



## Postbiotics\* for Metabolic Wellness

### METABOLIC SYNDROME PUTS A HEAVY STRAIN ON HEALTH

Metabolic health is fundamental to healthy living. Excess weight and obesity can negatively impact each of the interconnected clinical measures that characterize metabolic syndrome:

- Increased waist circumference
- Elevated resting blood pressure
- Reduced HDL-cholesterol
- Elevated fasting glucose
- Elevated fasting triglycerides

Metabolic syndrome is indicated when any three of these measures are present, and observational data have shown this condition is associated with an increased risk of heart disease and type 2 diabetes.<sup>1</sup> As more of the world's populations become overweight and obese, weight management becomes even more important to promoting good health.

Obesity and being overweight both increase the risk of suboptimal metabolic health. In a 6-year observational study, participants showing the highest increases in fat volume over the course of the study period were at increased risk of elevated triglycerides and hypertension.<sup>2</sup> Those with the highest increases in abdominal fat showed an increased incidence of high blood pressure, high cholesterol, and high triglycerides as well as meeting criteria for metabolic syndrome.

Lifestyle factors like diet and physical activity are important to weight management, and reducing abdominal obesity is a primary target to reduce health risks associated with metabolic syndrome.<sup>1</sup> Even small improvements to elements of metabolic health can have far-reaching positive effects on overall health and wellbeing.

\*A preparation of inanimate microorganisms and/or their components that confers a healthy benefit on the host.

**1/4**  
of the world's population is affected by metabolic syndrome<sup>3</sup>

Almost **2 billion** people worldwide are overweight<sup>4</sup>

Excess visceral fat can increase risk of metabolic disorders.<sup>2</sup>



## ADM is at the Forefront of Microbiome Research

The microbiome is increasingly being researched for its potential to positively affect aspects of metabolism and overall human wellness. From production of bioactive metabolites to modification of cell signaling pathways and many other potential functions, the microbiome is more and more the target of interventions designed to promote metabolic health.<sup>3</sup>

## POSTBIOTICS\* FOR MAXIMIZING METABOLIC HEALTH

Consumers understand the power of probiotics to promote wellness, but harsh processing can compromise their viability and effectiveness. Because of these challenges, probiotics currently have limited penetration into food and beverage categories.

Postbiotics\*, which are inanimate microbial cells or their components, are an exciting breakthrough in microbiome technology. New postbiotic technology makes its inclusion accessible to a wide variety of food and beverage applications, bringing a new level of convenience to consumers.

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## ADM'S INNOVATIVE MICROBIOME RESEARCH

**ADM has more than 15 years of experience and a high level of expertise in conducting pioneering proprietary microbiome research to bring game-changing products to the marketplace.**



## HT BPL1: A Cutting-Edge Postbiotic\* Solution

Heat-treated BPL1 (*Bifidobacterium animalis sub. lactis* CECT 8145) is derived from ADM's award-winning probiotic strain with clinically documented results showing improved waist circumference, visceral fat area\*\* and HOMA-IR\*\* score.



**WINNER: NutraIngredients Awards in 2020 as Ingredient of the Year in Weight Management**

### THE SCIENCE BEHIND HT BPL1

HT BPL1 is a premiere postbiotic and is derived from an award-winning BPL1 probiotic strain. Pre-clinical research indicated strong potential for HT BPL1 to positively affect parameters of metabolic health, including reducing body fat.

A randomized double-blind, placebo controlled clinical trial to understand HT BPL1's role in the management of metabolic health:<sup>5</sup>

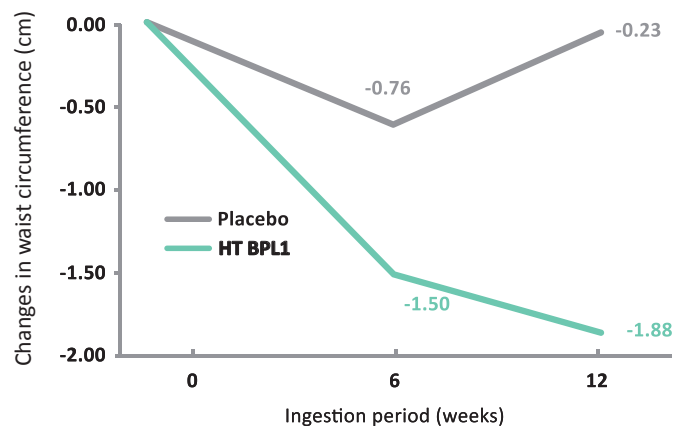
- Studied women and men with waist circumferences greater than or equal to 88cm and 102cm, respectively
- Intervention: HT-BPL1 10<sup>10</sup> colony forming units (CFU equivalents) daily for 12 weeks
- Multiple outcomes assessed, including anthropometric biomarkers and microbiome analysis

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\*\* Compared to baseline

In a human clinical study of abdominally obese men and women, HT BPL1 resulted in a **significant decrease of waist circumference** compared to the placebo after **ONLY 12 weeks**.<sup>5</sup>

**39% of study subjects in the HT BPL1 intervention group experienced a decreased waist circumference of 2cm or more at 12 weeks.**<sup>6</sup>

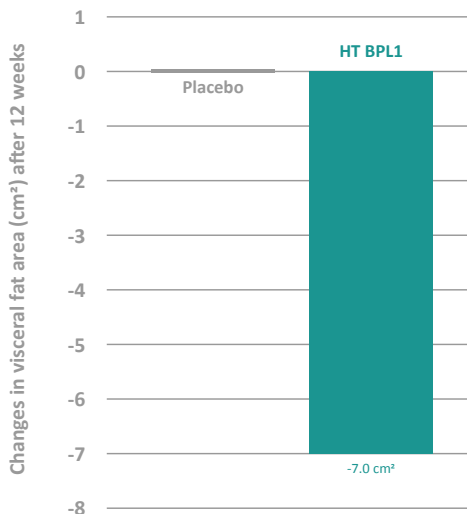






After **ONLY** 12 weeks, subjects in the HT BPL1 intervention group showed a significant reduction in abdominal visceral fat area, compared to baseline.

**Overall, 55% of participants taking HT BPL1 saw a reduction in visceral fat area.<sup>6</sup>**



Encouraging results among subjects in HT BPL1 intervention group were seen in additional measures associated to metabolic health. After only 12 weeks, reductions from baseline were seen in: Body Mass Index (BMI), Diastolic blood pressure and HOMA-IR score.

**In a subset of subjects with unhealthy HOMA-IR scores at baseline, 14% were in normal range after just 12 weeks.<sup>6</sup>**

Among subjects in the HT BPL1 intervention group with a BMI in the obesity range (30 or greater) at baseline, 11% saw their BMI fall below the obesity threshold at 12 weeks.<sup>6</sup>

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# HT BPL1 at a Glance

HT BPL1 is derived from the award-winning BPL1 probiotic strain, which has an extensive research portfolio supporting its benefits.

HT BPL1 has been clinically shown to reduce waist circumference compared to a placebo and results in reduction of visceral fat area and improvement in HOMA-IR scores, compared to baseline.

More than 9 years of research and development, including proprietary, patent protected science (over 50 microbiome-related publications, including 9 dedicated to BPL1) and human clinical trials

Cutting-edge pre-clinical and clinical research, product development and commercialization capabilities

Human origin strain protected by patent

### Concentration:

**Postbiotic HT BPL1:** 100B CFU equiv./g, 300B CFU equiv./g

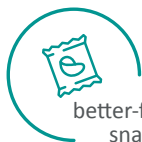
## More Applications, More Benefits

HT BPL1 is ideal for use in **food, beverage** and **dietary supplement** formulations.

HT BPL1 can be incorporated into the following applications:



sports nutrition



better-for-you snacks



beverages



dairy & plant-based chilled or non-chilled



infant nutrition



clinical nutrition



dietary supplements

### CLAIMS AND CERTIFICATIONS

- EU Permitted | EFSA QPS List
- GRAS
- Non-GMO
- Organic Compliant
- Gluten Free
- Kosher



## ADM DELIVERS FOR YOU

An innovative leader in the microbiome field, ADM delivers future-forward nutrition fueled by science, with a complete range of solutions from prebiotics, to probiotic and postbiotic\* strains, all clinically documented to deliver health & wellness benefits.

An expansive pantry of health & wellness ingredients including biotics, botanical extracts, vitamins, minerals and more means you can deliver innovative, science-driven supplements and food and beverage formulations to meet consumers' evolving functional nutrition needs. With our vertically integrated supply chain to ensure the reliability and availability of high-quality products and our dependable customer service, you get industry-leading quality solutions to ensure your success.

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## SOURCES

- <sup>1</sup>Grundy, S.M.; et al. (2005) *Circulation*. 112: e285-e290
- <sup>2</sup>Lee, JJ; et al. (2016) *J Am Coll Cardiol*. 68: 1509-1521
- <sup>3</sup>Despres, J.P. (2012) *Circulation*. 126: 1301-1313
- <sup>4</sup>The World Health Organization, (2020) *Fact Sheet on Obesity*. <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
- <sup>5</sup>Pedret, A; et al. (2019) *Int J Obes (Lond)*. 43: 1863-1868
- <sup>6</sup>Internal data, unpublished

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