

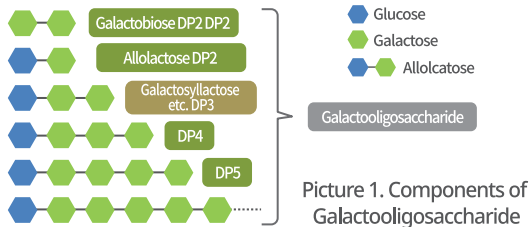
Oligosaccharide with Nature as It Is Organic Galactooligosaccharide

Galactooligosaccharide: GOS

As Galactooligosaccharide is a generic term for oligosaccharide containing Galactose as a main component, which is superior in intestinal regulation, immunopotential, and other physiological activities with galactosylactose particularly included in mother's milk. In addition, it has 40% sweetness compared to sugar and soft sweetness.

Advantages of Organic Galactooligosaccharide

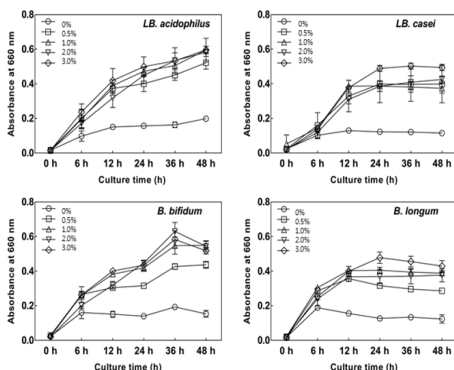
Organic galactooligosaccharide is the first in the world which did not go through decolorization and ion exchange purification process, etc. based on lactose from organic milk produced by 1) organic dairy method.



Picture 2. World Certification Mark of Organic Processed Food

Lactobacillus Proliferation Effect of Organic Galactooligosaccharide (In-vitro)

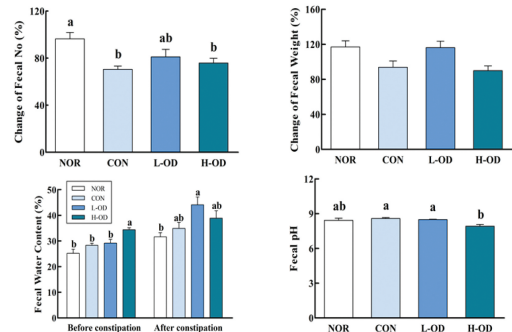
In order to prove the lactic acid bacteria proliferation effect of organic galactooligosaccharide, the growth of 4 types of lactic acid bacteria has been observed by anaerobic culture at 37°C after treating organic galactooligosaccharide from 0.5% to 3%. As a result, Organic galactooligosaccharide is effective on proliferation of the Lactobacillus.



Picture 3. Proliferation Effect of Lb. acidophilus, Lb. casei, B. bifidum, B. longum

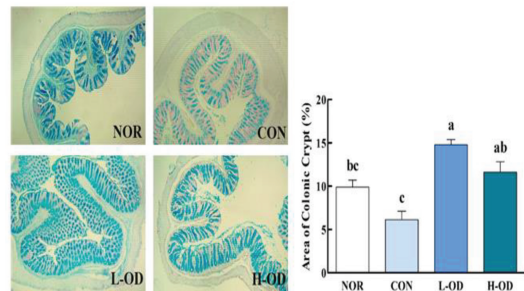
Effect of Organic Galactooligosaccharide to Relieve Constipation (In-vivo)

The number of feces, the weight of feces, the moisture of feces and so on, have been checked for the effect of organic galactooligosaccharide to relieve constipation by using rats causing constipation, which confirmed that constipation has been relieved in the organic galactooligosaccharide intake group.



Picture 4. Effect to Relieve Constipation

In addition, Colonic mucosa of constipation-induced group decreased mucus secretion function compared to the group without constipation. In all groups, the secretory cells increased significantly compared to the control group.



Picture 5. Area of Colonic mucous membrane and Crypt epithelial cell

Safety of Organic Galactooligosaccharide

(Acute/Subacute/Toxicity Test Result)

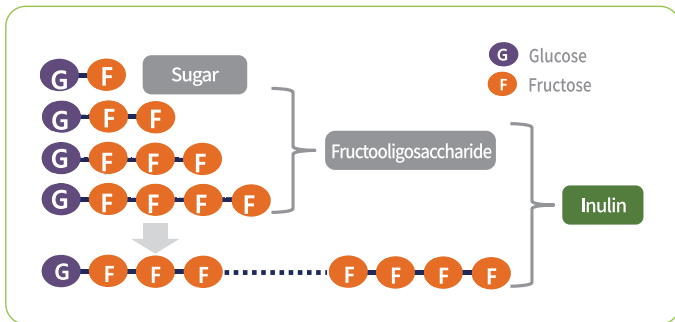
The safety of Organic galactooligosaccharide was confirmed by Specific Pathogen Free (SPF) SD-rat. For acute toxicity, toxicity was evaluated by oral administration of 5,000mg/kg of organic galactooligosaccharide. For subacute toxicity, toxicity was evaluated by administering organic galactooligosaccharide of 1,000mg/kg for 14 days. As a test result, acute toxicity and subacute toxicity were not observed.

Product Information

Parameter	Specification		
Property	Liquid	Liquid (CL)	Powder
Solid Content (Brix)	≥ 75.0°	74.0~76.0°	≤ 95.0%
Total Galactooligo-saccharide (DB)	≥ 55.0%	≥ 57.0%	≥ 34.0%
Ph	4.0~7.0	3.2~3.8	4.0~7.0
Total Plate Count	≤ 3,000 CFU/g	≤ 3,000 CFU/g	≤ 1,000 CFU/g
Yeast and Molds	≤ 50 CFU/g	≤ 50 CFU/g	≤ 50 CFU/g
E. coli	Abs in 5g	Abs in 5g	Abs in 5g
Salmonella	Abs in 25g	Abs in 25g	Abs in 25g
package	20kg (PE) 1 Ton (IBC)	20kg (PE) 1 Ton (IBC)	10kg (Bag) 20kg (Bag)

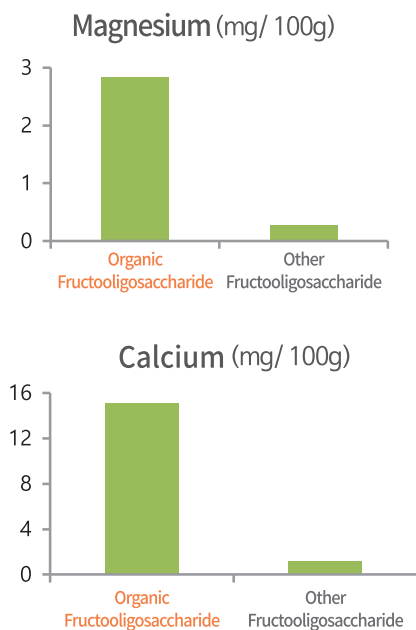
Fructooligosaccharide (FOS)

Fructooligosaccharide is β-1, 2-combined oligosaccharide with 1~3 fructose molecules in sugar molecule, Fructooligosaccharide is a functional food material produced by using transferase or microorganism with transferase based on sugar or inulin as raw materials. In the country, it can be available both as a sweetener for general food or as a functional raw material for health functional food (it helps multiplying beneficial bacteria, inhibit harmful bacteria, ingest calcium and make bowel movements smooth by taking it in for 3~8g a day.)



Picture 1. Structure of Fructooligosaccharide

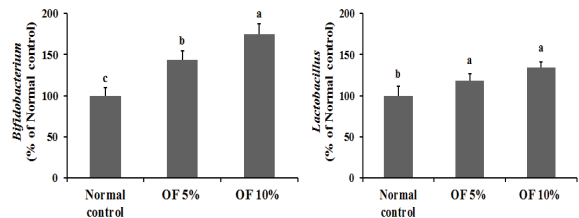
Organic fructooligosaccharide is distinguished from the existing fructooligosaccharide in a manufacturing process, which means that Organic fructooligosaccharide is an environmentally friendly product with beneficial mineral and other nutrients in sugar cane unlike the existing fructooligosaccharide because 1) it uses raw cane sugar, an organic raw material, and 2) it doesn't go through a process of decolorization and a purification process of ion exchange.



International Certification Mark for Organic Processed Foods

Lactobacillus Proliferation Effect of Organic Fructooligosaccharide (In-vitro)

In order to prove the lactic acid bacteria proliferation effect of organic fructooligosaccharide, the growth of lactic acid bacteria has been observed through anaerobic culture at 37°C after mixing organic fructooligosaccharide with a diet by 5% and 10% and taking it in. As a result, it was confirmed that lactic acid bacteria proliferated in treating organic fructooligosaccharide.



Picture 2. B. bifidum, Lb Proliferation Effect of Fructooligosaccharide

Features of Organic Fructooligosaccharide

- Organic processed food produced by certified organic raw materials
- Use of unrefined sugar, abundant mineral without the process of decolorization and ion refinement
- Effect of Evacuation through intestinal regulation
- Inhibition of Growth and Development of harmful bacteria / Reduction of intestinal colony
- Reduction of serum lipid
- Enhancement of the immune system
- Promotion of absorbing mineral in the body (calcium, magnesium, iron, zinc, etc.)

Product Information

Parameter	Specification	
	Liquid	Powder
Solid Content (Brix)	More than 75.0	More than 95.0
Total Fructooligosaccharide (DB)	More than 50.0%	More than 26.0%
pH (10% Solution)	4.0~7.0	4.0~7.0
Pb	Less than 1.0 ppm	Less than 1.0 ppm
Total Plate Count	≤ 1,000CFU/g	≤ 1,000 CFU/g
E. coli	ABS MPN/g	ABS MPN/g
Packing Unit	24kg (PE) 1.2Ton (IBC)	20kg (Bag)