



MEDIOGEN High Funtional Probiotics

# STORY OF MEDIOGEN

MEDIOEN Co. LTD is a biotech company  
that is constantly conducting research and development  
for the human health

## Company Overview



### “Continuous Challenge for Biotechnology Innovation”

MEDIOGEN Co. LTD is a bio venture company founded on the basis of biotechnology and has high-performance probiotics strains. We provide the highest quality probiotics through mass production using high-concentration culture technology.

In addition to health-functional food, we have expanded our field to include new bio-business areas such as the development of new drugs using intestinal microorganisms, and are conducting consistent research and development to become a global biotech company that combines probiotics technology.



## Brief History

- 2019**  
05 Received a presidential citation from Korea small and midium businessmen's convention
- 2018**  
03 Construction of third factory in Chungju  
(Production factory specializing for finished products)  
05 Acquisition of GMP certification of Chungju factory (KFDA)  
08 Achieved ISO 9901:2015 certification
- 2017**  
04 Acquisition of HACCP certification of first and second factory in Jecheon by ministry of food and drug safety (KFDA)  
05 Launched of customized premium probiotics "LABISEN" series
- 2014**  
02 Acquisition of venture certification for R&D company (from the Korea government)  
11 Construction of second factory in Jecheon
- 2012**  
05 Acquisition of excellent health functional food manufacturing standards (Good Manufacturing Practice; GMP) by ministry of food and drug safety (KFDA)
- 2008**  
04 Established of R&D Institute  
(Certified from the Korea Industrial Technological Association)  
Registration of CTFA for fermented herbal medicine item with 10 kinds of lactic acid bacteria (PCPC, Personal Care Products Council of USA)
- 2007**  
07 Relocation of Head Office and Completion of Factory (First Factory of Jecheon)
- 2006**  
07 Selected as INNO-BIZ (from the Korea Ministry of SMEs and Startups)
- 2004**  
06 Selected as excellent technology company (from the Korea Technology Finance Corporation)  
07 Registration of health functional food specialty manufacturer
- 2001**  
06 Selected as excellent venture company (from the Ministry of SMEs and Startups)  
12 Registration of feed additive manufacturer
- 2000**  
06 Established of MEDIOPEN Co., LTD  
12 Registration of food manufacturing and sales permit

INNOBIZ  
기술혁신형중소기업



## Business Story



### Probiotics R&D/Cultivation/Production

### Health Functional Food OEM&ODM

### Customized Premium Probiotics "LABISEN" Series

- **Producing Raw Materials of Probiotics**

Producing KFDA certified 19 types of probiotics  
Holding various patent lactic acid bacteria

- **Producing General Food Raw Materials**

General lactic acid bacteria , heat-killed lactic acid bacteria and biologic fermentation

- **Producing Cosmetics Raw Material**

Edible cosmetics raw materials, oriental medicine fermented herbal medicine raw materials

- **Patent Coating Technique**

- **Provid High Production Technique**

- **OEM & ODM**

Product consulting

Finished product production  
(Sachet, Capsule, Tablet, PTP, Granule, Alualu, etc.)

Producing under strict quality management system at GMP & HACCP certified facility

Over 20 years of R&D results and professional health functional food production know-how

- **Customized Premium Probiotics LABISEN**

Accumulation of the technological know-how of MEDIOGEN, which has continued to research, develop and produce probiotics.

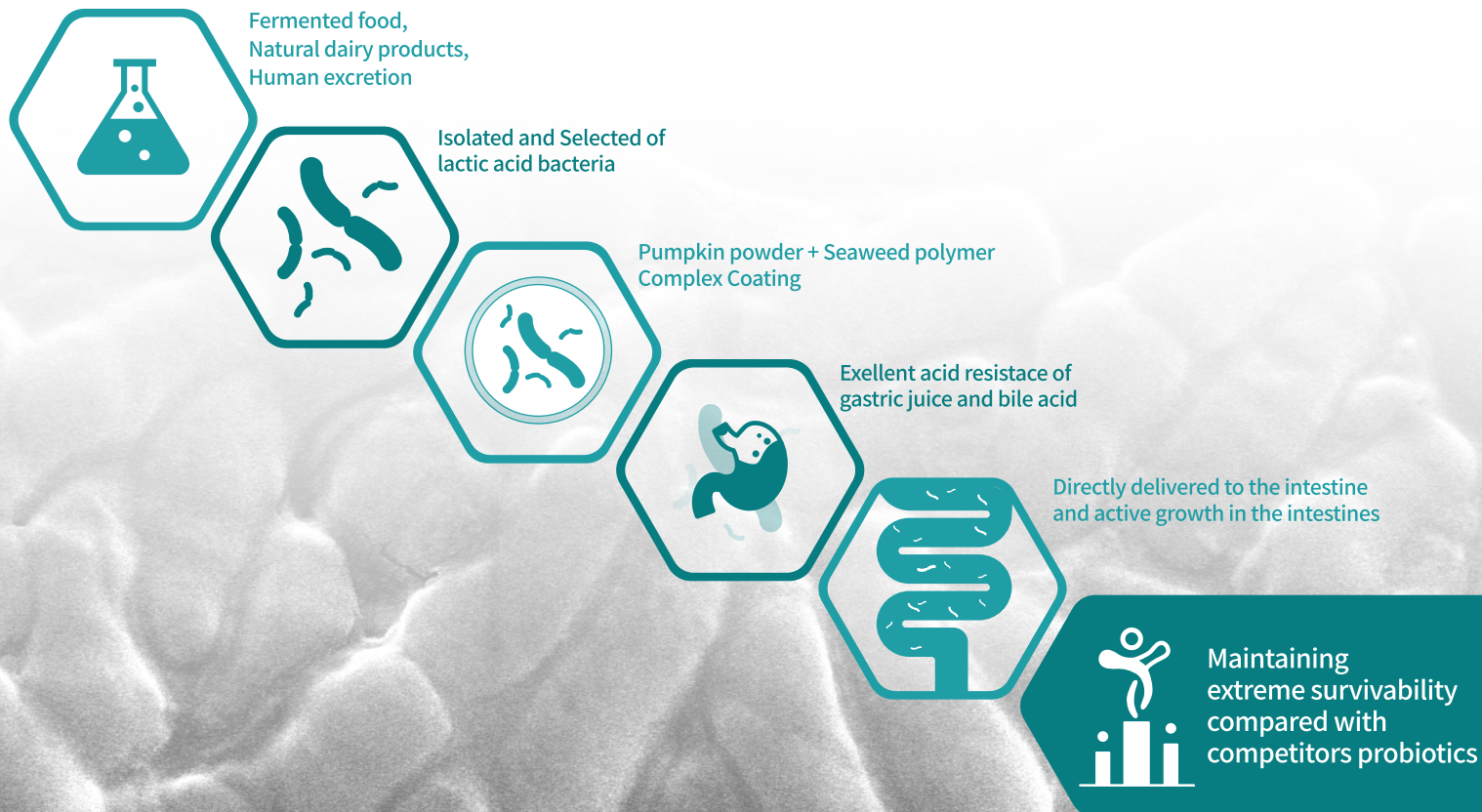
Probiotics with extensive experience to choose for personal situations

Suitable lactic acid bacteria for everyone in every situation and function



## Probiotics R&D/Production

### • Securing Probiotics Manufacturing-Specific Technology



< Lactic acid bacteria coated by patented coating >

SE

09-Aug-18

WD 5.0mm 7.0kV x18k 2.5um

Directly Delivered to the Intestine and Active Growth in the Intestine,  
Extreme Survivability Compare with Competitors

### • What is Probiotics?

Probiotics are live bacteria that have a healthy effect when ingested in adequate quantities. Thus, it can be said that it is a generic term for "beneficial bacteria"

- FAO / WHO (World Health Organization)

### • Efficacy and Effect of Probiotics

Can help to proliferate lactic acid bacteria and suppress harmful bacteria  
Can help facilitate active bowel movement

- KFDA (Korea Ministry of Food and Drug Safety)

## • Probiotics list of MEDIOPEN

Mediogen Probiotics	Origin	Strain
Lactobacillus plantarum MG207	Kimchi	1.0 x 10 <sup>9</sup> ~10 <sup>11</sup> cfu/g
Lactobacillus plantarum MG989	Virginia of healthy Korean	
Lactobacillus acidophilus MG5228	Intestine of healthy Korean	
Lactobacillus helveticus MG585	Korea natural fermented milk products	
Lactobacillus rhamnosus MG316	Intestine of healthy Korean	
Lactobacillus casei MG311	Korea natural fermented milk products	
Lactobacillus paracasei MG310	Korea fruit and vegetable fermentation	
Lactobacillus reuteri MG505	Intestine of Korean infant who breast-fed (mother's milk)	
Lactobacillus delbrueckii spp.bulgaricus MG515	Korea natural fermented milk products	
Lactobacillus fermentum MG901	Virginia of healthy Korean	
Lactobacillus fermentum MG4244		
Lactobacillus fermentum MG4231		
Lactobacillus salivarius MG242		
Lactobacillus salivarius MG4293	Intestine of Korean infant who breast-fed (mother's milk)	
Lactobacillus salivarius MG4527		
Lactobacillus gasseri MG4247		
Enterococcus faecium MG89-2	Kimchi	
Enterococcus faecalis MG511		
Streptococcus thermophilus MG5140	Korea natural fermented milk products	
Bifidobacterium longum MG723	Intestine of healthy Korea Child	
Bifidobacterium breve MG729		
Bifidobacterium infantis MG727		
Bifidobacterium bifidum MG731		
Bifidobacterium animalis ssp. lactis MG741	Korea natural fermented milk products	
Lactococcus lactis MG5125		
Probiotics Mixture of 2 ~ 19 Types		



## List of probiotics for general food and heat-killed lactic acid bacteria

### Probiotics for General Food

*Pediococcus acidilactici*

*Pediococcus pentosaceus*

*Weissella cibaria*

*Lactobacillus curvatus*

*Lactobacillus sakei*

*Lactobacillus johnsonii*

*Lactobacillus brevis*

*Leuconostoc cisterium*

*Leuconostoc mesenteroides*

*Bacillus subtilis*

*Bacillus polyfermenticus*

*Bacillus natto*

*Bacillus coagulans*

### Heat-killed lactic acid bacteria

*Lactobacillus acidophilus*

*Lactobacillus rhamnosus*

*Lactobacillus plantarum*

*Lactobacillus casei*

*Pediococcus pentosaceus*

*Enterococcus faecium*

## List of raw materials for cosmetics ingredients

### Item (Complex Prescription)

#### Mi-100(For Whitening)

Bamboo Shoots, Licorice, Luffa Cylindrica, Mulberry Roots, Pueraria complex extract ferment

#### Banro(For Antioxidation)

Ginseng, Angelica Root, Schizandra, Rubus Coreanus complex extract ferment

#### Dana(For Soothing Skin Problems)

Artemisia Herb, Lonicera Aflower, Peony, Phellodendron Bark complex extract ferment

### Item (Single)

FY0100 :  
Red Clay Extract Ferment

Boxthorn Extract Ferment  
Cudrania Tricuspidata  
Extract Ferment

Dandelion Extract Ferment  
Acanthopanax Senticosus  
Extract Ferment  
Gold Extract Ferment

Astragalus Membranaceus  
Extract Ferment

Cnidium Officinale Makino  
Extract Ferment

Ginger Extract Ferment

Black Garlic Extract Ferment

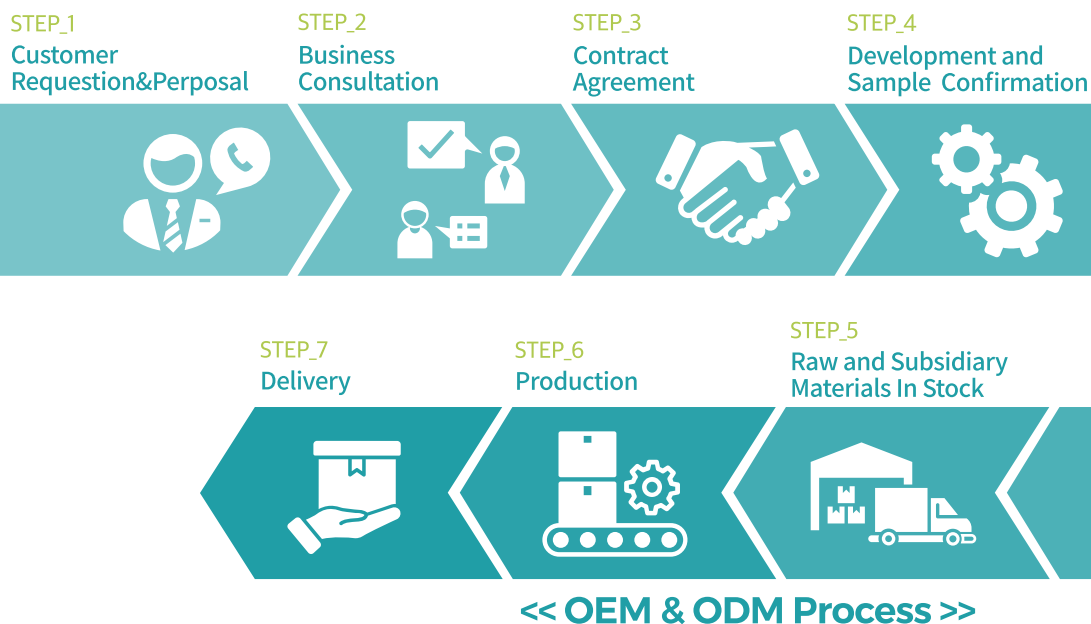
Red Ginseng Extract Ferment



## “MEDIOGEN and Quality are Synonyms.”

MEDIOGEN believes that producing and managing high-quality probiotics through a highly standardized management system is the top priority, so we operate a thorough production management system.

MEDIOGEN's perfect probiotics production system is integrated into a standardized process in accordance with GMP regulations, an international quality certification, and all automated production processes are produced and managed under strict quality control regulations.



### OEM Original Equipment Manufacturing

By producing finished products with the product and brand name required by the customer, MEDIOGEN Co., LTD has years of experience to provide trending consulting. MEDIOGEN Co., LTD has superior R&D capability and production capacity compared to other companies, so any product our customers want can be supplied, so we will be a partner for our customer's business growth.

### ODM Original Development Manufacturing

If the manufacturer is responsible for both the development and production of the product and the order is entrusted to the manufacturer for the production of the product, the manufacturer must develop and produce the product and deliver it to the order. Ordering companies refer to the distribution and sale of this product. If you have a sales network and items, you can find MEDIOGEN Co., LTD. Based on years of research and development experience, we will provide you with the best appropriate consulting.

## “Customized Premium probiotics LABISEN”

MEDIOGEN Co., LTD, which has been conducting constant research and development on probiotics since 2000, has launched the LABISEN series, a customized probiotics product that allows customers to choose the right probiotics for their own situations, based on their accumulated technological know-how and rich experience.

### Customized Premium probiotics LABISEN 14 Types



< 4 kinds for children >

< 10 kinds for adult >

### 2019 New LABISEN 3 Types



#### LabisenFamily

For Whole Family High-Content functional Probiotics  
Intestine health probiotics +Strengthens Immune system Zinc + Bone care Vitamin D

- 17 kinds of probiotics
- Injected 100 billion and guaranteed 10 billion per sachet.
- 3 functional health products (Probiotics, Zinc, Vitamin D)
- Adjunct (Prebiotics, Oats diet fiber, Plum juice powder)
- Sweat taste for whole family
- 1 sachet per day (for 30days)



#### LabisenX Gung

For women intestine health functional probiotics  
Intestine health probiotics + Anti-oxidation selenium

- 10 kinds of probiotics
- Injected 30 billion and guaranteed 3 billion per capsule
- 2 funtional health products (Probiotics, Selenium)
- 3 kinds of patented lactic acid bacteria which is isolated from Korea women's vagina *L.fermentum* MG901, *L.plantarum* MG989, *L.saliverus* MG242
- Adjunct (Prebiotics, lactic acid bacteria origin iron, Cranberry)
- 1 capsule per day (1month)



#### LabisenSlim S

For help reduce body fat functional probiotics  
Intestine health probiotics + Fat compose suppression Garcinia Cambogia extract + Anti-oxidation Selenium

- 10 kinds of probiotics
- Injected 20 billion and guaranteed 2 billion per sachet.
- 3 functional health products (Probiotics, Zinc, Vitamin D)
- 2kinds of patented probiotics *L.fermentum* MG4231, *L. fermentum* MG4244
- Adjunct (Prebiotics, Cornelian Cherry juice powder, Plum juice powder)
- Fresh lemon taste
- 1 sachet per day (for 15 days)



## “SP Complex Coating”

The latest eco-friendly lactic acid bacteria coating technique which is focused on MEDIOPEN Co., LTD's technology and development capabilities. It is a composite coating method developed by Seaweed biopolymer (seaweed originating biopolymer) and Pumpkin powder (pure vegetable food material) optimized for individual species.

The most important factor in the product is alive number of lactic acid bacteria. This excellent coating technology is that keeps the bacteria alive onto the intestine.

MEDIOPEN Co., LTD's patented SP complex coating is that dramatically increases the chances of lactic acid bacteria, which is weak in temperature, moisture and pressure, surviving to the intestines without dying in stomach and bile acids.

Additionally, the MEDIOPEN complex coating is highly acid-resistant, so it does not dissolve in stomach acid, but reacts accurately to pH changes, and dissolves in a small intestine that is close to neutral to aid in the extreme growth of lactic acid bacteria

### • Probiotics Preventing/Improving Vaginitis for Women

- Lactobacillus isolated from the vagina of healthy women
- Research papers on the excellent anti-bacterial & antifungal effect on bacterial vaginitis and candida bacteria that causes infection
- Korea's First Patent Lactobacillus for Prevention/Improvement of Vaginitis
  - *Lactobacillus plantarum* MG989
  - *Lactobacillus fermentum* MG901
  - *Lactobacillus salivarius* MG242
  - *Lactobacillus paracasei* MG4272
  - *Lactobacillus rhamnosus* MG4288
- Patent Registration No. 10-1750468, 10-1860513
- Patent Application No : 10-2019-0052198, 10-2019-0052269

### • Oral Health (Cavity Prevention) Probiotics

- Antibacterial active probiotics for cavity creating bacteria
- Antibacterial composition for preventing cavities or periodontitis, prophylaxis for prevention, treatment and improvement of tooth decay or tooth disease
- Korea's First Patent Lactobacillus for Prevention/Suppression of Cavities
  - *Lactobacillus salivarius* MG4293
  - *Lactobacillus salivarius* MG4527
  - *Lactobacillus salivarius* MG424
  - *Lactobacillus salivarius* MG5183
  - *Lactobacillus ruteri* MG505
- Patent Application No. 10-2018-0156663

### • Immunization Activation Probiotics (Continuing Research)

- Selection of active oxygen-producing lactic acid bacteria in infectious cells
- Selection of lactic acid bacteria for T cells activation
- Development of lactic acid bacteria for skin aging prevention

### • Fat Cell Division Suppression Probiotics

- Patented lactic acid bacteria, Korean human-originated lactobacillus, on the effect of suppressing the division of fat cells
- Animal model test on high-fat diabetic animals
- Human-originated lactobacillus that has anti-obesity activity
  - *Lactobacillus fermentum* MG4231
  - *Lactobacillus fermentum* MG4244
- Patent Registration No. 10-1981333

### • Anti-Diabetic Probiotics (Continuing Research)

- $\alpha$ -glucosidase reducing effect and selection of lactobacillus
- GLUT gene manifestation activation selection of lactobacillus
- Human-originated lactic acid bacteria with anti-diabetic effect
  - *Lactobacillus paracasei* MG5012
  - *Lactobacillus plantarum* MG4296
  - *Lactobacillus plantarum* MG4229

### • Liver Function Improvement Probiotics (Continuing Research)

- Development of lactic acid bacteria for improvement of alcoholic and non-alcoholic liver function
- Selection of lactic acid bacteria through liver cell experiment
- Confirmation of liver function enhancement effect through animal testing



## • List of MEDIOGEN's Intellectual Property

	<b>Name of Patent</b>	<b>Application/Registration Date</b>	<b>Registration No.</b>
1	Probiotic Preparations for Aquacultured Fish and Its Production Method	2000 .08 .14 / 2003 .01 .24	10-0371503
2	Functional Feed Additives of Marine Fisheries and Fees for Marine Fisheries using Thereof	2001 .05 .14 / 2005 .04 .28	10-0483911
3	Soup Composition of Instant Noodle, Ramyon, Comprising Lactic Acid Bacteria	2003 .10 .23 / 2005 .10 .11	10-0522300
4	Scutellaria Radix Based Preparation for Treatment of the Bovine Mastitis	2006 .01 .19 / 2007 .03 .06	10-0694305
5	Lactic Ferments with Selenium and Manufacturing Method Thereof	2005 .05 .16 / 2007 .06 .08	10-0728585
6	Yellow Soil Fermented Liquid by Lactic Acid Bacteria having the Effects of Antioxidation and Whitening and Manufacturing Method Thereof	2007 .01 .10 / 2007 .05 .28	10-0724549
7	Method for using High Osmotic Pressure Tolerant Strain as Natural Flavor	2007 .10 .09 / 2009 .10 .07	10-0921697
8	Broccoli Production Fermented by Lactic Acid Bacteria, which is Anti-Inflammatory and Anti-Helicobacter Pylori and Method for Preparation Thereof	2010 .03 .10 / 2012 .07 .05	10-1164876
9	Manufacturing Method of Rice Kefir by using Lactobacillus Plantarum and Saccharomyces Cerevisiae	2011 .01 .31 / 2013 .09 .24	10-1313120
10	Fermented red ginseng to improve gastritis control including lactobacillus	2011 .11 .09 / 2014 .02 .19	10-1313120
11	Methods for the manufacture of fermentation pulse patterns for improving blood flow by using copper and lactobacillus	2012 .12 .17 / 2014 .07 .16	10-1422078
12	Composition Comprising Lactobacillus Fermentum MG901 or Lactobacillus Plantarum MG989	2016 .03 .04 / 2017 .05 .30	10-1750468
13	Composition Comprising Lactobacillus Salivarius MG242 Separated from Vagina that Prevents or Treats Candida Vaginitis	2017 .03 .30 / 2018 .05 .16	10-1860513
14	Composition Cryoprotectant Freeze Dried Lactobacillus-Coating Including Pumpkin Powder and Its Method of Freeze Dried	2017 .12 .07 / 2018 .06 .04	10-1866197
15	Composition Comprising Human-Originated Lactobacillus Fermentum MG4231 or Lactobacillus Fermentum MG4244 with Anti-Obesity Activation	2018 .08 .31 / 2019 .05 .23	10-1981333
16	Composition of Lactobacillus with Cavity Suppression Activation	2018 .12 .07	Registration in progress
17	lactobacillus having antimicrobial effect on Gardnerella vaginalis and Candida albicans	2019 .05 .03	Registration in progress



# MEDIOGEN

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