

# Lactic Acid Bacteria Metabolic Products



BIOGENOMICS CO.,LTD

We provide the fermentation and metabolic products of soybean milk fermented by *Lactobacilli* (11 strains) and *Bifidobacteria* (5 strains). These products are manufactured in our factory obtaining FSSC22000\* certification, and are used as the ingredient of supplements, food additives and cosmetics in Japan. Our lactic acid bacteria metabolic products have several evidences of benefic effects such as the improvement of liver function, the protection against osteoporosis, anti-atopic dermatitis effect and the facilitation of emptying the bowels. Manufacturing process and product lines are described below.

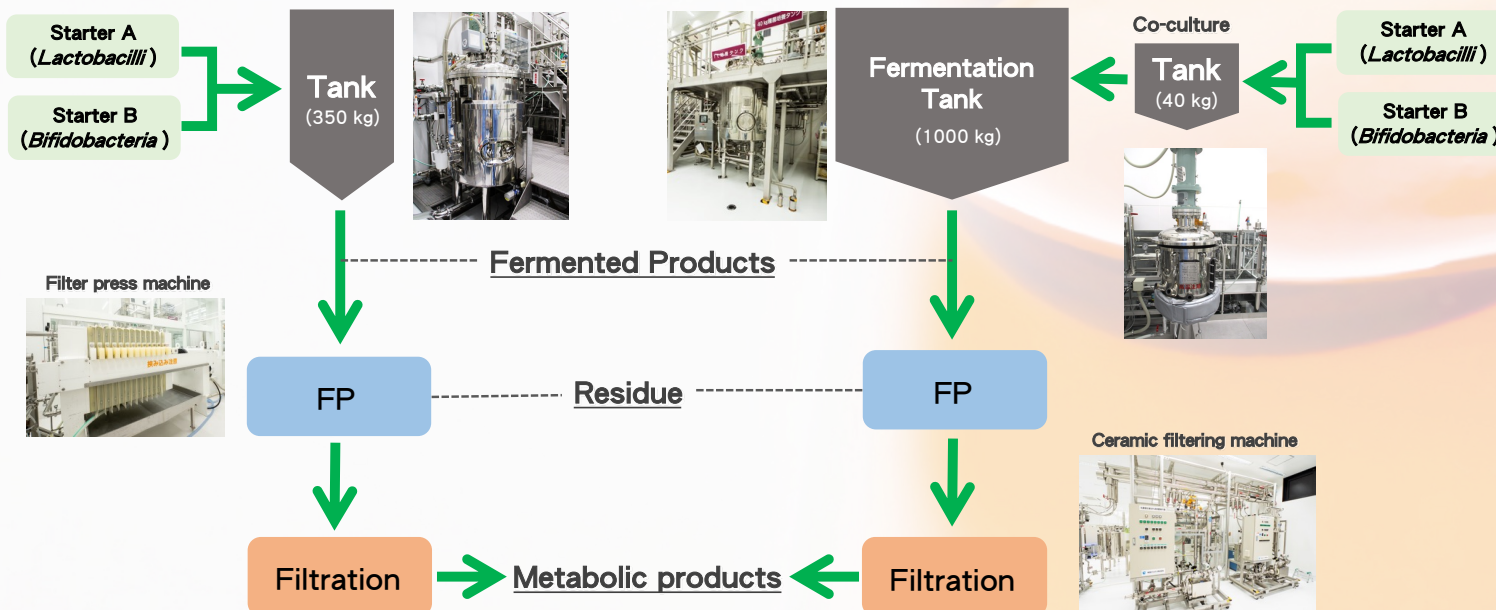
\*The Food Safety System Certification 22000 (FSSC22000) is international certification scheme based on ISO22000 and ISO/TS 22002-1.

## Manufacturing process

There are two manufacturing lines which are 350 kg scale and 1000 kg scale in our factory. *Lactobacilli* and/or *Bifidobacteria* are cultured in their tanks. Fermented products are transferred the process of filter press in order to remove residue. The intermediate filtrate is sterilized by ceramic filtering machine to collect lactic acid bacteria metabolic products.

### 350 kg scale fermentation

### 1000 kg scale fermentation



## Strains

### > *Lactobacilli*

*L.acidophilus*, *L.casei*, *L.delbrueckii subsp. bulgaricus*, *L.paracasei subsp. paracasei*, *L. delbrueckii*, *L.gasseri*, *L.brevis*, *L.helveticus*, *L.plantarum*, *L.salivarius*, *L.rhamnosus*

### > *Bifidobacteria*

*B.longum subsp. longum*, *B.bifidum*, *B.adolescentis*, *B.breve*, *B.longum subsp. infantis*

All strains are derived from human stool. Therefore, the fermented products are similarly to the metabolite of human gut microbiota.

## Product lines and applications

**Fermented Products** are provided after pasteurization. These products also consist of bacterial bodies, metabolites and residue, and it is possible to process powder.

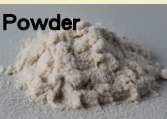
→ Supplements, Food additives

**Residues** are gained after the process of filter press step. These products also contain cell bodies. It is possible to process powder.

→ Food, Supplements, Food additives

**Metabolic products** are the final products removed solid content. They consists of lactic acid bacteria metabolic products. It is possible to process powder.

→ Cosmetic, Beverage, Supplements, Food additives



## Soybean milk for the fermentation

### > Organic soybeans

Soybeans are essential to Japanese food, *Washoku*, and used as the ingredient of soy sauce, *Tofu*, *Natto* and *Miso*. These foods are produced using fermentation process with bacteria or fungi. Therefore, soybeans are suitable culture medium for lactic acid bacteria and we use as the raw material of lactic acid metabolic products.

- Organic soybeans produced in Japan
- Organic JAS Certification in Japan
- National Organic Program (NOP) certification accepted in US and EU



### > Maintaining organic soybeans quality

Soybeans quality deteriorate rapidly, which is influenced the components of soymilk. To avoid this problem, we adopt “Ice Temperature” system that enables to keep organic soybean quality and to produce a stable soymilk used as the medium for lactic acid bacteria.

- Maintaining fresh state on a long-term basis
- Improvement in soybeans quality
- Reduction of harmful microorganisms

\* Ice Temperature® is the temperature range in which food remains alive without freezing even below 0 degrees Celsius.



### > Our soybean milk containing “Okara” nutrients

In general, “Okara” is residue removed during the soymilk production process. However, *Okara* contains abundant dietary fibers, dietary plant proteins, vitamin B family and lipids. We produce soybean milk including *Okara* and lactic acid bacteria are cultured in this medium.

- *Okara* contains abundant nutrients
- Our soybean milk including *Okara* nutrients
- Fermentation of whole soybean



## FSSC 22000

BIOGENOMICS has implicated The Food Safety System Certification 22000 (FSSC 22000). FSSC 22000 offers a complete certification scheme for the auditing and certification of Food Safety Management Systems (FSMS). It also offers certification for combined FSMS and Quality Management Systems (FSSC 22000-Quality).

- > ISO 22000 fully applied
- > Technical specifications for Pre-Requisite Programs
- > Additional FSSC 22000 requirements

Our product lines are FSSC 22000 quality. We provide customers with safe products.



## Benefic effects of our lactic acid bacteria metabolic products

- > **Immunity** Effect of intake of lactic acid bacteria production material on allergic dermatitis induction mouse.
- > **Diabetes** Inhibitory effect of lactic acid bacteria production materials on elevation of blood glucose in non-obese type II diabetic model rats.
- > **Osteoporosis** Osteoporosis prevention effect of lactic acid bacteria production materials in mice.
- > **Liver function** Clinical trial on improvement of liver function and lipid metabolism by lactic acid bacteria.
- > **QOL**
  - Clinical test on skin quality improvement effect by application of lactic acid bacteria production material.
  - Clinical trial on the bad breath suppression effect of lactic acid bacteria production materials.
  - Effects of lactic acid bacteria production materials on defecation and stool properties and skin quality.

Contact us



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