

Neuro μ Biomic

Cognitive Support Probiotic

Alimentum Labs

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Neuro μ Biomic

Cognitive Support Probiotic

Probiotic formula containing Alimentum Labs' patent-pending exclusive keystone species of bacteria that enhances cognitive health and alleviates mental stress by strengthening and correcting the gut-brain axis.



Brain



Gut



Whole Body



Immunity

Health Indications

- Manage Mental Disorders
- Support Memory, Concentration, and Focus
- Support Optimal Neurotransmitter Activities
- Regulate Stress Response
- Relieve Stress-Related GI Discomfort
- Support Mood and General Well-Being
- Promote Healthy Immunological Activities for Brain Function
- Manage Sleep Disorders
- Promote Healthy Sleep/Wake Cycles
- Reduce Neuroinflammation
- Manage Pain/Pain Sensitivity
- Regulate Cortisol Levels
- Mitigate Stress-Induced Weight Gain
- Manage Developmental Disabilities

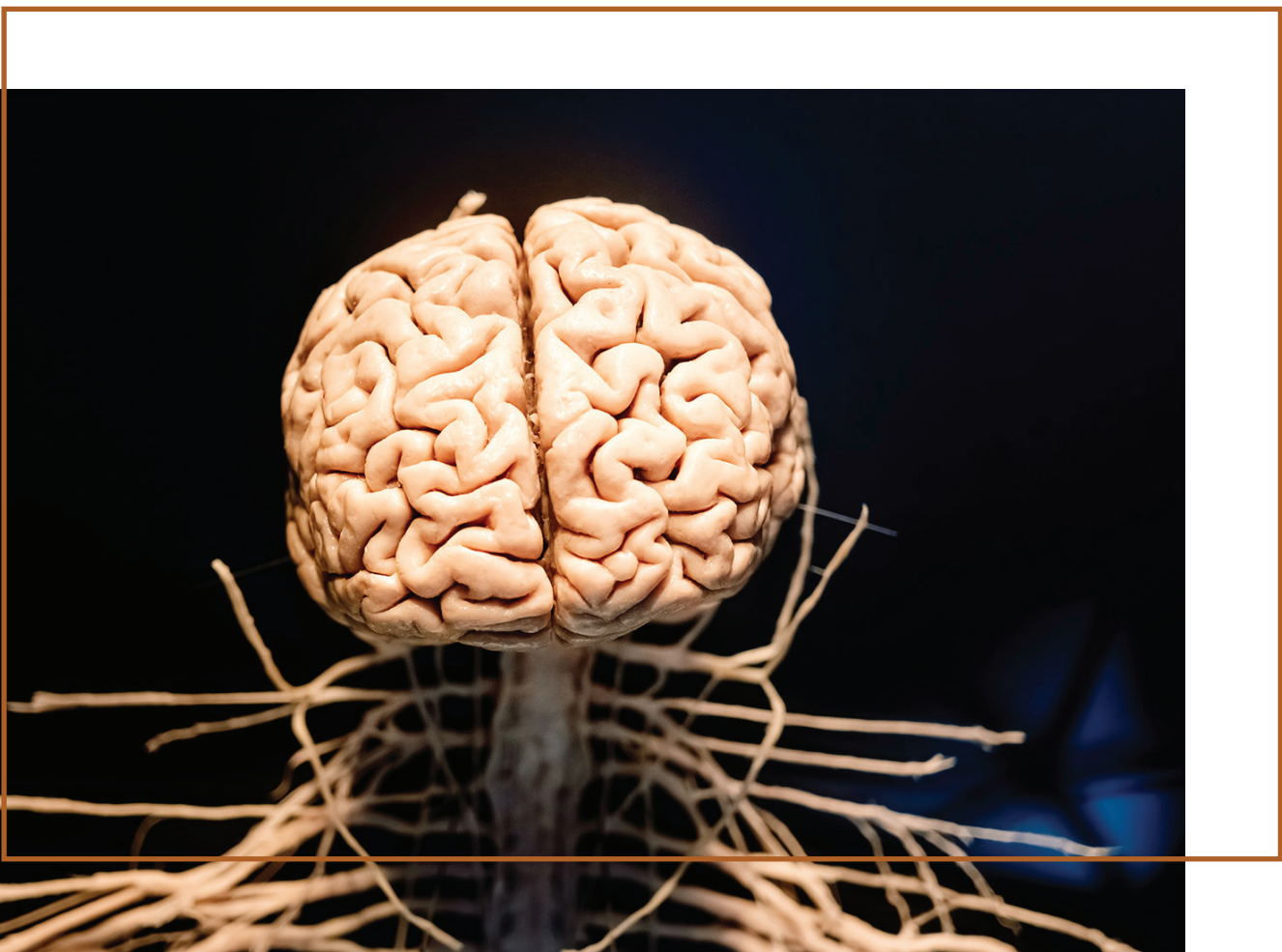
Instructions For Use

Take 1-2 capsules daily for 30 days, with or without food. Refrigerate after opening to optimize shelf life. We highly recommend Neuro μ Biomic be paired with its synergistic prebiotic formula, Neuro Superfood, for unparalleled results and remarkable health benefits.

**Individual needs may vary; please consult your practitioner before altering the prescribed doses or protocols.

Product Description

The gut-brain axis is a complex communication network between the gastrointestinal tract (the gut) and the brain. It involves intricate interactions between the gut microbiota, gut lining, immune system, and the central nervous system. This axis plays a pivotal role in regulating various aspects of our physical and mental health, influencing the production of neurotransmitters like serotonin and dopamine, which impact mood and cognition. Additionally, the gut's immune system and microbiota composition can profoundly affect inflammation levels, further influencing mental well-being. This bidirectional communication system stands as the most crucial link for healthy cognition and mood, emphasizing the importance of maintaining a balanced and healthy gut for overall well-being.



Current modern lifestyles can destroy the gut-brain axis by causing what is called dysbiosis. Dysbiosis occurs when the bacteria in the gut are out of balance or the microbiome is lacking in specific healthy probiotics. This imbalance occurs due to diets rich in processed foods, high stress levels, insufficient physical activity, and the overuse of antibiotics, disrupting the signaling between the gut and the brain. A compromised gut-brain axis resulting in dysbiosis can lead to digestive disorders, mood disturbances, cognitive issues, weakened immune function, and an increased susceptibility to chronic conditions

Neuro μ Biomic is a science-backed probiotic blend that utilizes insights from some of the world's most extensive microbiome databases and recent available research. This allows us to incorporate specific probiotic strains and potent functional ingredients into one sophisticated formula to enhance both brain and gut health, promoting overall mental well-being. Neuro μ Biomic utilizes our very own exclusive next-generation keystone species of probiotics to manage mental health through the correction and regulation of the gut-brain axis.

Neuro μ Biomic is specifically designed to address missing microbial species that may be lacking in the microbiome of individuals with altered mood, immune responses, and neurotransmitter activities. The symbiotic dance of these specially chosen probiotics, both permanent and temporary, is absolutely crucial for balancing the gut-brain-axis and promoting overall brain health.



Key Elements and Features of ImmuneGenic

Mood Regulation

The gut microbiota plays a crucial role in neurotransmitter production, including serotonin, which is integral to mood modulation. Serotonin is primarily synthesized in the intestines and has profound effects on the brain, directly influencing emotions, happiness, the sleep/wake cycle (circadian rhythm), and overall mental well-being. Gut probiotics also generate gamma-aminobutyric acid (GABA), a key neurotransmitter essential for emotional well-being. This emphasizes the significance of probiotic bacteria in maintaining a healthy gut-brain axis and promoting emotional balance.

Improves Cognitive Function

The intricate interplay between the gut and the brain significantly influences cognitive functions. The gut microbiome, full of probiotics, produces various metabolites, including short-chain fatty acids (SCFAs). These metabolites can then cross the blood-brain barrier and exert neuroprotective effects. Furthermore, these same metabolites play a vital role in synaptic plasticity, a fundamental process for learning, memory, and focus.

Reduce and Adapt to Stress

The gut microbiota communicate with the brain during stress through the release of signaling molecules and the activation of the vagus nerve. Stress-induced changes in the gut microbiome can, in turn, affect the central stress response system. This bidirectional communication between the gut and the brain influences the secretion of stress hormones like cortisol, impacting an individual's resilience to stressors. In simple terms, a healthy gut-brain connection is crucial for managing stress effectively.

Brain Inflammation Regulation

The gut-brain axis modulates inflammation, a common problem in neurodegenerative diseases and mental health disorders. Probiotics and beneficial gut bacteria contribute to reducing and regulating inflammation in the brain by producing anti-inflammatory substances, influencing immune responses, and maintaining the integrity of the gut barrier. A balanced gut microbiome helps prevent the systemic inflammation that can adversely affect the brain.



Exclusive Probiotic Spotlight

This formulation features our own exclusively researched and developed probiotics, known as keystone species. These species are directly related to adverse health effects when missing or lacking in human microbiomes. Through 15 years of research, Alimentum Labs has carefully selected specialized probiotic species, each offering unique benefits for the gut-brain axis and mental health.

The nature of our exclusive keystone strains of probiotics grants them a distinctive advantage as they colonize specific niches within the gut where they are intended to thrive. Once established, these anaerobic bacteria tend to persist long-term, providing benefits that set them apart from traditional probiotics.

***Faecalibacterium prausnitzii* MS07**

Faecalibacterium prausnitzii, a beneficial keystone microbe in the human gut microbiome, serves as a primary producer of the beneficial metabolite butyrate.^{1,2} Studies have reported a connection between *F. prausnitzii* levels and cognitive scores, highlighting its importance in brain health.^{3,4} It also exhibits anti-inflammatory properties by reducing inflammation severity and influencing intestinal function.⁵ The metabolites secreted by *F. prausnitzii* play a crucial role in human health by blocking NF- κ B activation, inhibiting IL-8 production, and enhancing the intestinal barrier.^{5,6} Individuals with various health conditions, especially those related to the brain, immune, and digestive system, often exhibit lower levels of this probiotic, making it a promising option for supporting brain health and regulating the gut-brain axis.⁷

***Parabacteroides distasonis* MS16**

Parabacteroides distasonis, a beneficial keystone microbe in the human gut microbiome, utilizes galacto-oligosaccharides as a prebiotic source to produce glutamate, acetic acid, and propanoic acid. Additionally, it produces gamma-aminobutyric acid (GABA), a neurotransmitter that plays a crucial role in reducing stress and anxiety.^{8,9} Studies have shown that *P. distasonis* provides anti-seizure effects through GABA and glutamate production, reduces inflammation by decreasing IL-6 and IL-8, protects against oxidative damage, and enhances sleep recovery by increasing REM cycles.⁸⁻¹⁰ These findings highlight its pivotal role in supporting brain health and cognitive function.

Lactobacillus farciminis

Lactobacillus farciminis is a beneficial probiotic that can directly alleviate pain by influencing the nervous system.¹¹ This probiotic produces metabolites that impact the gut-brain axis, contributing to its broader effects.¹² The compounds produced by *L. farciminis* have anti-inflammatory and neuroprotective properties that enhance cognitive function and mood.¹³ In summary, *L. farciminis* plays a crucial role in promoting well-being beyond just gut health, as it reduces pain and positively impacts the nervous system as well.

Agathobaculum butyriciproducens

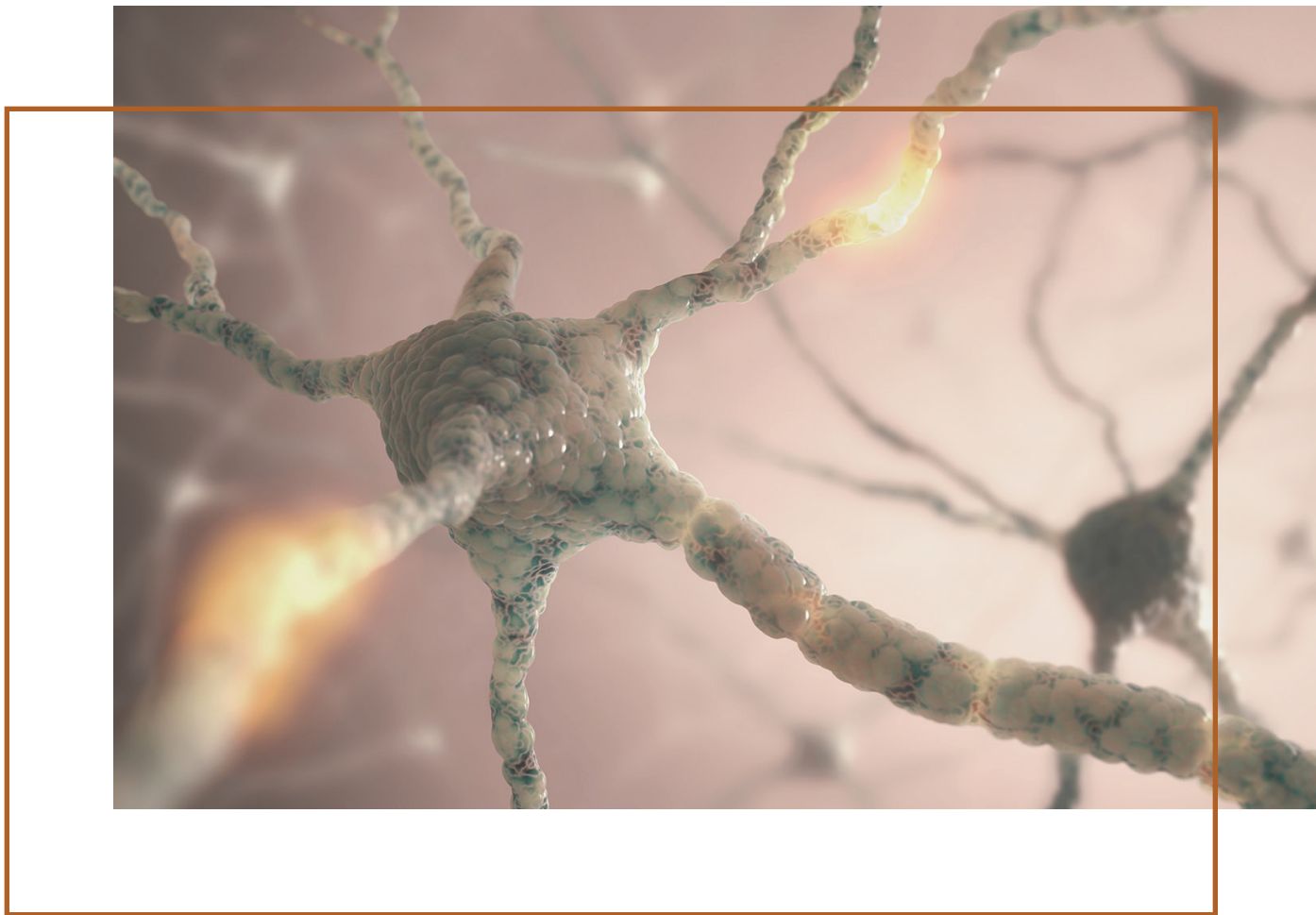
A. butyriciproducens, as its name suggests, produces the beneficial metabolite butyrate.¹⁴ Studies indicate a neuroprotective role for *A. butyriciproducens* by regulating the AKT/GSK3 β pathway.¹⁵ It is also suggested that *A. butyriciproducens* may have the potential to enhance cognitive function during aging as a part of a beneficial probiotic-based approach.¹⁶

Mycobacterium vaccae

M. vaccae is a bacterium found in the soil that possesses anti-inflammatory and immunoregulatory properties.¹⁷ This probiotic holds promise as a potential remedy against adverse effects induced by stress.¹⁸ Studies suggest that *M. vaccae* promotes stress resilience by modulating pathways involving corticotropin-releasing hormone.¹⁹

How Neuro μ Biomic Works

Gut microbes contribute to the production of various neurotransmitters and metabolites that benefit the brain, such as gamma-aminobutyric acid (GABA), dopamine, norepinephrine, and acetylcholine to name a few. These neurotransmitters play essential roles in regulating mood, motivation, stress reduction/adaptation, sleep, and cognitive functions. The gut microbiota's ability to synthesize and release these signaling molecules makes it the most influential factor on the brain, its functions, and our behavior.



Key Ingredients

Faecalibacterium prausnitzii MS07

Exclusive to Alimentum Labs, *Faecalibacterium prausnitzii*, a vital keystone gut microbe, not only produces beneficial butyrate but also influences cognitive scores, emphasizing its significant role in brain health. Additionally, it exhibits anti-inflammatory properties that enhance the intestinal barrier. Individuals facing health complications, especially in the brain, immune, and digestive systems, often exhibit lower levels of this probiotic. These properties make it a promising option for supporting overall health and the gut-brain axis.¹⁻⁷

Parabacteroides distasonis MS16

Exclusive to Alimentum Labs, *Parabacteroides distasonis*, a beneficial keystone gut microbe, uniquely utilizes galacto-oligosaccharides as a prebiotic to produce GABA, glutamate, acetic acid, and propanoic acid. It demonstrates anti-seizure and anti-inflammatory effects, protects against oxidative damage, and enhances sleep recovery by increasing REM cycles. These attributes underscore its vital role in supporting brain health and cognitive function.^{8-10,20}

Lactobacillus farciminis

Exclusive to Alimentum Labs, *Lactobacillus farciminis*, a beneficial probiotic, directly alleviates pain by influencing the nervous system and produces compounds with broad anti-inflammatory and neuroprotective effects. It enhances cognitive function and mood, playing a crucial role in promoting overall well-being far beyond gut health.¹¹⁻¹³

Agathobaculum butyriciproducens

Exclusive to Alimentum Labs, *A. butyriciproducens* produces butyrate, a beneficial metabolite. Research suggests it plays a neuroprotective role by influencing the AKT/GSK3 β pathway and could potentially contribute to improving cognitive function as we age, possibly through probiotic-based approaches.^{14–16}

Mycobacterium vaccae

Exclusive to Alimentum Labs, *M. vaccae*, a soil bacterium with anti-inflammatory and immune-regulating abilities, shows potential as a remedy for stress-related issues. Research indicates that it may boost stress resilience by affecting corticotropin-releasing hormone pathways.^{17–19}

***Enterococcus faecium* SD5843**

Enterococcus faecium is a beneficial gut microbe with significant anti-inflammatory abilities in the brain. By negatively modulating TNF- α production and upregulating IL-10 levels, it helps regulate inflammation in the brain.²¹ Additional studies indicate that *E. faecium* can lower oxidative stress, enhance antioxidant enzyme activity, and consequently increase GABA and dopamine levels.^{21–23}

Bifidobacterium adolescentis

Bifidobacterium adolescentis is a well-known probiotic that supports mental health, immune health, and the health of other body systems. It produces various bioactive compounds and metabolites, including butyrate and GABA.²⁴ Studies have shown that *B. adolescentis* exhibits antidepressant and antianxiety effects, while effectively reducing stress.^{25,26}

Lactiplantibacillus plantarum

Contributes to mental well-being through the modulation of neurotransmitters like serotonin and GABA, the regulation of inflammation, the production of neuroprotective short-chain fatty acids (SCFAs) like butyrate, and the management of the intestinal barrier.²⁷ This makes it a key player in promoting a healthy gut-brain axis and supporting the body's stress response. Scientific studies have identified *L. plantarum* as a strong, beneficial psychobiotic species that showed improved cognitive and memory functions by stimulating the serotonin and dopamine-norepinephrine pathways.²⁸ Additionally, *L. plantarum* may improve mood by relieving work-related stress and anxiety.²⁹

Lactobacillus acidophilus

Studies show that *Lactobacillus acidophilus*, a probiotic commonly found in most yogurts, exhibits potential benefits for depression, anxiety, and stress when combined with other beneficial probiotics. These effects are attributed to its natural ability to support and increase supplemented bifidobacterium and lactobacilli.^{12,30,31}

***Lactobacillus helveticus* Rosell-52**

From the clinically studied Cerebiome® blend, this strain of *L. helveticus*, when taken in combination with *Bifidobacterium longum* Rosell-175 (included in Neuro μ Biomic), had beneficial effects on anxiety and depression.³² Additionally, multiple studies have shown *L. helveticus* to positively affect neurotransmitters involved in mood regulation and general well-being, especially GABA, which may also improve sleep quality.^{33,34}

***Bifidobacterium longum* Rosell-175**

From the clinically studied Cerebiome® blend, this strain of *B. longum*, when taken in combination with *Lactobacillus helveticus* Rosell-52 (included in Neuro μ Biomic), had beneficial effects on anxiety and depression.³² Another clinical study reaffirmed the ability of *B. longum* to reduce symptoms of depression while enhancing a feeling of general well-being.³⁵

Bifidobacterium bifidum

This probiotic supports the natural neuroinflammatory response in the brain that can affect both mood and cognitive functions.³⁶ *B. bifidum* modulates the gut-brain axis and has been shown to support functional neural circuits.³⁷

***Lactobacillus delbrueckii ssp bulgaricus* LDB01**

Commonly referred to as *L. bulgaricus*, this probiotic influences the processing of emotions, sensations, and internal signals, contributing to overall emotional well-being.¹³ It has also been shown to upregulate the antioxidant and neuroprotective enzyme Sirtuin-1, which may have beneficial effects on cognitive decline.^{38,39}

***Lactocaseibacillus casei* 5842**

Also known as *Lactobacillus casei*, this probiotic produces GABA, which has a calming effect on the nervous system.⁴⁰ It has also been reported to improve negative health effects associated with obesity, such as abnormal lipid profiles and high blood pressure.⁴¹ Additionally, it produces other neurotransmitters that may improve learning.⁴²

***Lactobacillus gasseri* 5585**

L. gasseri provides anti-inflammatory effects and produces neurotransmitters crucial for a healthy mood regulation and a balanced gut-brain axis. *L. gasseri* is essential for stress support, cortisol balance, and neuron-activity balance.⁴³ Clinical studies indicate that *L. gasseri* can decrease stress and improve the quality of sleep.⁴⁴⁻⁴⁶

***Propionibacterium
shermanii* PF-G68**

P. shermanii possesses unique binding capacities for aflatoxin (toxins produced by *Aspergillus* molds) and helps regulate other dysbiosis-causing organisms that can affect brain health.⁴⁷ It has mutually beneficial and growth-promoting relationships with bifidobacterium.^{48,49} Additionally, it produces metabolites such as propionate and vitamins such as cobalamin (Vit B12), that enhance neural function and immune responses.⁴⁸⁻⁵¹

***Bifidobacterium breve*
5206**

Bifidobacterium breve is an important probiotic needed for brain health, often found deficient in individuals with neurologically challenging conditions.⁵² Studies show *B. breve* can down-regulate the pCREB-c-Fos pathway but increase the expression of brain-derived neurotrophic factor (BDNF), lowering stress levels and improving mood.⁵² Additionally, *B. breve* has been shown to inhibit neuroinflammation by regulating amino acid metabolism.⁵³

***Ligilactobacillus
salivarius* 5851**

Studies suggest *L. salivarius* may have a positive impact on mood and daily stress, especially in those with stress-related digestive complications.⁵⁴ When taken in combination with other probiotics like *L. plantarum* (included in Neuro μ Biomic), it can synergistically improve the production of brain-bioavailable metabolites, including quercetin, kamferin, 4-hydroxyphenylpyruvic acid and 4-hydroxyphenylacetic acid, which work to reduce neuroinflammation, improve mood, and enhance the general sense of well-being.^{55,56} Additionally, *L. salivarius* can significantly alter the gut microbiota composition by improving the ratio of *Firmicutes/Bacteroidetes*, an important indicator of gut health.⁵⁴

Warnings/Contraindications

When used as directed there are no known contraindications for Neuro μ Biomic.

It is always recommended that you consult your practitioner prior to adding any new supplement to your regimen if you are pregnant, breastfeeding, experiencing renal failure, undergoing an organ transplant(s), managing diabetes with insulin, or are taking medication(s) for any pre-existing conditions.

Safety

All ingredients are tested before use for:

- Pathogenic microbial contaminants
- Heavy metals and/or chemical contaminants
- Correct genus and species of probiotic microbes
- Purity

Additional Information

- Gluten Free
- Dairy Free
- Vegan
- No Sugar
- Non-GMO
- cGMP Facility
- No Egg



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