

Femcare Materials

Vaginal Lactic Acid Bacteria Metabolite (DL-8)



DL-8

The reason why BIOGENOMICS focus on vaginal lactic acid bacteria.

Recent studies has revealed that Lactic acid bacteria living in vagina (vaginal lactic acid bacteria) increases during pregnancy.

This vaginal lactic acid bacteria protect womb damaged following birth from pathogen infection. At the same time, the mother-to-baby bacterial transmission occur during vaginal delivery.

We focused on these functions of vaginal lactic acid bacteria, then have been studying with Kurume university (Department of obstetrics and gynecology (OB-GYN) , Faculty of Medical School) about vaginal lactic acid bacteria since 2016.

Through collaborative research, 450 vaginal lactic acid bacteria strains were isolated from pregnant women. Moreover, beneficial bacteria 8 strains was selected from isolated 450 strains. Finally we produced Vaginal Lactic Acid Bacteria Metabolite (DL-8) that made with vaginal lactic acid bacteria 8 strains and soybean medium.

We introduce the appeals of DL-8 as a new Femcare material to people all over Japan and the world.



Femcare Material using Vaginal Lactic Acid Bacteria of pregnant woman

Vaginal Lactic Acid Bacteria Metabolite (DL-8)

We isolated vaginal lactic acid bacteria from vagina of pregnant woman. The vaginal lactic acid bacteria fermentated soybean medium of domestic organic soybean material, produces metabolite.

We named this metabolite the Vaginal Lactic Acid Bacteria Metabolite (*DL-8), which is produced at our company (BIOGENOMICS).

*DL=Doderlein bacillus

We're studying about bacteria living in intestinum and skin, also working a project of vaginal lactic acid bacteria research with Kurume university (Department of obstetrics and gynecology (OB-GYN), Faculty of Medical School) since 2016. DL-8 is vaginal lactic acid bacteria metabolite that fermentated domestic soybean of organic soybean material by lactic acid bacterium 8 of 450 strains isolated from pregnant woman vaginas. We're providing DL-8 as Femcare materials.

Selected from
"450 strains"

8strains
Lactobacillus

Using
"Domestic Organic Soybaen"

Soybean
medium

Fermentation
metabolite

Vaginal Lactic Acid
Bacteria metabolite
DL-8

collaborative
research!

Department of OB-GYN,
Faculty of Medical School,
University of Kurume

Prof. Toshiyuki Yoshizato

Selected 8 of 450 strains Vaginal Lactic Acid Bacteria



- *Lactobacillus jensenii*
- *Limosilactobacillus coleohominis*
- *Lactiplantibacillus plantarum*
- *Lacticaseibacillus rhamnosus*

- *Lactobacillus crispatus* 2 strains
- *Lactobacillus gasseri*
- *Levilactobacillus brevis*

We got a patent 1 of 2 strains *L.crispatus*.

Using "Domestic Organic Soybaen" to produce DL-8 & Skin care effect of soybean component

We use domestic organic soybean high in scarcity value to produce DL-8. Soybean contains soybean isoflavon, saponin and amino acid etc. that has effect to be activated skin cells. DL-8 concentrated those soybean components and vaginal lactic acid bacteria metabolite gives your skin moistness, tension and resilience.



Organic certification by Japan Organic & Natural Foods Association



Organic certification by National Organic Program



Soybeans under EU "Organic Farming" standard for organic certification

Evidences of Vaginal Lactic Acid Bacteria Metabolite



I Supression of *Candida albicans*

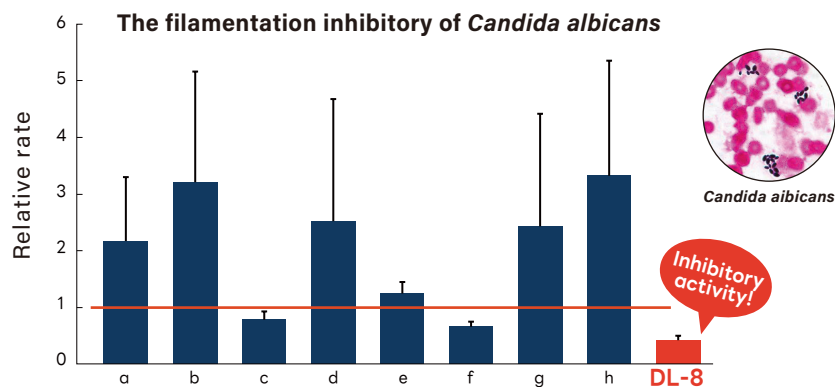
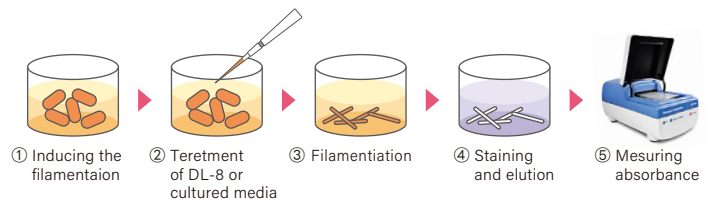
Candida is a kind of yeast in vagina and normally doesn't cause a problem. However, disorder of homeostasis in vagina causes "vaginal yeast infection" by *Candida*. We found out that Vaginal Lactic Acid Bacteria Metabolite (DL-8) suppressed the filamentation of *Candida albicans*.

- ✓ *C. albicans* is one of the yeast which causes vaginal yeast infection.
- ✓ Yeast phenotype is normal but filamentation phenotype shows pathogenic behavior.

→ The filamentation inhibitory activity may be expected for prevention of vaginal yeast infection.

Experiment

DL-8 and each of 8 strains manufacturing DL-8 metabolite were tested on the filamentation inhibitory assay of *Candida albicans*.



Result

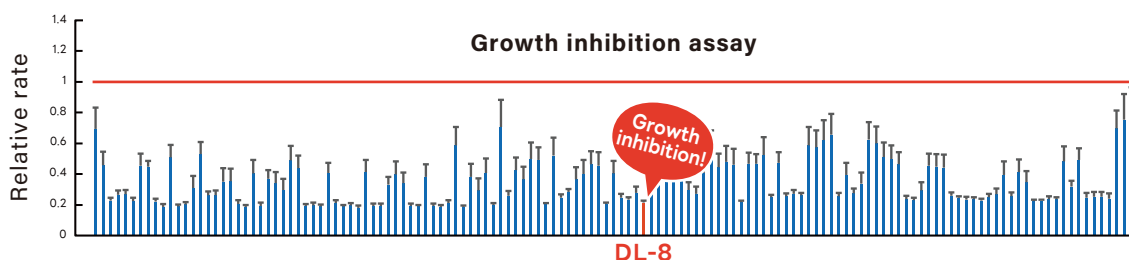
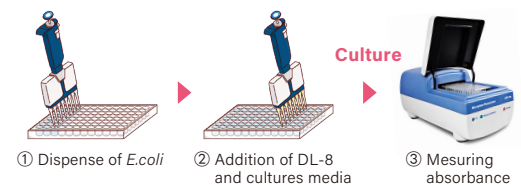
DL-8 suppressed the filamentation of *Candida albicans* compared with each metabolite of 8 strains. This indicated that DL-8 has potential prevention effect of vaginal yeast infection.

II Growth inhibition of *Escherichia coli* causing to be malodorous

E. coli is one of the vaginal microbiota. Stress, tiredness, weakened immune system and excessive washing of vagina induce disorder of vaginal microbiota. This leads to abnormal proliferation of *E. coli* and to be malodorous. We found out that DL-8 inhibited growth of *E. coli* and this result indicates that DL-8 may prevent stench of vagina.

Experiment

We selected 175 strains of 460 strains isolated from healthy pregnant women. Growth inhibition of *E. coli* evaluated when *E. coli* was incubated with cultured media of 175 strains and DL-8.



Result

DL-8 and several strains inhibited growth of *E. coli*. Therefore, DL-8 is expected for the prevention of stench in vagina.

Specifications

name	Vaginal Lactic Acid Bacteria metabolites, DL-8
INCI name	Lactobacillus/Soymilk Ferment Filtrate
minimum order	1 kg
packaging type	wide-mouth bottle; packages that weigh 1~2kg union container; packages that weigh 3kg or more
storage condition	keep in the cold dark place (refrigerator) of the degree of 0~10

recommended content	10 %
physical state	yellowish-brown liquid
pH	3.6 ~ 4.0
viable bacteria count	ND:not detected
colifroms	ND:not detected
fungus	ND:not detected

Safety Evaluation Tests

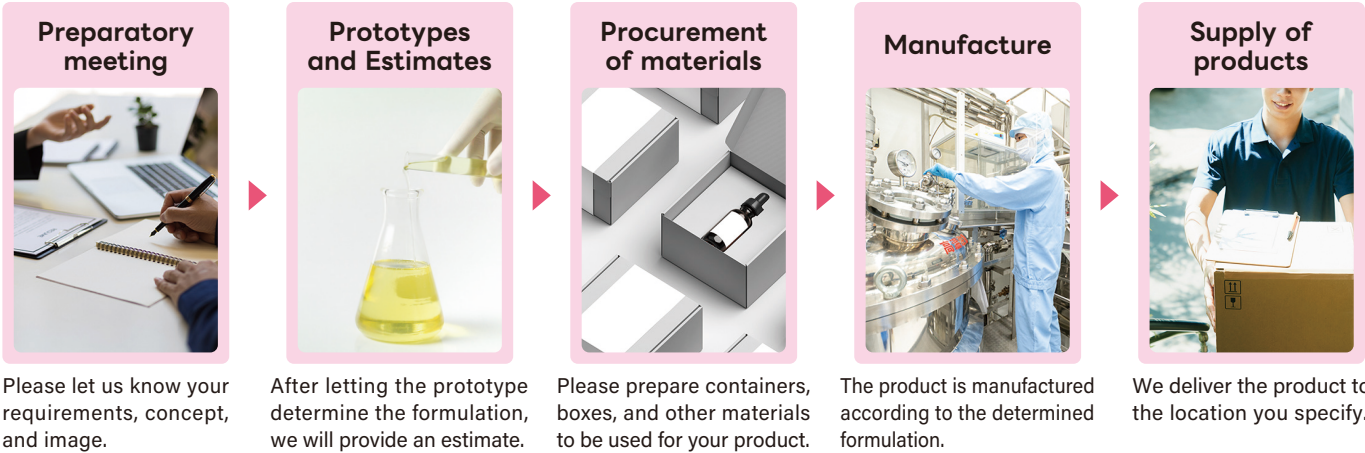
human patch test
cytotoxicity LDH assay

HOW TO USE

A wide range of cosmetics can be combined with DL-8.
Please use it as a raw material for skincare or intimate area skincare.



Vaginal lactic acid bacteria metabolite “DL-8” blended cosmetics OEM process





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