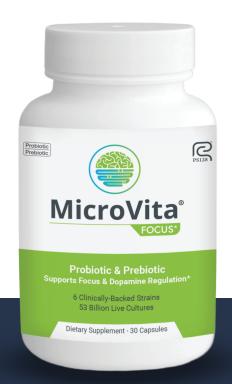


# MicroVita® Focus

# MicroVita® Focus Supports:

- Focus and attention
- Proper dopamine regulation
- Healthy gut function

# 53 Billion Live Cultures Clinically Proven Strains



MicroVita® Focus is a probiotic/prebiotic specifically formulated to support focus and proper dopamine regulation. It provides 6 probiotic strains, each with clinical support for maintaining proper dopamine and serotonin regulation as well as absorption of essential nutrients.

# MicroVita® Kit

MicroVita® Focus is part of the MicroVita® Kit that also contains MicroVita® Mood. MicroVita® Focus contains six probiotic strains with clinical support for improving dopamine regulation and MicroVita® Mood contains six probiotic strains with clinical support for improving serotonin regulation. Each contains three prebiotics that provide their specific probiotics with energy. Together MicroVita® Kit helps individuals heal the gut and brain without hurting.

# **Gut-Brain Axis**

It is well established that the gut microbiome, the entire genome of the gut microbiota, influences host development and physiology, playing a key role in the balance between health and disease. In recent years, emerging evidence has suggested a role of the gut microbiota in brain function and behavior.<sup>1</sup>

# A Comprehensive Approach to Brain Ready™ Nutrition

MicroVita® Focus can be taken in combination with Accentrate® and/or MZI™ products for a holistic approach to brain health.

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The human being is a superorganism. When we take the human self and its partner microbiota into consideration at the same time, we can better understand human health.<sup>2</sup> Microorganisms amounting to more than 1 kg inhabit the digestive tract and are considered the most important microorganisms in the human body. Collectively, they're called the gut microbiota. The microbiota contains 300–3,000 different species, whose total number exceeds 1,014 billion cells, which is almost 10 times the total number of human cells.

Since 2008, Nature has advocated calling the human being "we" rather than "I" because more than 90% of the total cells and genes of the superorganism are microorganisms. These microorganisms have established interdependent and mutualistic relationships with humans over the long process of evolution; therefore, they are called commensal microbiota.<sup>2</sup>

Over the last few centuries, the partner microbiota has experienced tremendous change, much more than human genes, because of the modern transformations in diet, lifestyle, medical care, and so on, parallel to the modern epidemiological transition.<sup>2</sup> Existing research indicates that gut microbiota plays an important role in this transition.<sup>2</sup> A bidirectional communication between the gut and the brain (gut-brain axis) is well recognized with the gut microbiota viewed as a key regulator of this cross-talk.1

The gut microbiota almost develops synchronously with the gut and communicates through the gut-brain axis. The gut microbiota influences various normal mental processes and phenomena and is involved with mental and neurological health, so by targeting the microbiota, we can support mental health.<sup>2</sup> Recent studies have suggested that probiotics use the gut-brain axis to increase the levels of neural monoamines, such as dopamine, serotonin (5-HT), and brain-derived neurotropic factor (BDNF), which are critical for neuronal plasticity and survival.<sup>3,4</sup>

# **Psychobiotics**

Psychobiotics are a group of probiotics that when ingested in appropriate quantities, yield positive psychiatric effects in psychopathology. These psychobiotics affect the central nervous system (CNS) related functions and behaviors mediated by the gut-brain-axis (GBA) via immune, humoral, neural, and metabolic pathways to improve not only the gastrointestinal (GI) function but also the antidepressant and anxiolytic capacity.6

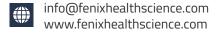
Psychobiotics have been shown to improve neurodegenerative and neurodevelopmental disorders, including autism spectrum disorder (ASD), Parkinson's disease (PD) and Alzheimer's disease (AD). Use of psychobiotics can improve GI function, ASD symptoms, motor functions of patients with PD and cognition in patients with AD.6 The bacteria most frequently exploited as probiotics are the Gram-positive Bifidobacterium and Lactobacillus families.<sup>5</sup>

## **Prebiotics**

Prebiotics are non-digestible carbohydrates that can be used as the prime source of energy for gut flora. Essentially, they are food for probiotics. Bacterial strains in the gut tend to feed on specific macronutrients, so providing the specific macronutrient that a specific bacterial strain "feeds on" encourages growth of desired bacterial strains in the host biome. Conversely, an unhealthy diet can "feed" bacterial strains that have negative health impacts. Prebiotics are known for their ability to grow beneficial bacteria for their host biome.









The Gut-Brain Axis

Immune

Endocrine & Enteric Nervous

Systems

Unhealthy

Abnormal

Healthy



## MicroVita® Focus Probiotic Strains

MicroVita® Focus is specifically formulated to provide probiotic strains that support proper dopamine and serotonin regulation as well as absorption of essential nutrients. Each probiotic strain in MicroVita® Focus has clinical support validating its inclusion.

#### Lactobacillus plantarum (PS128™) - 30 Billion CFU

Substantial research supports the health benefits of *L. plantarum*; however, the strain PS128 has been shown to provide even greater clinical support. Administration of PS128 was shown to significantly increase the levels of both serotonin and dopamine and have been shown to improve emotional behaviors.<sup>3</sup> One study demonstrated that two months of use of probiotics PS128 treatment improved SNAP-IV and CPT scores in children, specifically improving attention and reducing hyperactivity. Another study's results showed that PS128 ameliorated opposition/defiance behaviors, and that the total score of SNAP-IV for younger children (aged 7–12) improved significantly compared with the placebo.3

Attention Hyperactivity

#### Lactobacillus paracasei (PS23HI) - 5 Billion CFU

L. paracasei has been shown to be beneficial in mitigating age-related diseases, including cognitive impairment.8 One study showed treatment with *L. paracasei* the PS23 resulted in improved cognitive function, memory, and learning compared to the control group.9

Cognition Memory Learning

#### Lactobacillus helveticus (HA-122) - 5 Billion CFU

L. helveticus has been shown to positively influence production of brain-derived neurotrophic factor (BDNF).4 BDNF is the most abundant and widely distributed neurotrophin in the central nervous system and is a factor in neuronal survival, migration, phenotypic differentiation, axonal and dendritic growth, and synapse formation. BDNF's role is integral in cognitive functions, notably in memory acquisition and consolidation.<sup>10</sup> L. helveticus has been shown to significantly improve depression symptoms in patients with clinical depression. 10

Brain-Derived Neutrophic Factor (BDNF) Depression

#### Lactobacillus rhamnosus (GG) - 5 Billion CFU

L. rhamnosus has been shown to regulate emotional behavior and the central GABAergic system, which is also associated with neuropsychiatric disorders.<sup>11</sup> It has been suggested that supplementation in early childhood with L. rhamnosus (GG) may reduce risk of neuropsychiatric disorder later in childhood. 12

Emotional Regulation GABA Neuroprotective Effect

#### Bifidobacterium bifidum (Rosell-71) - 3 Billion CFU

Supplementation of B. bifidum and L. plantarum have been shown to have a positive effect on spatial memory. 13

Memory

#### Bifidobacterium longum (Longum-175) - 10 Billion CFU

B. longum has been shown to modulate resting neural activity that correlates with enhanced vitality and reduced mental fatigue. B. longum modulated neural responses during social stress, which may be involved in the activation of brain coping centers to counter-regulate negative emotions. 14 In one study, the B. longum treated group showed better learning and memory and suggest that B. longum had a positive impact on cognition. 15

Emotional Regulation Stress Anxiety Memory











## MicroVita® Focus Prebiotics

MicroVita® Focus provides a prebiotic blend of galactooligosaccharides, inulin, and Jerusalem artichoke powder. These prebiotics were selected to provide the energy and support needed for the strains in MicroVita® Focus to grow.

#### Galactooligasacharides - 30 mg

The most studied prebiotics include galactooligasacharides, which are prebiotic fibers made up of chains of galactose sugars of variable lengths. These short chain dietary fibers, which are undigestible in humans, nourish the intestinal lining an create a healthy gut flora.

<b>SUPPLEMENT FACTS</b> Serving Size: 1 capsule	Servings Per Container: 30		
	Amount per s	erving	%DV
Probiotic Blend		517 mg	†
Lactobacillus plantarum PS128™			
Lactobacillus paracasei PS23™ (heat treated)			
Lactobacillus rhamnosus GG			
Bifidobacterium bifidum Rosell®-71			
Bifidobacterium longum Rosell®-175			
Lactobacillus helveticus HA-	122		
Prebiotic Blend		75 mg	†
Galactooligosaccharide		_	
Inulin			
Jerusalem Artichoke Powd	er		
† Daily Value not established			

Other Ingredients: Cellulose (Capsule), Magnesium Stearate.









## Inulin - 30 mg

Inulin is a prebiotic dietary fiber that is a type of carbohydrate not digested in your body but is used as food by your gut's good bacteria. Some studies have found that adding inulin into your diet can increase the variety of good bacteria in your gut, which can lead to a healthy gastrointestinal tract. 16

#### Jerusalem Artichoke Powder - 15 mg

Jerusalem artichoke powder contain high amounts of inulin, which is a prebiotic that supports digestive health, as well as a variety of insoluble fibers. 17

## MicroVita® Kit Use

The MicroVita® Kit contains a one month supply of MicroVita® Focus and a one month supply of MicroVita® Mood.

MicroVita® Kit is intended to be taken over a three month period

- In the first month, it is recommended to take one capsule of MicroVita® Focus per day.
- In the second month, it is recommended to take one capsule of MicroVita® Mood per day.
- In the third month, no probiotics are consumed, which allows the gut flora to come to equilibrium.

#### Directions

DOSAGE AND ADMINISTRATION: The usual dose may be taken as one (1) capsule daily, or as directed under medical supervision.

**HOW SUPPLIED:** MicroVita® Focus is available in a bottle containing thirty (30) white capsules.

**STORAGE:** Store in a dry place 71°F or below. **Best if refrigerated.** Protect from light and moisture.



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