
- 10% V-Equib (after 48 hours) can increase growth rate of lactic acid bacteria was greater than **200%**.

# Lactic acid bacteria growth efficiency test

## Purpose :

Test whether adding 10% V-Equib can increase the proliferative capacity of lactic acid bacteria

## Materials :

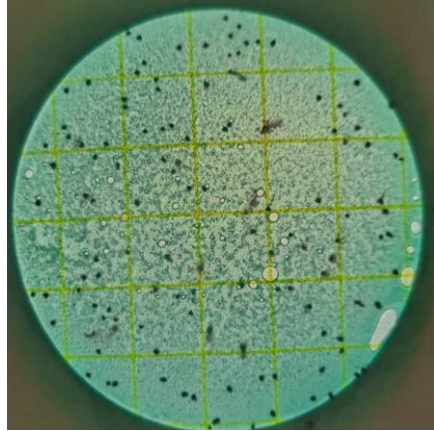
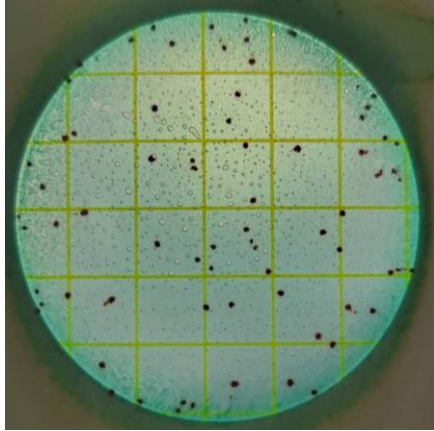
3M™ Petrifilm™ lactic acid bacteria count plate 、 Strain (Lactic Acid Bacteria), Solvent (Sterile Water, V-Equib)

Time : 48hour

## Method :

1. Mix the lactic acid bacteria solution to the desired number of bacteria and spread it evenly on the lactic acid bacteria count plate.
2. Add 1ml of sample to the control group and the experimental group.
3. Observe the growth of lactic acid bacteria and record the number of colonies.





Control group

(Lactic acid bacteria solution 10%, water 90%)

Experimental group

(Lactic acid bacteria solution 10%, V-Equib 10%, water 80%)

Lactic acid bacteria colony count	
Control group	Experimental group
69	141

According to the number of colonies,  
To determine the proliferative capacity of  
lactic acid bacteria

## Lactic acid bacteria growth efficiency test

### Test results :

In the experimental group added with 10% V-Equib, the number of colonies was more than double that of the control group (without V-Equib) after 48 hours, and the increase rate of lactic acid bacteria was greater than **200%**.

**V-Equib has the ability to proliferate vaginal probiotic lactobacillus**



## Step 3.

# Natural fermented lactic acid extract

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- Regulation of vaginal pH.
- The same lactic acid content as native to the vagina.
- No additional burden.
- Adjust the vaginal environment to pH 3.8-4.5



## Step 4.

### Nutritional Support \_\_\_\_\_

#### **Soy isoflavones :**

Botanical female hormones regulator.

#### **Cranberry extract :**

Vaginal infection inhibitor.





# V-Equib

## Efficacy Evaluation

# Anti-Candida albicans ability test

- **Test Unit** : ImDerma Laboratories Co., Ltd
- **Purpose** : Test whether the 10% V-Equib gel can establish a protective barrier.
- **Materials** : Petri dishes, strains (*Candida albicans*), solvents (sterile water, antibiotics, V-Equib)
- **Time** : 0~8 day
- **Temperature** :  $32^{\circ}\text{C} \pm 2^{\circ}\text{C}$  °
- **Method** :
  1. Mix the *Candida albicans* solution to the desired number of bacteria and spread it evenly on the culture medium.
  2. Inlet 100ul into the control group and experimental group ( $1.3 \pm 0.1$  cm) in the medium,
  3. Observe the growth status of *Candida albicans* and record the size of the bacteriostatic ring.





## Candida albicans bacteriostatic ring test (DAY 6) comparative photo

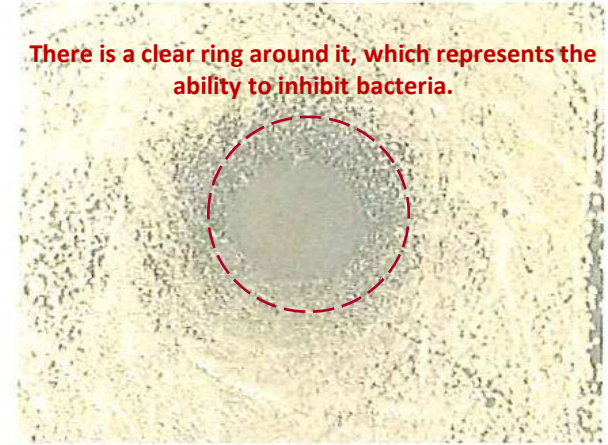
**Sterile water**



**Antibiotics(Amphotericin B)**



**V-Equib gel**



**"V-Equib Gel", with excellent bacteriostatic ability.**



## Anti-Gardnerella vaginalis ability test

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- **10% V-Equib Gel tested by SGS :**
  1. 99.9% antibacterial ability against Gardnerella vaginalis.
  2. V-Equib effectively suppresses Gardnerella vaginalis in 8 hours.
  3. Provides 24-hour antibacterial protection against Gardnerella vaginalis.

**\*V-Equib effectively inhibits the growth of Gardnerella vaginalis**

報告編號： PUG22301127



日期： 2022年05月03日

頁數： 2 of 3

## 測試結果：

菌株名稱	原接菌量 (CFU/mL)	作用時間	樣品作用後之菌 量(CFU/mL)	滅菌率R(%)
陰道加德納菌 ( <i>Gardnerella vaginalis</i> )	3.7 × 10 <sup>6</sup>	8 小時	<1	>99.9
		24 小時	<1	>99.9

## 備註：

1. 測試報告僅就委託者之委託事項提供測試結果，不對產品合法性做判斷。
2. 本測試報告之所有檢驗內容，均依委託事項執行檢驗，如有不實，願意承擔完全責任。
3. 本報告不得分離，分離使用無效。
4. 菌株編號：  
陰道加德納菌 BCRC 17040
5. 滅菌率R(%)小於1%則無明顯抑菌效果。

- END -

## 測試報告

報告編號： PUG22301127



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頁數： 3 of 3

## 樣品照片

PUG22301127





## Anti-Candida albicans ability test

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- **10% V-Equib Gel tested by SGS :**
  1. 99.9% antibacterial ability against Candida albicans.
  2. V-Equib effectively suppresses Candida albicans in 8 hours.
  3. Provides 24-hour antibacterial protection against Candida albicans.

**\*V-Equib effectively inhibits the growth of Candida albicans**

## 測試報告

Ultra Trace Industrial Safety Hygiene

日期：2021年08月18日

## 測試結果：

菌株名稱	ATCC 編號	原樣菌量 (CFU/mL)	作用時間	樣品作用後之 菌量(CFU/mL)	滅菌率 R(%)
白色念珠球菌 ( <i>Candida albicans</i> )	10231	$2.8 \times 10^8$	8 小時	<1	>99.9
			24 小時	<1	>99.9

## 備註：

1. 測試報告僅就委託者之委託事項提供測試結果，不對產品合法性做判斷。
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3. 本報告不得分離，分離使用無效。
4. 菌株編號：  
白色念珠球菌 BCRC 21538；ATCC 10231
5. 滅菌率R(%)小於1%則無明顯抑菌效果。

- END -

## 樣品照片

PUG21701696






## Formulation Application

Simple ,Easy, Effect Immediately





## V-Equib Vaginal Spray

PHASE	INGREDIENT	INCI NAME	%
A	WATER	WATER	98%
	V-Equib	WATER · LACTIC ACID · CITRIC ACID · SODIUM LACTATE · SODIUM CITRATE · MANNOSE · INULIN · SOY ISOFLAVONES · VACCINIUMMACROCARPON (CRANBERRY) FRUIT EXTRACT · HYDROXYETHYLPIPERAZINE ETHANE SULFONIC ACID · BUTYLENE GLYCOL · HEXAMIDINE DISETHIONATE	1%
	MBAA	PROPANEDIOL · 1, 2-HEXANEDIOL · CAPRYLHYDROXAMIC ACID · LACTOCOCCUS/BEAN SEED EXTRACT FERMENT FILTRATE · BUTYLENE GLYCOL · PENTYLENE GLYCOL	1%


1. Mix phase A

# V-Equib

## Vaginal Cleansing Mousse

PHASE	INGREDIENT	INCI NAME	%
A	WATER	WATER	90.36%
	V-Equib	WATER · LACTIC ACID · CITRIC ACID · SODIUM LACTATE · SODIUM CITRATE · MANNOSE · INULIN · SOY ISOFLAVONES · VACCINIUMMACROCARPON (CRANBERRY) FRUIT EXTRACT · HYDROXYETHYLPYPERAZINE ETHANE SULFONIC ACID · BUTYLENE GLYCOL · HEXAMIDINE DIISETHIONATE	1%
	COCAMIDOPROPYL BETAINE(35%)	COCAMIDOPROPYL BETAINE	7%
	MBAA	PROPANEDIOL · 1, 2-HEXANEDIOL · CAPRYLHYDROXAMIC ACID · LACTOCOCCUS/BEAN SEED EXTRACT FERMENT FILTRATE · BUTYLENE GLYCOL · PENTYLENE GLYCOL	1%
B	FRAGRANCE	PELARGONIUM GRAVEOLENS OIL	0.32%
	ESSENTIAL OIL CO-SOLVENTS	PEG-40 HYDROGENATED CASTOR OIL	0.32%

1. Mix phase A, do not mix too fast to avoid foaming.
2. Add phase B and mix well, then add phase A and mix well.



## V-Equib Vaginal Care Gel

PHASE	INGREDIENT	INCI NAME	%
A	WATER	WATER	90.36%
	HEC QP52000	HYDROXYETHYL CELLULOSE	0.6%
	MBAA	PROPANEDIOL ∙ 1, 2-HEXANEDIOL ∙ CAPRYLHYDROXAMIC ACID ∙ LACTOCOCCUS/BEAN SEED EXTRACT FERMENT FILTRATE ∙ BUTYLENE GLYCOL ∙ PENTYLENE GLYCOL	1%
B	V-Equib	WATER ∙ LACTIC ACID ∙ CITRIC ACID ∙ SODIUM LACTATE ∙ SODIUM CITRATE ∙ MANNOSE ∙ INULIN ∙ SOY ISOFLAVONES ∙ VACCINIUMMACROCARPON (CRANBERRY) FRUIT EXTRACT ∙ HYDROXYETHYLPIPERAZINE ETHANE SULFONIC ACID ∙ BUTYLENE GLYCOL ∙ HEXAMIDINE DIISETHIONATE	10%

1. Mix phase A well, add phase B to phase A and mix well.



# SUMMARY

	V-Equib
INCI NAME	WATER · LACTIC ACID · CITRIC ACID · SODIUM LACTATE · SODIUM CITRATE · MANNOSE · INULIN · SOY ISOFLAVONES · VACCINIUMMACROCARPON (CRANBERRY) FRUIT EXTRACT · HYDROXYETHYLPIPERAZINE ETHANE SULFONIC ACID · BUTYLENE GLYCOL · HEXAMIDINE DIISETHIONATE
APPEARANCE	Slight odor, brown liquid
pH	3.5~4.5
DOSAGE	1%~10%