



A Cutting Edge Solution

Lactobacillus gasseri
CP2305 Postbiotic



Psychobiotics for Emotional Well-Being & Sleep Support



Beyond the gut & ahead of the curve

In today's fast-paced world, achieving a good night's sleep and managing stress and mood has become increasingly challenging. The repercussions of inadequate sleep heightened stress levels are profound, affecting not only countless aspects of everyday life, but also their overall well-being. Recent scientific advancements have shed light on the pivotal role of the gut-brain axis, a bidirectional communication system between the gut and the brain. In recent scientific studies, there has been growing interest in the gut-brain axis, which is seen as a communication system between the gut and the brain. This connection appears to be important in influencing various physiological functions, possibly including sleep patterns, responses to stress, and mood stability.

Postbiotics represent a massive step forward in the ability to impact the gut-brain axis. Directly defined as "a preparation of inanimate microorganisms[...] that confer a health benefit to the host" (Salminen, S. et al. *Nat Rev Gastroenterol Hepatol* 18, 649–667 (2021); postbiotics offer unique benefits when compared to traditional microbiome solutions in that they offer unparalleled stability. This enables postbiotics to retain their clinical benefits within multiple dosage formats, making them capable of being formulated into many different formats including dietary supplements & functional foods.

Psychobiotics

are being studied for their impact on mood, stress, and sleep via the gut-brain axis.

In the past year, 75% of people

in the UK have felt so stressed they have been overwhelmed and unable to cope¹

Up to 50-60%

of people worldwide suffer from issues falling asleep and/or staying asleep²

1 Citation: <https://www.mentalhealth.org.uk/exploremental-health/publications/stress-are-we-coping-report>

2 Citation: Bhaskar S, Hemavathy D, Prasad S. Prevalence of chronic insomnia in adult patients and its correlation with medical comorbidities. *J Family Med Prim Care*. 2016 Oct-Dec;5(4):780-784. doi: 10.4103/2249-4863.201153. PMID: 28348990; PMCID: PMC5353813.



Lactobacillus gasseri CP2305 leverages the potential of the gut-brain axis by modulating the gut microbiome maintaining levels of beneficial Bifidobacteria in individuals under stressful conditions (Nishida K, et al. *Nutrients*. 2019 Aug 10;11(8):1859). In a Human clinical trial, CP2305 supplementation reduced STAI-trait self-reported scores in individuals experiencing stress when compared to the placebo intake. Secondary endpoints have identified that, in this clinical trial, the postbiotic modulates the production of n-valeric acid, a SCFA (Nishida K, et al. *Nutrients*. 2019 Aug 10;11(8):1859). This natural and holistic approach not only provides a potential aid for sleep, mood, and stress, but also supports the body's inherent need for microbial harmony.

ADM is at the Forefront of Microbiome Research

The microbiome is increasingly being researched for its potential to positively affect aspects of mood, stress, sleep and overall human wellness. From production of bioactive metabolites by the

human body to modification of cell signalling pathways and many other potential functions, the microbiome is more and more the target of solutions designed to promote mental health and wellness.

Postbiotics for Supporting Mental Well-being and Sleep Support

Quality sleep is the cornerstone of physical and mental health. Adequate & restorative sleep is linked to improved cognitive function, a healthy immune function response, and efficient stress management. Emerging science has shown that the gut-brain axis may be capable of influencing the sleep-wake cycle, impacting the duration and quality of sleep (Nishida K, et al. *Nutrients*. 2019 Aug 10;11(8):1859). *Lactobacillus gasseri* CP2305's unique formulation may directly impact the gut-brain axis, enabling users to experience improved emotional well-being and reduced stress, which also may help prepare those individuals to handle day-to-day challenges and when faced with stressful situations.

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.



Lactobacillus gasseri CP2305 Postbiotic: Gold standard science

Lactobacillus gasseri CP2305 is ADM's newest microbiome solution, with gold standard science showing that it may support:

- Emotional well-being
- Reduced stress
- Significant improvements in self-reported assessments of mental well-being
- Better sleep efficiency
- Reduced time to fall asleep
- Improved total duration of sleep
- Healthy overall sleep quality

Lactobacillus gasseri
CP2305 Postbiotic has
an extensive research
portfolio supporting
its benefits



May Support
Reduced Stress



May Support
Emotional Well-Being



May be
associated with
Better Sleep*

*Exploratory research suggests.

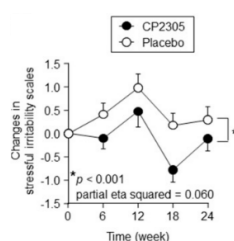
The science behind *Lactobacillus gasseri* CP2305 postbiotic

Lactobacillus gasseri is a cutting-edge postbiotic that features near limitless possibilities for formulation.

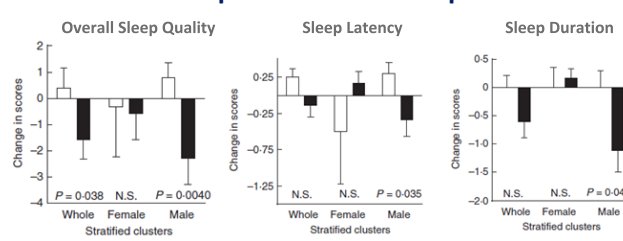
This strain is backed by five clinical trials. These studies showcase its efficacy in supporting key aspects relating to stress, mental well-being, and exploratory results within sleep quality and total duration.

Consumption of the postbiotic significantly reduced self-reported levels of STAI-trait scores that are associated with anxiety and preliminary data suggests that consumption of the postbiotic seemed to improve the quality of sleep in participants experiencing levels of stress.

Reaction to stress

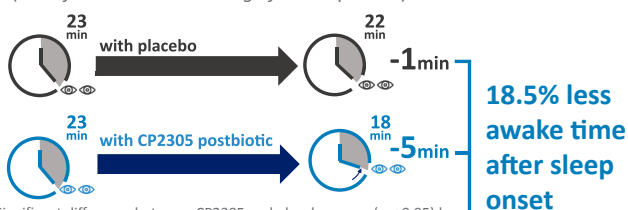


Improvements in sleep



Medical Students Preparing for National Examination (24 weeks)

Wake time after sleep onset
(wakefulness time occurring after sleep onset)



* Significant difference between CP2305 and placebo group ($p < 0.05$) by analysis of covariance (ANCOVA) with each initial value as a covariate.

Stress Results: Nishida K, Sawada D, Kuwano Y, Tanaka H, Rokutan K. Health Benefits of *Lactobacillus gasseri* CP2305 Tablets in Young Adults Exposed to Chronic Stress: A Randomized, Double-Blind, Placebo-Controlled Study. *Nutrients*. 2019 Aug 10;11(8):1859. doi: 10.3390/nu11081859. PMID: 31405122; PMCID: PMC6723420. K. Nishida et al., *Journal of Applied Microbiology* 123: 1561-1570 (2017)

More Applications, More Benefits



Dietary supplements



Better-for-you snacks



Sports & Specialized nutrition

Lactobacillus gasseri CP2305 at a glance

Gold Standard and exploratory evidence suggests *Lactobacillus gasseri* CP2305 may help support:

- Reduced stress and emotional well-being
- Reduced time to fall asleep, improved total duration of sleep, and better sleep efficiency*
- Significant reduction in self-reported assessments of mental well-being

The Right Products

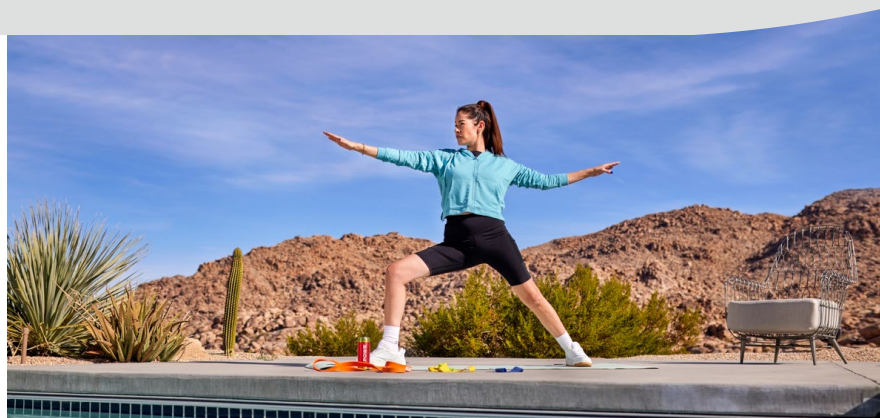
Composition

Lactobacillus gasseri CP2305

Concentration

500b CFU equiv./g

*Exploratory research suggests.



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.

This communication is intended for b2b use and no statements are meant to be perceived as approved by regulatory authorities local regulations must be reviewed to confirm permissibility of ingredients and claims for each food and dietary supplement category. Archer Daniels Midland Company disclaims any and all warranties, whether express or implied, and specifically disclaims the implied warranties of merchantability, fitness for a particular purpose, and non-infringement. our responsibility for any claim is limited to the purchase price of material purchased from us. Customers are responsible for obtaining any licenses or other rights that may be necessary to make, use, or sell products containing our ingredients. Any claims made by customers regarding ingredient traits must be based on the scientific standard and regulatory/legislative requirements of the country in which the final products are offered for sale.

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