

Postbiotics unlocked – The next frontier in functional food and beverage benefits

Future of Food & Beverage Stage









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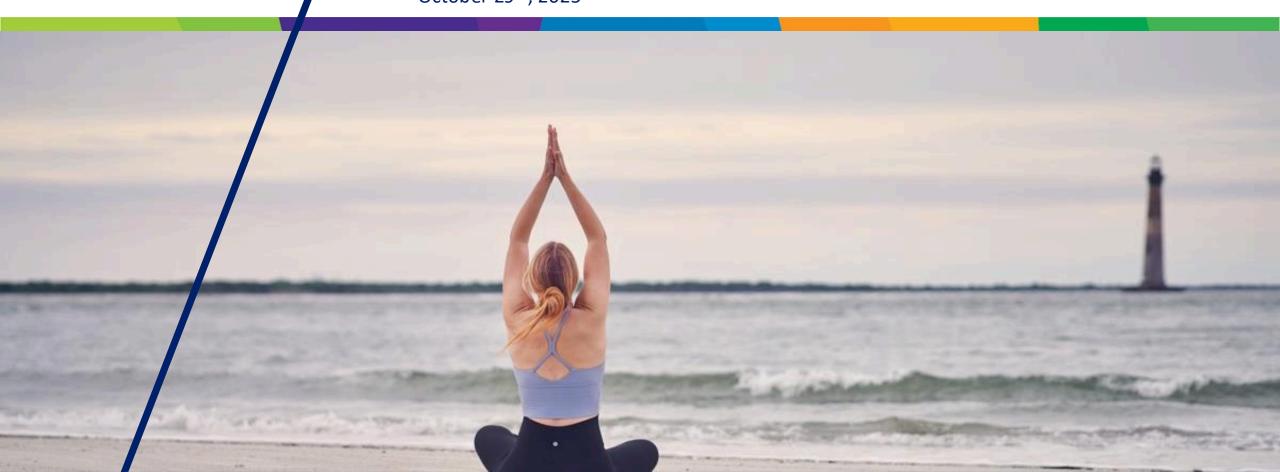






Postbiotics Unlocked: The Next Frontier in Functional Food & Beverage

October 29th, 2025



AGENDA

- 1. Next-Gen Biotics Definitions
- 2. Postbiotics' Market Size
- 3. Consumer Insights on Postbiotics
- 4. The Postbiotic Advantage
- 5. ADM's Postbiotic Portfolio
- 6. Product Manifestations





Today's Presenter



Divya Mohan

Director, CD&D Global Health & Wellness

Divya Mohan is the **Sr. Director of Creation, Design & Development for Global Health & Wellness (Food & Beverage)** at ADM. She spearheads the development of science-backed, functional solutions—including prebiotics, probiotics, and postbiotics—in diverse food and beverage applications.

Divya works closely with ADM customers around the world on end-to-end product development. Her efforts help brands differentiate their offerings to leverage consumer needs, and bring credible, science-driven, tasty solutions to market.



Next-Gen Biotics

ADM H&W Science-Backed Microbiome Solutions

ADM's Research and Development Team is on the cutting edge of the advancements in the science of the microbiome, delivering innovative probiotic, prebiotic, postbiotic ingredients for a wide range of on-trend health applications.



A substrate that is selectively utilized by host microorganisms conferring a health benefit*



Live microorganisms that, when administered in adequate amounts, confer a health benefit on the host*



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

Prebiotic fiber and innovative bacteriophage blend



Lactic acid bacteria and spore-forming strains



Bifidobacterium Iongum CECT 7347

Heat-treated lactic acid bacteria



Lactobacillus gasseri CP2305
Bifidobacterium longum CECT 7347



PROBIOTIC

Deliberate



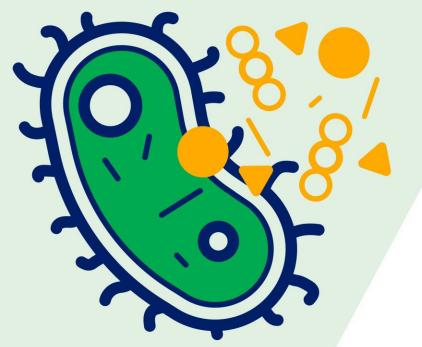
Inactivation

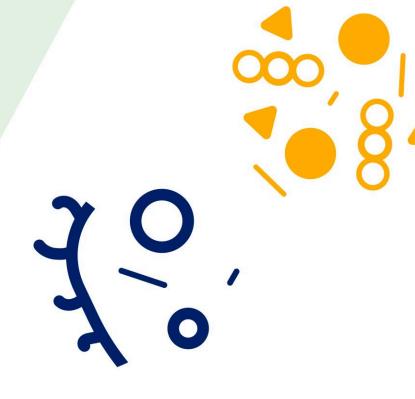
POSTBIOTIC

Inanimate cells and/or cell components

(i.e. flagellae, pili, cell walls)





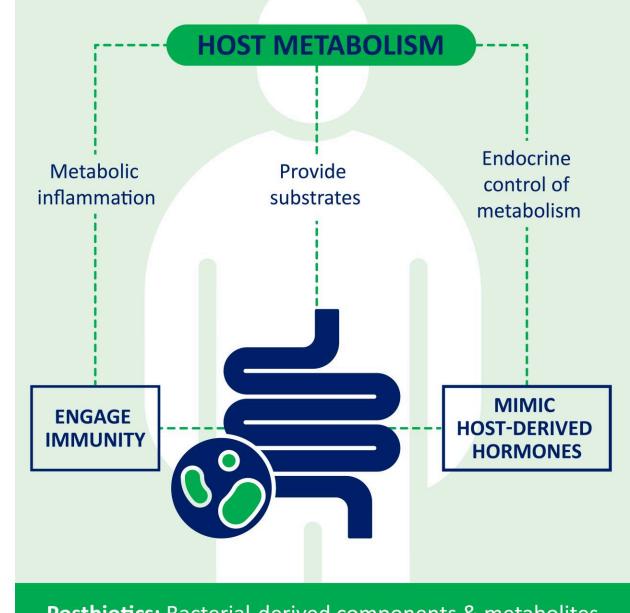






How Can Inactivated or Dead Cells Provide a Benefit?

- Postbiotics can work through various mechanisms of action.
 - Cellular Components These natural components found within the bacterial cells include things like lipoteichoic acid, peptidoglycans, and more which can directly act on the digestive tract and immune system.
 - 2. Cell to Cell Interaction Direct communication between bacterial cells and host cells, triggering biological responses that can influence immunity, metabolism, and overall health.
 - 3. **Mimic Hormones** Postbiotics may act like natural signaling molecules in the body, and help regulate processes such as stress response, metabolism, or sleep.



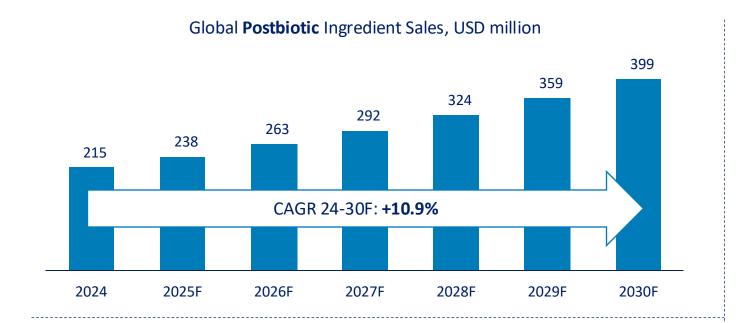
Postbiotics: Bacterial-derived components & metabolites

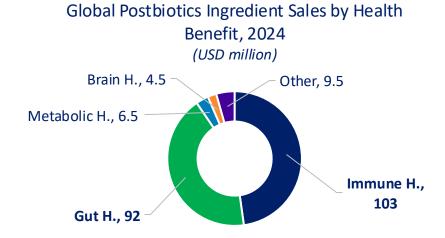


Market Size

11

Postbiotics Poised for Double-Digit Growth Through 2030





KEY INSIGHTS

- Immune Health (48% MS) and Gut Health (43% MS) were the main benefit drivers in 2024.
- While Gut Health & Immune Health are expected to continue to lead the category, more novel benefits including metabolic health, mood, stress, and sleep are projected to see substantial growth.

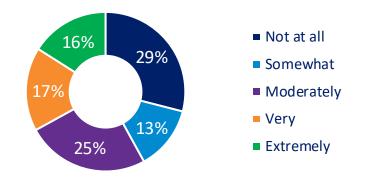


Consumer Insights

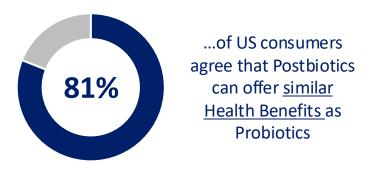


With 71% of US consumers being somewhat to extremely aware of postbiotics, the time is now to formulate with these next-gen solutions

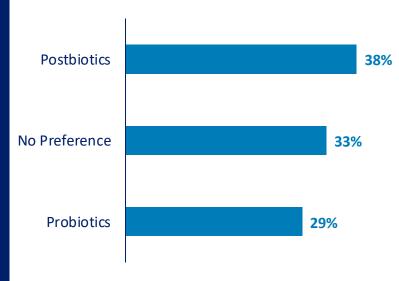
US Consumers on Awareness of Postbiotics



US Consumers on Postbiotics Benefits



US consumers on preferences of Postbiotics



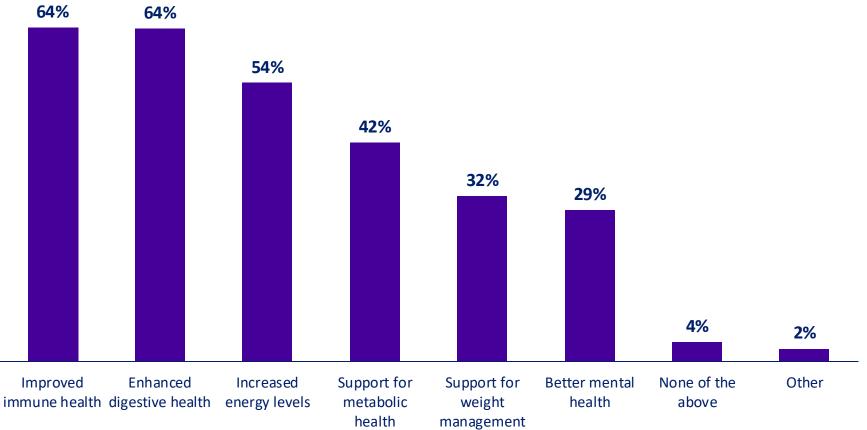
KEY INSIGHTS

- When educated on the difference between probiotics and postbiotics, consumers were more likely to prefer postbiotics.
- Consumer awareness of postbiotics is higher than many industry reports would suggest.
- Consumers already understand that nonviable postbiotics can deliver similar benefits to living probiotics.



Top Health Benefits Consumers Associate with Postbiotics: Immune Health Leads, Followed by Digestive Health and Energy Support

Which health benefits do you think postbiotics are most effective at supporting? (US, 2024)







15

Consumers Favor Edible and Drinkable Formats Over Supplements for Functional Benefits

Given that postbiotics offer advantages like enhanced stability and compatibility with various ingredients, which food or beverage formats would you be interested in trying postbiotics in?











60%

51%

50%

41%

41%

Yogurt

Smoothies

Sports Drinks

Snack Bars

Capsule Supplement



The Postbiotic Advantage

17



Manufacturing & Formulation Advantages

 Simplified production logistics: no need for cold chain storage, viability controls, or specialized packaging, reducing costs and complexity.

- Inanimate cells, mitigates crosscontamination.
- Simplified handling and cleaning process.
- Robust functional stability across different pH and format types.



Consistent
Dosing and Ease
of Formulation

- No need for overages seen in traditional probiotics.
- No additional resource or CapEx

 This enables controlled inclusion for food and beverage manufacturers.



Stability & Shelf life

- Functional stability maintained through thermal treatments, pressure, and water activity.
- Allow innovation in F&B in ambient, long shelf life applications.

 Predictable shelf-life and efficacy, as postbiotics do not suffer from viability loss over time.

FOR A WIDE RANGE OF APPLICATIONS



Beverages



Snacks



Dairy & Plant-Based



Sports Nutrition



Specialized Nutrition



Dietary Supplements



ADM: Your Partner for Postbiotics

Next-Gen Postbiotic Offerings



Digestive Health

Bifidobacterium longum CECT 7347 "ES1"



Metabolic Health

Bifidobacterium lactis
CECT 8145 BPL1™



Stress, Mood, & Sleep Support

Lactobacillus gasseri CP2305



Lactobacillus gasseri CP2305

Lactobacillus gasseri CP2305 is ADM's postbiotic product with documented results in **supporting sleep**, **stress**, **mood**, **and beyond**

Clinical trials suggests that supplementing your diet with Lactobacillus gasseri CP2305 may support:

- Emotional well-being
- Reduced stress

Exploratory research suggests supplementing your diet with Lactobacillus gasseri CP2305 may be associated with:

- Better sleep efficiency
- Reduced time to fall asleep/reduced sleep latency
- Healthy overall sleep quality
- Improved total duration of sleep
- Significant improvement in self-reported assessments of mental well-being

Product features

QPS and GRAS Non-GMO Gluten-free Lactose-free Halal



Mental & Emotional Health

Context

With the rising demand for sleep, stress, and mood products ADM knew it had to offer something truly revolutionary to stand out from the crowd.

Lactobacillus gasseri CP2305 was chosen as our premier sleep, stress, and mood product thanks to its powerful scientific backing, boasting 8 human clinical trials which have shown positive results.

With benefits that include allowing users to fall asleep faster, stay asleep longer, and show significant improvements in emotional well-being and stress, nothing else can offer quite as much as *Lactobacillus gasseri* CP2305.





ES1 Postbiotic

Bifidobacterium longum CECT 7347

ES1 Postbiotic (*Bifidobacterium longum* CECT 7347) is ADM's exclusive postbiotic product with documented results in **supporting digestive health.**

Clinical trial suggests that supplementing your diet with ES1 Postbiotic may support:

- Overall gut health
- Reduced bloating
- Microbiome modulation
- Moderate IBS-D participants who consumed ES1
 Postbiotic reduced their IBS-SS score from moderate to
 mild in 12 weeks
- Significant reduction of occasional diarrhea vs. placebo
- Significantly reduced total days of watery/loose stools from almost 6 days to ~2days, a reduction of 65.2%
- Significant improvement in digestive comfort via reduction in APS vs. Placebo
- Significant reduction in stress versus placebo

Product features

- QPS and GRAS
- Non-GMO
- Halal
- Kosher
- Gluten-free
- Lactose-free







Context

Gut health and its impact on overall wellbeing are key drivers for today's consumers

Increasingly, clinical and pre-clinical research is showing the importance of gut health from digestive health to mental health and many other health area

Challenge Solved

ADM's exclusive Bifidobacterium longum ES1 postbiotic product provides gut and digestive health benefits



BPL1TM **Postbiotic**

BPLT

Bifidobacterium lactis CECT 8145

Postbiotic BPL1™ (*Bifidobacterium lactis* CECT 8145) is ADM's proprietary, award-winning postbiotic strain with clinically documented results in **improving in aspects related to metabolic health.**

Emerging and in vitro evidence suggests supplementing your diet with BPL1[™] Postbiotic may support:

- Visceral fat reduction in combination with diet and exercise.
- It offers functionality as a probiotic and as a postbiotic flexibility to be applied in different matrixes.

Product features

- QPS and GRAS
- Non-GMO
- Halal
- Kosher
- Gluten-free
- Lactose-free
- Dried-powder

Product Format:

- Freeze-dried powder
- Potencies available:
 - 100B CFU/g
- 1 KG pouch





Winner of the Big Innovation Award 2021



Metabolic Health

Context

The rising number of people who are overweight in countries around the world has created a growing need for effective, scientifically-validated interventions. Data on the numbers of overweight children provide reasons to think these figures may continue to rise. Around 340 million children aged 5 to 19 years old are overweight. An estimated 41 million children aged 5 and under are overweight.

Challenge Solved

To fill this gap in the market, ADM offers postbiotic *Bifidobacterium lactis* BPL1TM, an effective, scientifically supported functional ingredient that has been shown to support measures of metabolic health.



Product Concepts with ADM Postbiotics

Digestive Support Flour Blend

Delivering a better-for-you option through cutting-edge ingredients

Consumer Insight:

Consumers are looking for the right mix of benefits and taste to help them look and feel good from the inside out.

ADM makes it easy to produce bread and other baked goods with cutting-edge ingredients and on-trend nutrition consumers are seeking. Our flour blend utilizes simple, wholesome ingredients and is packed with health-promoting prebiotic fiber and postbiotics that support your microbiome and digestive health.

Highlights

- Contains postbiotics for digestive support benefit*
- Source of prebiotic fiber Fibersol®
- Excellent source of fiber (6g per serving)
- Supports sugar reduction via Fibersol® inclusion

Source: The American Gastroenterological Association, Trust Your Gut Survey, May 2022



^{40%} of Americans have stopped routine activities because of digestive discomfort1.

^{*}Heat Treated BIFIDOBACTERIUM LONGUM CECT 7347 (ES1 Postbiotic)

Chewy Champions



Three Unique Chews – One New You!

Traditional probiotics are living organisms that require very specific conditions to remain viable – making them a challenge to incorporate into challenging formats like soft chews. Heat, moisture, and oxygen exposure can reduce their effectiveness before the even reach the consumer. That's where postbiotics come in. These novel bioactive compounds deliver many of the same benefits as probiotics, without the fragility of live cultures.

Postbiotics open the door to a wider variety of product formats, flavors, and lifestyles; giving consumers more ways to support their gut health and beyond through foods, beverages, and supplements they actually enjoy. This means innovation can move beyond capsules and powders, making gut health accessible in more delicious, convenient, and creative forms.

Hero Ingredients

- BPL1 Postbiotic
- ES1 Postbiotic
- L. gasseri CP2305 postbiotic

Format

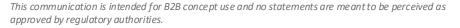
• Soft chews

Allergens:

None

Highlights

- BPL1[™] for metabolic support
- ES1 for digestive support
- L. gasseri CP23
 05 for mood,
 stress, and
 sleep support.





GLP-1 Companion Horchata Drink



GLP-1 Companion Horchata RTD

Fuel your day with a smarter blend of science-backed ingredients that support how you feel, function, and recover. Inspired by the smooth, cinnamon-kissed flavor or horchata, this ready-to-drink shake delivers 30g of complete protein from pea, soy, and whey – optimized to a perfect PDCASS of 1.00 for muscle repair and preservation.

Each serving also provides 6g of Fibersol® to support digestive wellness and nourish beneficial gut bacteria coupled with BPL1™ postbiotic, studied for its role in reducing visceral fat* and supporting overall metabolic health.

Hero Ingredients

- ProFam[™] Pea 572 Reduced Sodium
- BPL1[™] Postbiotic
- Fibersol® -2
- CardioAid® phytosterols

Flavor

Horchata

Allergens:

NΑ

Other ADM Ingredients

- SweetRight® Stevia Edge-M
- SweetRight® Allulose Crystalline
- SweetRight® Sucralose
- TasteSpark™ Natural Pea Masker
- TasteSpark[™] Natural Mouthfeel Masker
- Natural Flavors (Horchata, Vanilla, Creamy)

Highlights

- High Protein
- Satiety
- Gut Health Support
- Metabolic Health

Nutrition Facts Serving size 11.5 oz (325ml) Amount Per Serving **Calories** % Daily Value* Total Fat 2.5g Saturated Fat 0g Trans Fat 0g Cholesterol 10mg Sodium 140mg Total Carbohydrate 17g Dietary Fiber 6g 22% Total Sugars Less than 1g Includes 0g Added Sugars 0% Protein 30a Vitamin D 0mcg Calcium 930mg Iron 0.8mg 4% Potassium 170mg Phosphorus 4% Magnesium 4% *The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.





Tribiotic Lemon Lime Soda



Tribiotic (Pre-, Pro-, Postbiotics) Soda

Meet the fizzy, feel-good soda that's as smart as it is refreshing. This lemon-lime tribiotic soda delivers a triple threat of gut-health goodness, featuring Fibersol® prebiotic to feed the good bacteria, DE111® probiotic to support digestion and immune function, and ES1 postbiotic for triple action digestive comfort.

Crafted with all-natural flavors and colors, and very low sugar, this better-for-you soda was made to support your gut without sacrificing taste. Whether you're rethinking your soda habit or just want to give your gut a little more love, this crisp citrusy drink has your back.

Hero Ingredients

- Fibersol® -2
- ES1 Postbiotic
- DE111® Probiotic

Flavor

• Blue Raspberry

Allergens:

NΑ

Other ADM Ingredients

- Natural Flavors
- Natural Colors
- Stevia Edgility[™]

ntc

Supplement Facts

Highlights

High Fiber

Gut Health

Support

Convenient

Prebiotic

Satiety

Serving Size (62g) Servings Per Container

	Amount per serving	% Daily Value
Calories	40	
Total Carbohydrate	16 g	6%*
Dietary Fiber	11 g	39%*
Total Sugars	4 g	**

*Percent Daily Values are based on a 2,000 calorie diet.
**Daily Value not established.

This communication is intended for B2B concept use and no statements are meant to be perceived as approved by regulatory authorities.



Why Postbiotics?

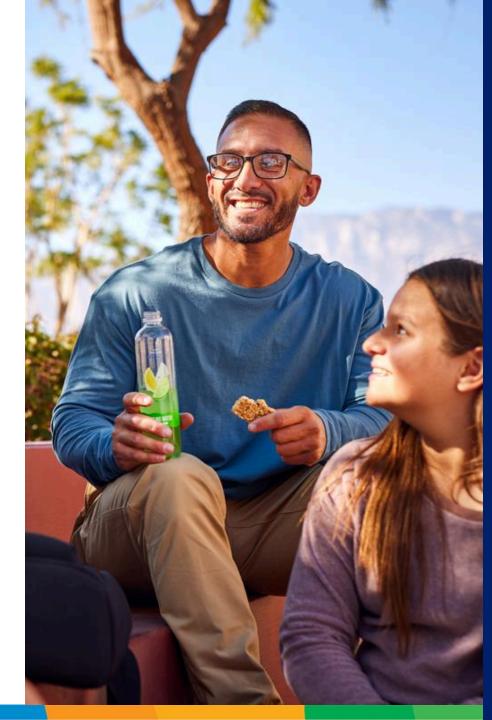
Why Postbiotics?

1 Next generation of biotics

2 Excellent shelf-life and stability

3 Manufacturing benefits

4 Targeted health benefits, in new and unique areas





Thank You







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