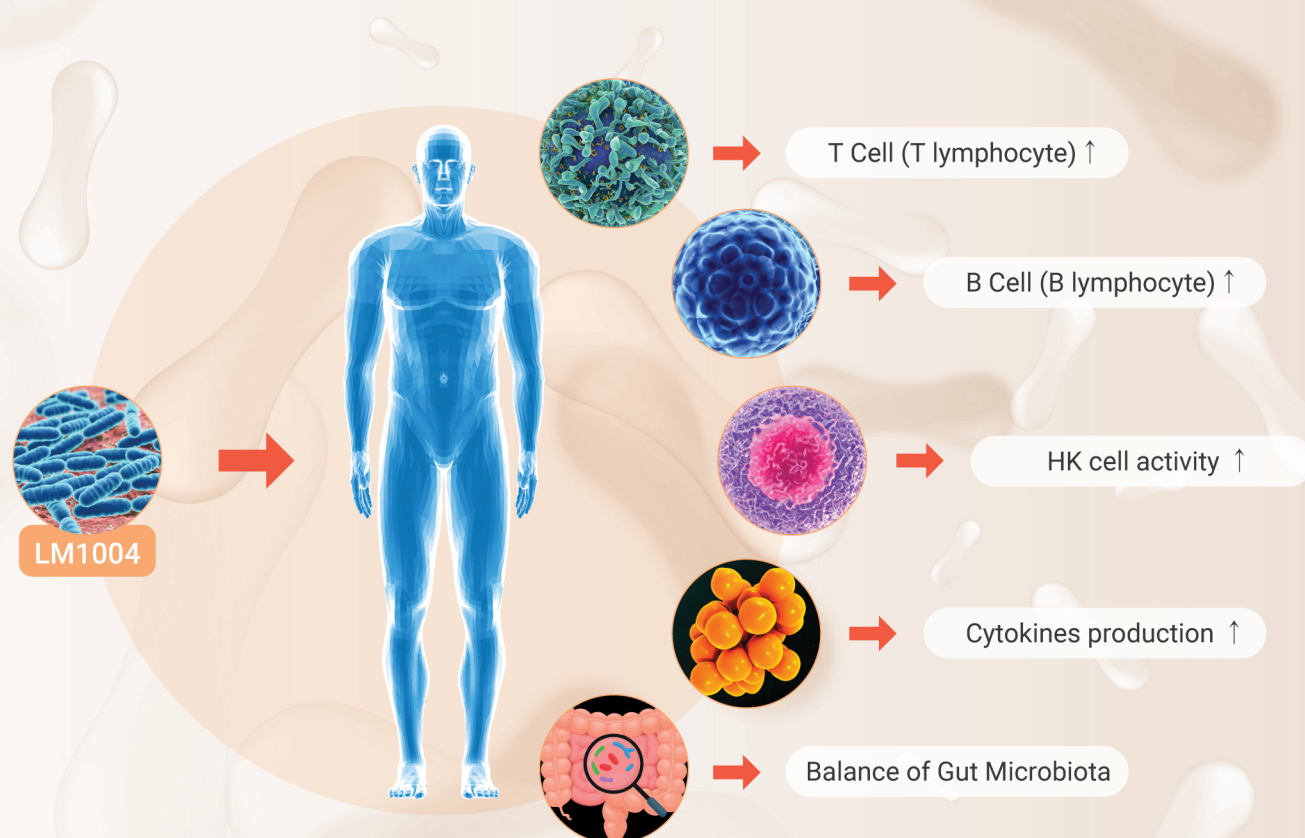


LactoMason's New paraprobiotics Promune 1004 Originated from Kimchi

Heat-treated *Lactobacillus plantarum* LM1004



Advantage of Heat-Treated Probiotics

Safety

- (X) Gene transfer to other bacteria
- Passed in single dose toxicity test

Shelf-life

- Long shelf-life than live cell probiotics and ensured stability

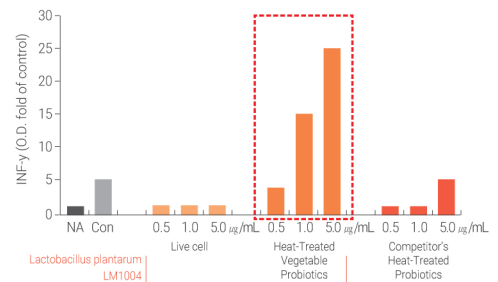
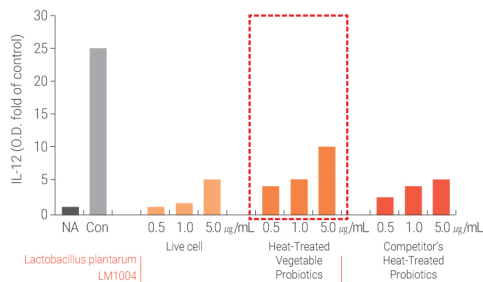
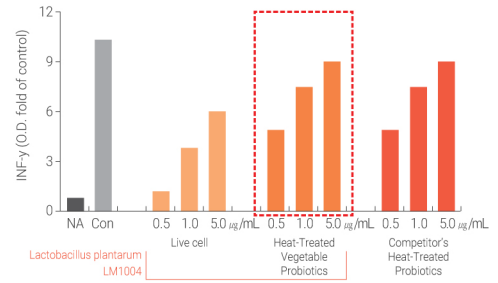
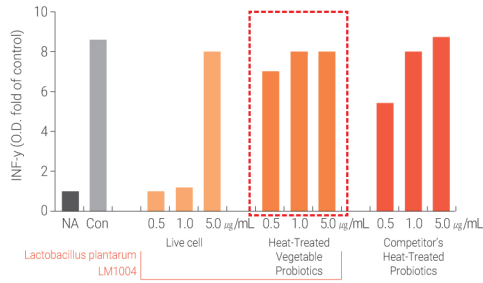
Application

- Used widely for raw materials of foods, feeds, cosmetics and etc

Probiotics for the control of Immune system

In-vitro

Stimulated of production of cytokines



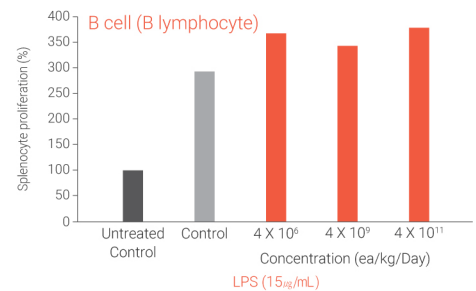
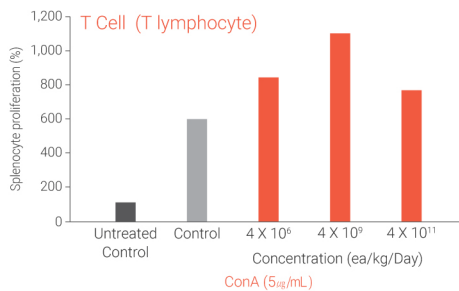
The effect of *Lactobacillus plantarum* on cytokines level in rats cells were treated with lactic acid bacteria or LPS plus Concanavalin A were treated at the concentration of 0.05~5 μg/mL or 1 μg/mL for 24 hour in splenocyte.

The level of cytokines in the culture supernatants were measured using ELISA kits.

- All data are expressed as means±S.D of three independent experiments. - *P < 0.01, significantly different from the control.

In-vivo

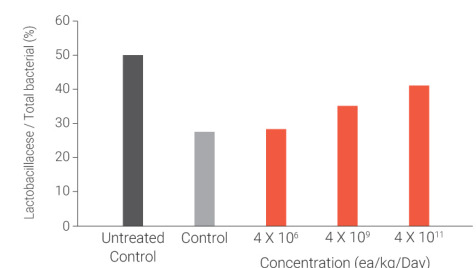
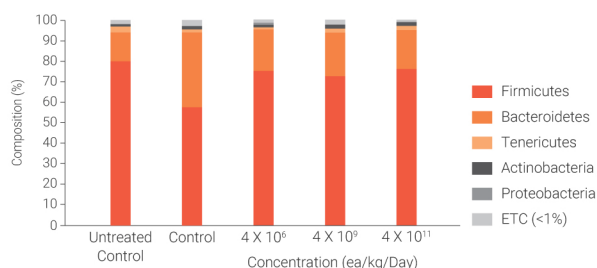
Proliferation of T cell and B cell in splenocyte



- The central role in cell-mediated immunity.
- Matured in the thymus from thymocytes.
- Programmed to recognize, respond to and remember antigens (antigen-specific cell).
- T cell are able to destroy targeted cells on direct contact.

- Responsible for the humoral immunity.
- B cells release antibodies specific to the infectious agent.
- The antibodies act against viruses, such as neutralizing virions and directing the lysis of infected cells.
- Also, B cells present antigen and secrete cytokines.

The change of Gut Microbiota



- PROBIOTICS - GOOD FOR SKIN CARE



WHITENING / BRIGHTENING / FACIAL WRINKLE & SKIN ELASTICITY IMPROVING EFFICACY

Why do you need **LACTOMASON'S PROBIOTICS** for skin care?

1. **Heat-treated probiotics** for **wide range** of cosmetic **applications**

Heat-treated probiotics can be used for various cosmetic formulations, because they are not affected by heat, pressure, water and so on.

2. Proven **skin-care effects** from **clinical test**

Whitening / brightening / facial wrinkle & skin elasticity improving efficacy



***Bifidobacterium animalis* subsp. *lactis* LM1017**

- IMPROVEMENT OF FACIAL WRINKLE
- IMPROVEMENT OF SKIN ELASTICITY

***Lactobacillus rhamnosus* LM1011**

- WHITENING EFFECT
- BRIGHTENING EFFECT



- BRIGHTENING
- WHITENING

I. In vivo study

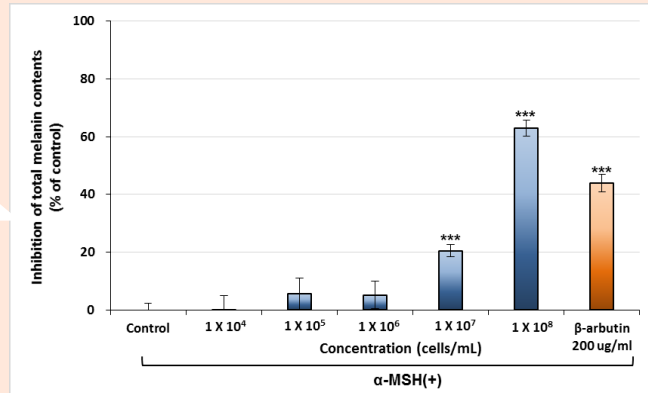
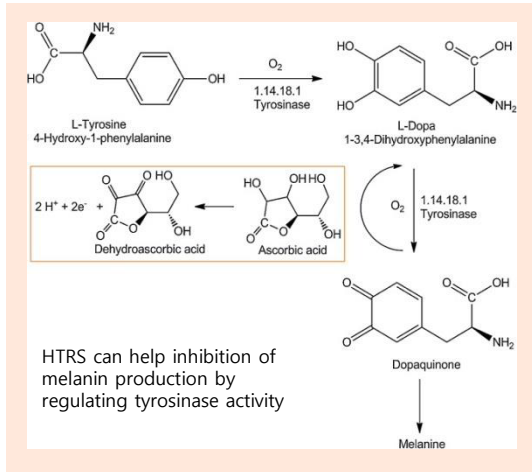
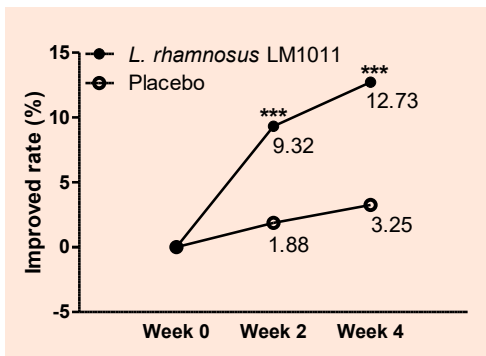


Fig 1. Inhibition of melanin production by HTRS in B16-F10 melanoma cell line

II. Clinical trial

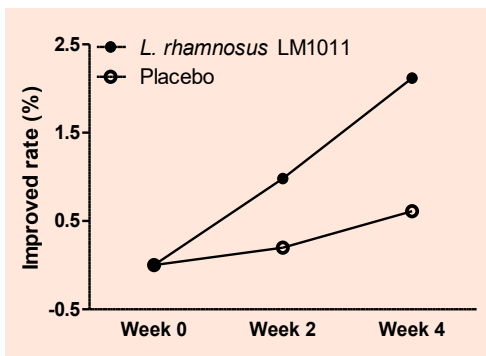
1. Whitening effect on hypermelanosis



"Heat-treated LM1011" has an effect of improving the hypermelanosis.

Fig 2. Decreased rate of visual evaluation score

2. Brightening efficacy test



"Heat-treated LM1011" has skin brightening effect. (Temporary changes, individual differences might be.)

Fig 3. Improved rate of L-value (Lightness value)

- FACIAL WRINKLE & SKIN ELASTICITY IMPROVING EFFICACY

I. In vivo study

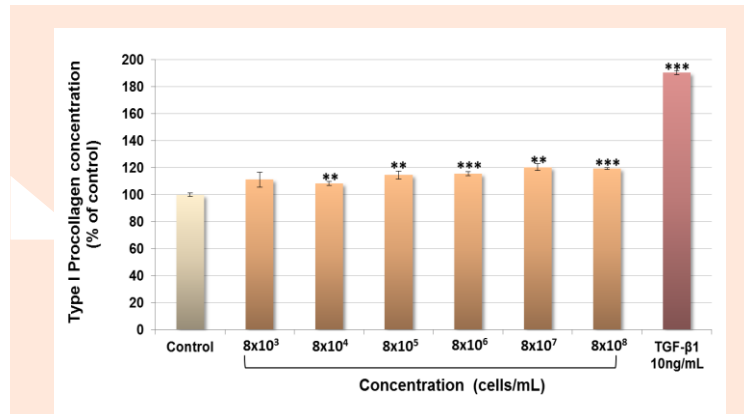
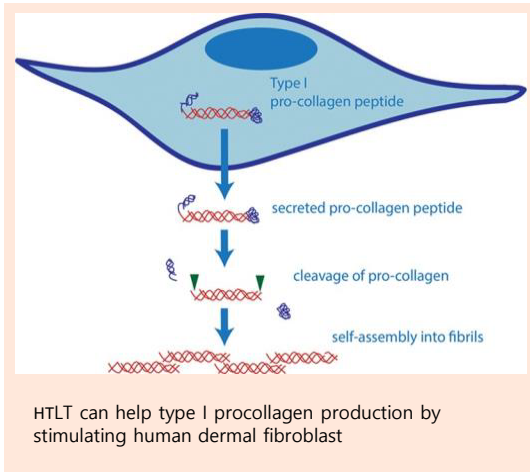


Fig 1. Promotion of Type I procollagen production by HTLT in CCD-986sk cell line

II. Clinical trial

1. Assessment of facial wrinkle improvement test

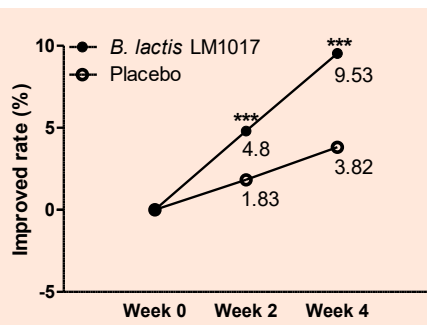


Fig 2. Improved rate of crow's feet wrinkle

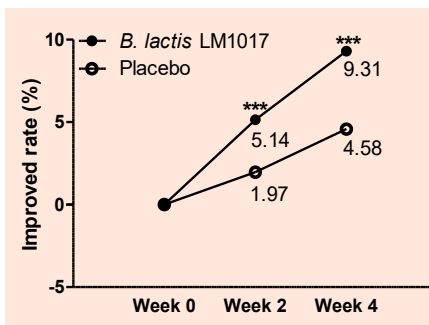
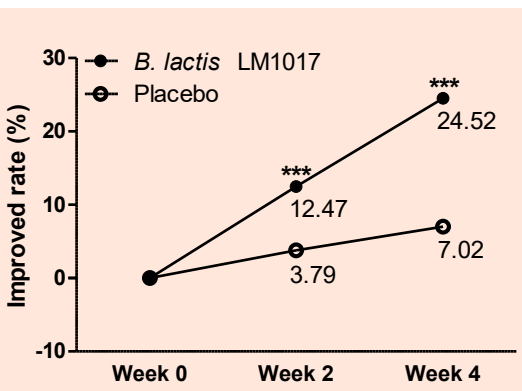


Fig 3. Improved rate of under-eye wrinkle

"Heat-treated LM1017" could help to improve the wrinkles of the test area. (Temporary changes, individual differences might be.)

2. Skin elasticity improving efficacy test



"Heat-treated LM1017" improved the skin elasticity with statistical significance ($p < 0.05$) after 2 weeks of application. (Temporarily, with individual differences by subjects)

Fig 4. Improved rate of skin elasticity