

Pendulum®

Reimagine your patients' health by targeting the gut microbiome



Bring this innovative approach into your practice

Help your patients find optimal health by harnessing the power of the gut microbiome with Pendulum's clinically-studied strains. Create an account for access to access educational resources and special healthcare pricing.



Scan to create an account
PendulumLife.com/hcp

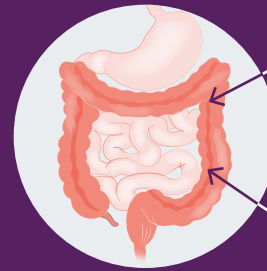
Gut check

Research indicates that two gut microbiome imbalances are possibly linked to:^{1,2,3}

- ✓ Difficulty managing blood sugar levels
- ✓ Occasional GI discomfort, gas, and bloating

When keystone bacterial strains are missing or lacking, functional imbalances in the gut microbiome can lead to a variety of health ailments:

- ▶ Poor metabolic health
- ▶ Gastrointestinal discomfort



A deficiency in the production of short-chain fatty acids (SCFA) such as butyrate

An impaired functional ability to maintain the protective mucin layer of the gut lining

Why strains matter

Pendulum probiotics contain a proprietary blend of anaerobic microbes.



Akkermansia muciniphila
WB-STR-0001 (AMUC)

A keystone species that optimizes the balance of the gut mucin layer and helps to maintain a healthy ecosystem of beneficial bacteria in the microbiome. This strain is linked to improved gut health, and a well-balanced gut microbiome supports a healthy body and healthy weight.



Clostridium beijerinckii
WB-STR-0005 (CBEI)



Anaerobutyricum hallii
WB-STR-0008 (AHAL)

These strains produce the short-chain fatty acid (SCFA) butyrate which binds to specific receptors within the gut mucosa and stimulates glucagon-like peptide 1 (GLP-1) secretion.

Clostridium butyricum
WB-STR-0006 (CBUT)

Bifidobacterium infantis
(BINF)

Involved with improved digestive health by way of acetate production.



**Pendulum
Exclusive Strains**

Help the microbiome thrive

Supporting the probiotics in the gut with the right compounds can optimize their effectiveness. Extracted from pomegranate, grape seed, and green tea, our Polyphenol Booster supercharges probiotic performance while also supporting cardiovascular health and healthy aging.



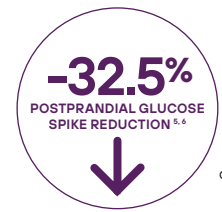
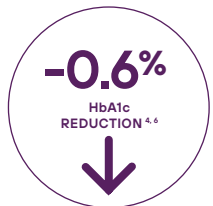
Innovative manufacturing

Pendulum has built the first and only facility in the U.S. that enables commercial-scale production of live Akkermansia and other next-generation strains.

Pendulum's state-of-the-art manufacturing facility:

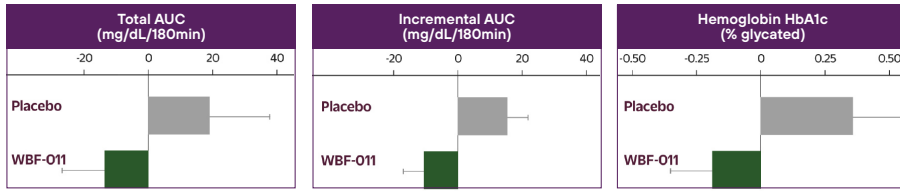
- ✓ Located in the U.S.
- ✓ Oxygen-free environment for the growth of anaerobic strains
- ✓ Does not rely on older methods of enumerating bacteria. Pendulum uses a cutting-edge method to quantify hard-to-grow strains through AFU (Active Fluorescent Units), enabling precise quantification of anaerobic strains.

Pendulum flagship product, Glucose Control, is the first and only probiotic clinically proven to improve glycemic management in people with early-onset type 2 diabetes who were also taking metformin.⁶



Learn more about the clinical findings published in *BMJ Open Diabetes Research & Care*

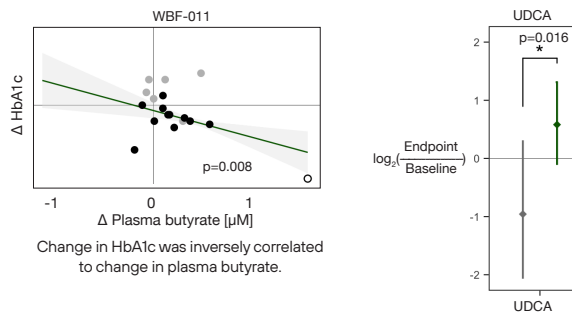
Lower blood glucose spikes and reduced HbA1c levels



Ingredients: WBF-011: CBEI, CBUT, BINF, AMUC, AHAL, colloidal silicon dioxide, inulin

Why do butyrate and UDCA matter?^{2,7,8}

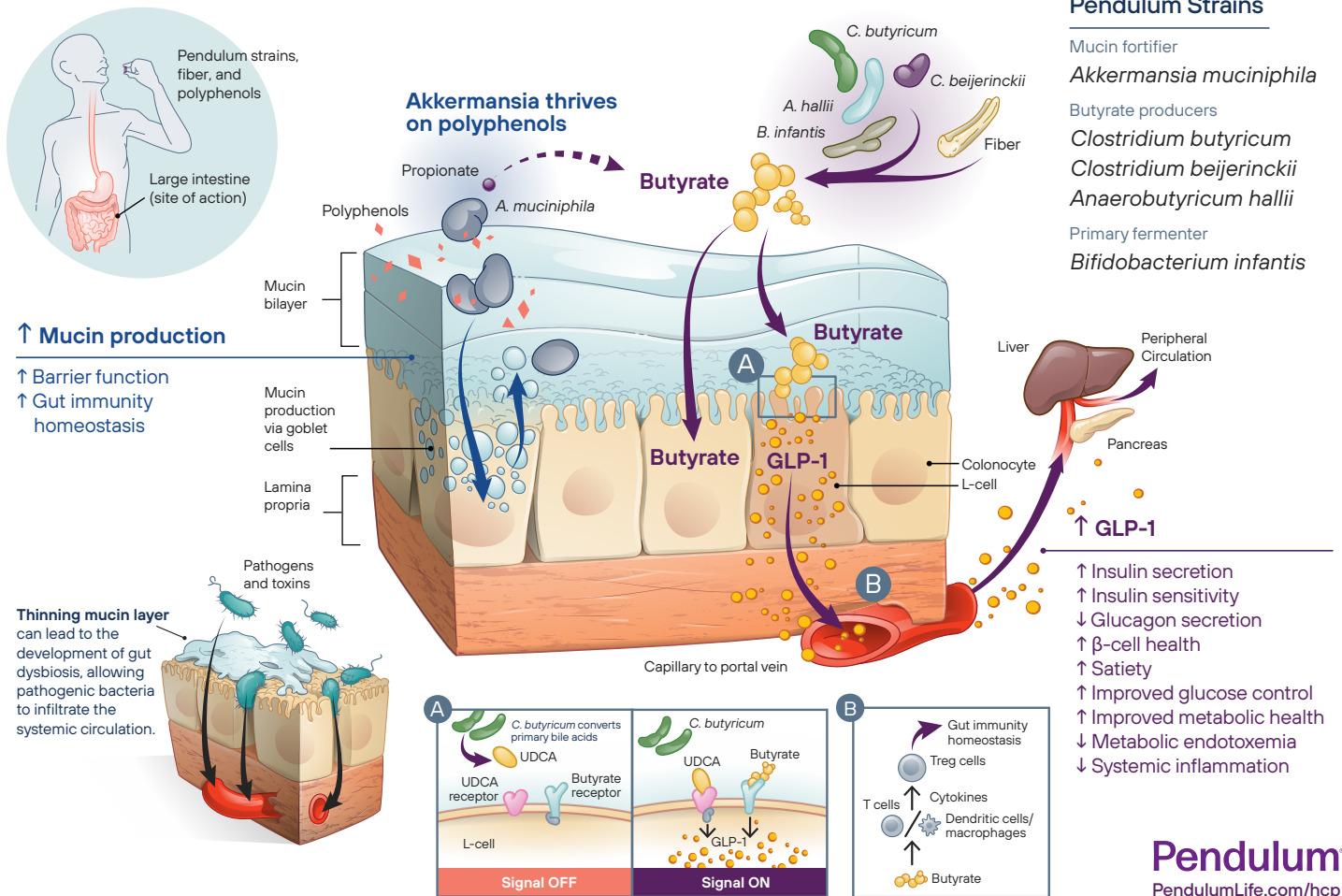
Production of butyrate and UDCA (secondary bile acid ursodeoxycholate) creates molecules that serve as signals which participate in the control of metabolic processes throughout the body.



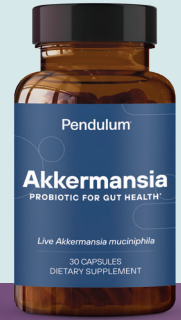
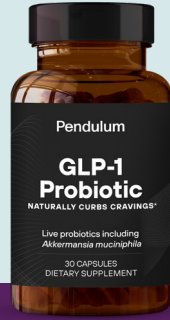
Plasma UDCA increased in study participants taking Glucose Control.

Learn more about the clinical findings published in *BMC Microbiology*

Overview of gut microbiome function



Pendulum Exclusive Probiotics



Glucose Control

First-of-its-kind medical probiotic that's been clinically shown to aid in the nutritional management of people with type 2 diabetes taking metformin.

GLP-1 Probiotic

This multi-strain probiotic naturally increases GLP-1 production* to help curb cravings and appetite.

*Based on preclinical studies

Metabolic Daily

This multi-strain probiotic improves metabolism by helping better metabolize sugars and carbs, and converting food into energy more efficiently.*

*Based on preclinical studies

Akkermansia

This keystone strain improves gut health by strengthening the gut lining and reducing gut permeability.*

*Based on preclinical studies

Clinically proven to help the nutritional management of type 2 diabetes for people taking metformin ^{4,5,6}



Helps reduce HbA1c levels and postprandial blood sugar spikes ^{4,5,6}



Produces butyrate



Increases the production of GLP-1



Helps maintain a healthy weight



Contains prebiotic fiber



Strengthens gut barrier integrity fortifying the mucin layer



Contributes to an overall healthy gut microbiome



Amount of Akkermansia



1. Mishra SP, Jain S, Taraphder S, Yadav H. New horizons in microbiota and metabolic health research. *J Clin Endocrin Metab.* 2021;106(2):e1052-e1059. doi:10.1210/clinem/dgaa769. 2. Herrema H, Niess JH. Intestinal microbial metabolites in human metabolism and type 2 diabetes. *Diabetologia.* 2020;63:2533-2547. doi:10.1007/s00125-020-05268-4. 3. Zhao L, Zhang F, Ding Z, et al. Gut bacteria selectively promoted by dietary fibers alleviate type 2 diabetes. *Science.* 2018;359(6380):1151-1156. 4. Reduction in mean HbA1c compared to placebo displayed on study participants with early-onset type 2 diabetes on metformin. 5. This observed reduction in glucose AUC would be expected to increase the time spent within the healthy glucose range (TIR70-180) during continuous glucose monitoring. Increases in TIR70-180 strongly correlate to both reductions in HbA1c and reduction in risk for complications in type 2 diabetes patients. 6. Perraudeau F, McMurdie P, Bullard J, et al. Improvements to postprandial glucose control in subjects with type 2 diabetes: a multicenter, double blind, randomized placebo-controlled trial of a novel probiotic formulation. *BMJ Open Diabetes Research and Care.* 2020;8:e001319. doi:10.1136/bmjdr-2020-001319. 7. McMurdie, P.J., Stoeva, M.K., Justice, N. et al. Increased circulating butyrate and ursodeoxycholate during probiotic intervention in humans with Type 2 diabetes. *BMC Microbiology* 22, 19 (2022). <https://doi.org/10.1186/s12866-021-02415-8>. 8. Murakami, M., Une, N., Nishizawa, M. et al. Incretin secretion stimulated by ursodeoxycholic acid in healthy subjects. *SpringerPlus* 2, 20 (2013). <https://doi.org/10.1186/2193-1801-2-20>