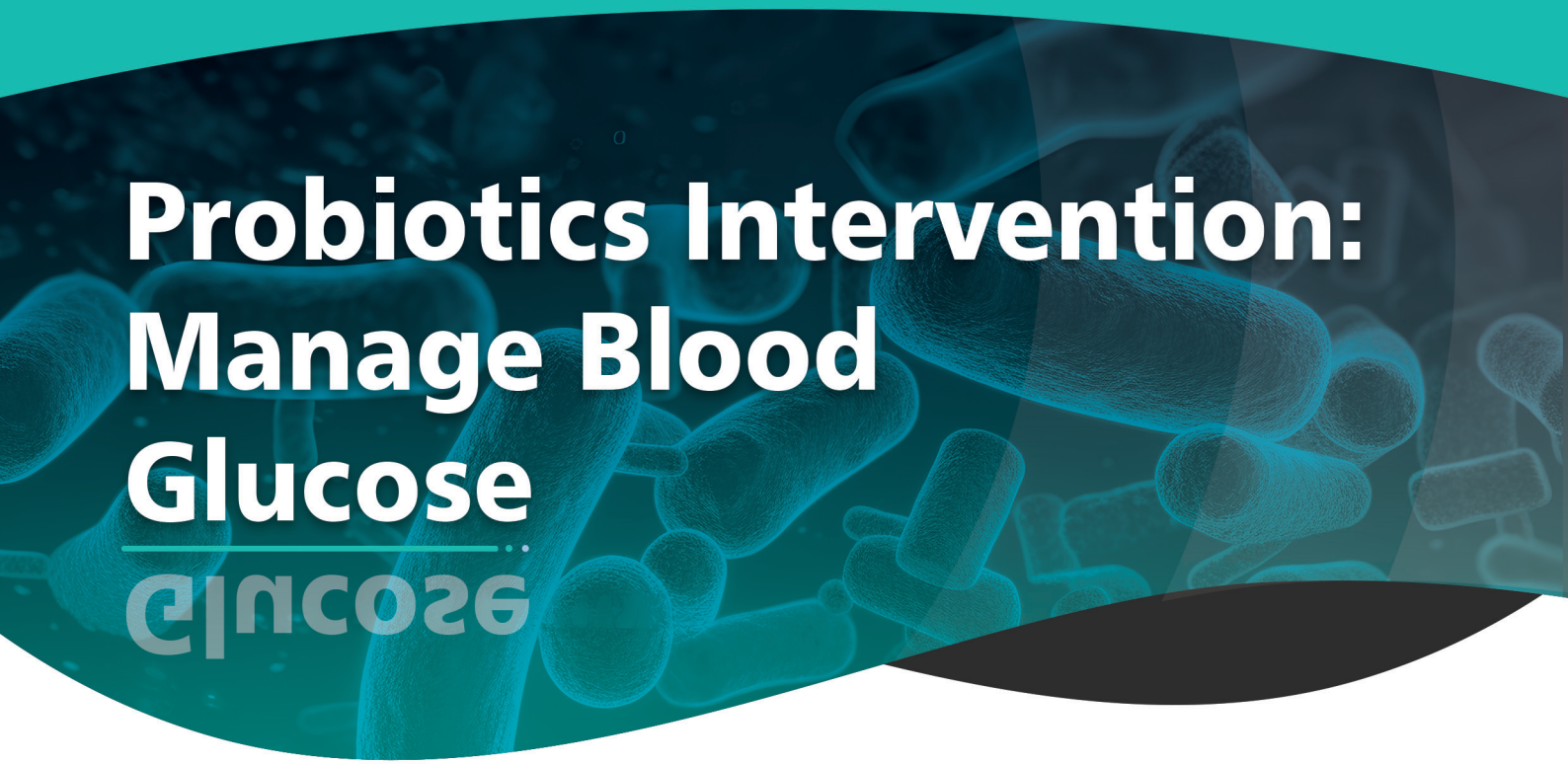
Probioway® × H&H和合生物工程



Probiotics Intervention: Manage Blood Glucose

Probiotic Mechanisms Affecting Glucose Homeostasis

①Induce the secretion of GLP-1

②Increase serum levels of adiponectin

③Reduce insulin resistance

④Improve inflammations and immune system

⑤Balance gut microbiota

Effects of GLP-1 on Glucose Homeostasis

The most noteworthy effect of GLP-1 is its ability to promote insulin secretion in a glucose-dependent manner. In the stomach, GLP-1 inhibits gastric emptying, acid secretion and motility, which collectively decrease appetite. It can also repress hepatic gluconeogenesis, stimulate hepatic lipogenesis, improve glucose uptake, and hence, reduce postprandial plasma glucose levels via insulin. Therefore, inducing GLP-1 secretion is an important way for probiotics to regulate blood glucose.

Great Safety
Less safety concerns

Balance Gut Microbiota
Modify composition of gut microbiota

Long-Term Efficacy
Control glucose homeostasis

Formulation Flexibility
Endless delivery possibilities

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Glycemic Control Probiotics

- ✓ *L.fermentum* HH-LF392
- ✓ *L.paracasei* HH-LP58
- ✓ *L.helveticus* HH-LPH17
- ✓ *L.plantarum* HH-LP56

Animal Study

Type 2 diabetes rat model was established using a high-fat diet and streptozotocin. Rats were divided into normal group, model group, metformin group, high-potency probiotic group(90mg/kg/d, 4.0×10^{10}CFU/g), and low-potency probiotic group(90mg/kg/d, 4.0×10^{9}CFU/g). A 8-week oral gavage was performed in the rats, and levels of serum GLP-1 and Peptide YY(PYY) were tested. It can be seen from Table 1 that the levels of serum GLP-1 and PYY in model group was lower than that in normal group, while both probiotic treatment groups and metformin group showed higher level in GLP-1 and PYY comparing with model group.

Table 1. Effects of probiotics on GLP-1 and PYY

Group	GLP-1(pmol/L)	PYY(mmol/L)
Model group	3.60±0.10	2.35±0.20
Metformin Group	4.89±0.20	3.55±0.08
Low-potency probiotic group	3.98±0.18	2.89±0.25
High-potency probiotic group	4.66±0.12	3.41±0.14
Normal group	5.02±0.11	3.75±0.08

It can be seen from Fig 1 that both probiotic treatment groups and metformin group showed higher level in colon GLP-1 comparing with model group. In a conclusion probiotics administration showed strong ability in inducing GLP-1 secretion, suggesting that they have the potential to reduce blood glucose in diabetic patients.

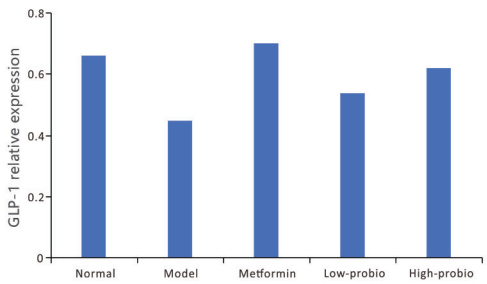
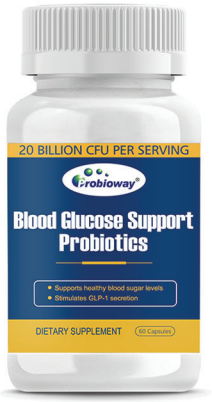


Fig 1. Effects of probiotics on colon GLP-1 level

Scientifically-Proven Formula



Supplement Facts

Serving Size: 1 vegetarian capsule
Servings Per Container: 60

Amount Per Serving	%DV*
Probiotic Blend 20 Billion CFU	†
Limosilactobacillus fermentum 392	
Lacticaseibacillus casei PB-LC39	
Lactobacillus helveticus HH-LPH17	
Lactiplantibacillus plantarum HH-LP56	
Lactobacillus acidophilus HH-LA26	
Lacticaseibacillus rhamnosus PB-LR76	
Lacticaseibacillus paracasei HH-LP58	

*Daily Value(DV) not established

Recommended Human Daily Intake

For a 70kg adult: 4.0×10^{10}CFU/day

Consumer Study

In the consumer study, 30 adults between the age 55 to 65 years were recruited to the study and asked to consume 2 capsules of the Blood Glucose Support Probiotics daily for 90 days and send the filled questionnaire. The table below demonstrates the improvement of discomfort in the participants.

Table 2. Improvement of discomfort in the participants

Discomfort	% adults who felt improvement
Excessive thirsty	80%
Polyuria (excessive urination volume)	70%
Weight loss	80%

Product Quality

ISO 9001 · ISO 22000 · HACCP · FSSC 22000 · High Purity · Non GMO

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