

## Overview

Enjoy investigating your gut!

Onegevity's Health Intelligence platform has examined the abundance, type, and balance of more than **39 trillion microbial cells** in your body, resulting in **6 GB of unique data** and personalized insights on you and your gut microbiome.

What you will see:

- Whole genome shotgun sequencing report of your gut microbiome sample
- Planth Intelligence-powered pattern analysis of your unique data and comparison to others
- Board-certified physician reviewed results
- Individualized recommendations for lifestyle changes to balance your microbiome

## Results:

#### Needs attention!

Onegevity examined the levels of more than 100 inflammation-associated bacterial species. Your test results indicate a high level of Inflammatory Potential in your gut.

Inflammatory Potential can be associated with symptoms such as diarrhea, abdominal pain and cramping, reduced appetite, and weight loss, as well as increased risk for developing inflammatory bowel disease (IBD).

• Optimizing the balance of bacteria in your gut could relieve certain gut-related symptoms you are experiencing and lower your Inflammation Potential. Please review your Personalized Recommendations for strategies about how to positively shift your balance.

It's important to note that your Inflammatory Potential score only includes bacterial species as contributors to inflammation in your gut. There are other elements, such as human immune system factors and viruses, that can influence gut inflammation as well.

#### How Inflammation Affects Your Gut

Many factors contribute to gut inflammation, including both the overgrowth of and the absence of certain bacterial species. Inflammation is the body's natural response to injury or infection, which can manifest as swelling, redness, and heat, as immune cells respond to the site of the trauma.

• Your microbiome and your immune system are inextricably linked. While some bacteria species stimulate the production of proinflammatory immune cells perhaps worsening issues, others will stimulate the production of anti-inflammatory cells, which may alleviate symptoms.

Numerous studies have linked chronic inflammation to adverse gut conditions, such as Inflammatory Bowel Disease (IBD). IBD is believed to be an autoimmune disease in which the immune system attacks the tissues of the intestines. In IBD, the gastrointestinal tract is constantly inflamed. The intestinal tissues become red and swollen and can ulcerate and bleed. There are two main types of IBD: Crohn's disease and ulcerative colitis. IBD is diagnosed through a colonoscopy.

### Inflammation Score: HIGH

Optimal range: 0 - 33

These bacteria are contributing most to your score:

High levels of the following bacteria were found in your gut You need to reduce these bacteria

Species	Bacteroides fragilis
Species	Streptococcus sanguinis
Species	Bilophila wadsworthia
Species	Streptococcus salivarius
Species	Streptococcus sp A12

Optimal levels of the following bacteria were found in your gut

Combined	178 bacteria were found in the optimal range
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Improve your score

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Review the 5 interventions recommended to improve your inflammation score.



#### Needs improvement!

Onegevity has calculated your Constipation score by examining the pattern of hundreds of bacterial species that are known to positively correlate with constipation. Your test results reveal a bacterial composition that is consistent with an individual who has high irritation in the gut and a high risk for constipation.

In the survey, you reported that you are not currently experiencing constipation despite a high Constipation score. The microbial composition of your gut does impact the consistency and frequency of elimination; however, many other factors can and do influence constipation. For example, perhaps you eat a diet rich in fiber, exercise regularly, and maintain hydration - which are factors known to support healthy and regular elimination.

### Constipation Score: HIGH

#### Optimal range: 0 - 33

100

These bacteria are contributing most to your score:

High levels of the following bacteria were found in your gut You need to reduce these bacteria

Species	Flavobacterium sp AJ004
Species	Trueperella pyogenes
Species	Candidatus Saccharimonas aalborgensis
Species	Corynebacterium humireducens
Species	Corynebacterium testudinoris

Optimal levels of the following bacteria were found in your gut

Combined 3 bacteria were found in the optimal rat	nge
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Improve your score

Review the 5 interventions recommended to improve your constipation score.



Good news!

Onegevity has calculated your Diarrhea Score by examining the pattern of hundreds of bacterial species that are known to positively correlate with diarrhea. Based on the specific microbial composition of your stool, your test results reveal a low risk for diarrhea.

Increased levels of certain bacterial species are known to be protective against the development of diarrhea. Increased levels of other bacterial species are known to contribute to diarrhea. In the absence of other influences, such as infection, food intolerance, and medication use, the balance of these bacterial species can be a major driver of diarrhea-risk originating from your gut.

	Diar	rrhea Score: MINIMAL
		Optimal range: 0 - 33
These b	acteria are contributing r	nost to your score:
0	vels of the following bac ed to reduce these bacteri	teria were found in your gut ia
	Species	Lachnoclostridium sp YL32
Optimal levels of the following bacteria were found in your gut		
-	Combined	33 bacteria were found in the optimal range
Improv	e your score	
ĵ	Review the 5 interventions	recommended to improve your diarrhea score.



#### Good news!

You're in the 68.9 percentile for microbial diversity, which indicates your gut microbiome is highly diverse. Diversity is key — so the more diverse, the better!

Studies show that individuals with low gut microbiome diversity are at greater risk for certain adverse conditions - ranging from allergies to obesity. Help maintain your microbiome diversity with a richly varied diet of fruits, vegetables, and foods with probiotics - see specifics in your personalized recommendations.

To optimize your physical and mental health, metabolism, weight management, and resistance to pathogens, your goal should be to increase and maintain the diversity of your gut microbiome.

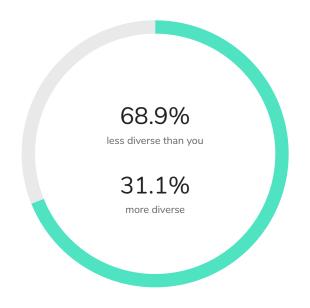
- Multiple studies indicate that healthy people tend to have higher gut microbial diversity, while less healthy people tend to exhibit a less diverse gut microbiome profile.
- A more diverse gut microbiome can efficiently process dietary components like proteins, fats, gluten, lactose, or micronutrients and act together with your physiology to maintain health and weight.
- It's harder for infectious species, such as *Clostridium difficile*, to thrive or multiply in a diverse gut environment, which means that they have a harder time infecting you.

What does this all mean? The diversity of your gut microbiome relates to your lifestyle and diet.

- When you choose what to eat for dinner, you're choosing which bacteria in your gut get fed. If you eat a diet high in fiber, then your fiber-loving beneficial bacteria will thrive, while other non-beneficial species are likely to starve and die.
- A diverse gut microbiome helps you to adapt to changes in your diet more easily and facilitate your digestion of different nutrients from foods. Similarly, a diet consisting of a variety of nutrient rich foods can help increase microbial diversity. Food variety and gut diversity have a symbiotic relationship.
- An increasing body of research also shows exercise will positively increase microbial diversity. Changing the type and environment where you exercise, or increasing the frequency or intensity of your exercise routine can help your gut diversity levels.
- Environments and exposures can have a large impact on your gut microbiome. For example, antibiotic used to treat an infection can adversely impact the diversity in your gut. How? Antibiotics are nonspecific killers of bacterial populations (i.e. they can't distinguish between good and bad bacteria in most cases). Therefore, Onegevity recommends taking an antibiotic only when necessary.

Everything you come into contact with challenges and alters your microbiome diversity- sometimes in unknown and complex ways. Rest assured, Onegevity is constantly tracking the newly published research to keep this platform current and applicable!

### Diversity Score: GREAT



#### Results: Micronutrients

Keep in mind!

Your test results indicate that your gut microbial population is not contributing significantly to your daily need of one or more of the B vitamins.

Certain gut bacteria can produce B vitamins and contribute to your recommended daily intake of folate (B9), B6, B12, and niacin (B3). It is important that you consume adequate amounts of these B vitamins, with particular attention to the B vitamins in which your gut microbiome may be making less than optimal.

#### **Micronutrients: B vitamins**

Micronutrients are elements or substances needed in trace amounts to support healthy growth, development, and metabolism. Although the original "vitamin B" was thought to be a single vitamin, the B-vitamin group is now considered to be eight separate micronutrients. B vitamins are essential water-soluble vitamins, meaning you must obtain them from your diet.

The B vitamins play several different yet important roles in your body's functioning and are necessary for healthy neurological function and energy production.

#### How much can I make?

With the right gut bacteria, some B vitamins can be produced in your body. For example, 86 percent of the recommended daily intake of vitamin B6 can come from gut bacteria in humans, 37 percent for folate, 31 percent for vitamin B12, and 27 percent for niacin.

In times when your bacterial diversity is less than optimal, and you're producing fewer B vitamins, it's essential that more come from your diet.

#### More on the specific B vitamins:

#### Niacin

*Vitamin B3 (niacin)* like all B vitamins, plays an important role in metabolizing food. It aids nervous system function, participates in hormone production, and improves circulation and cholesterol levels.

Symptoms of mild niacin deficiency include depression, fatigue, indigestion, vomiting, and canker sores. In developed countries, the most common causes of deficiency are alcohol consumption and malabsorption disorders in the gut.

#### Vitamin B6

*Vitamin B6* is a versatile micronutrient that performs many different functions in your body including digesting protein and helping to produce blood and immune system cells.

A mild vitamin B6 deficiency might not exhibit symptoms for months or even years.

Symptoms of a severe deficiency can include anemia, scaling on the mouth, swollen tongue, depression, confusion, and a weakened immune system. Deficiencies can be caused by kidney diseases and gut malabsorption disorders, such as celiac disease or Crohn's disease.

#### Folate

*Vitamin B9 (folate)* is necessary for energy metabolism and proper cell division. It is very important for pregnant women to have an adequate folate level for their fetus to develop properly.

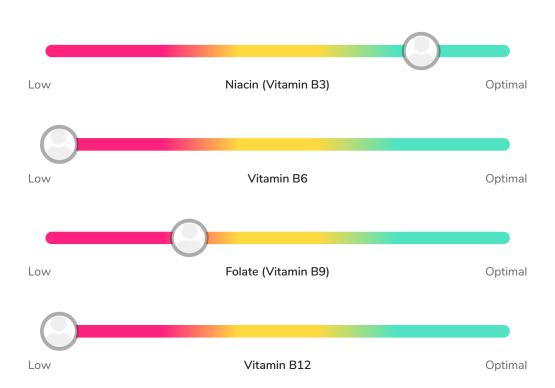
A folate deficiency can be caused by poor diet, alcohol abuse, medication, and gut malabsorption disorders such as celiac disease and inflammatory bowel disease (IBD). Symptoms of a deficiency can include anemia, weakness, fatigue, difficulty concentrating, irritability, headache, heart palpitations, shortness of breath, mouth ulcers, and changes in hair or skin pigmentation.

#### Vitamin B12

*Vitamin B12* keeps your body's nervous system healthy, as well as playing a role in digesting protein and making DNA and red blood cells.

Malabsorption disorders, such as hypochlorhydria (low stomach acid), celiac disease, and Inflammatory Bowel Disease (IBD) can cause a B12 deficiency. Individuals who don't eat animal-derived foods are also at risk of a B12 deficiency. Certain medications can contribute to vitamin B12 depletion.

B12 deficiency can manifest as neurological symptoms such as numbness or tingling in the hands, legs, or feet, difficulty walking, and confusion or difficulty thinking. Other symptoms can include anemia, weakness and fatigue, constipation, and a swollen tongue. B12 deficiency can lead to permanent nerve and brain damage and increases the risk of dementia.



### Micronutrients

## Results:

#### Opportunity for improvement!

Onegevity analyzed specific beneficial bacteria that are linked with commonly consumed probiotics. Your test results indicate suboptimal levels of one or more key beneficial bacteria in your gut.

The number of microbes that comprise the human microbiome is fairly fixed - there can only be so many troops on the battlefield - so the more good microbes you can introduce, the stronger the front line gets!

The good news is you can increase the numbers of these beneficial microbes by consuming probiotics.

#### The biggest contributors:

#### **Bifidobacterium family**

In the colon, members of the Bifidobacterium family are among the most predominant "friendly" bacteria. These bacteria are among the first microbes to colonize the intestinal tract of an infant. Low levels of Bifidobacterium have been found in individuals with irritable bowel syndrome (IBS), particularly those with diarrhea. Various Bifidobacterium species can crowd out pathogenic ("bad") bacteria by competing for binding sites on the walls of the intestines.

#### Lactobacillus family

The Lactobacillus family contains lactic acid producing bacteria that have beneficial effects in the human GI tract. They make up a large portion of the beneficial bacteria that normally inhabit our intestines. They protect the body from invasion of pathogenic microbes while we provide nutrients for their growth and development — it's a mutually beneficial relationship.

#### Lactobacillus plantarum

• Naturally occurring strains of *L. plantarum* can inhibit or block pathogenic bacteria like *Helicobacter pylori*, which is involved in gastritis and ulcers.

#### Lactobacillus acidophilus

• *L. acidophilus* inhibits the growth of pathogenic bacteria, such as *Salmonella, Listeria, and Campylobacter*.

#### Lactobacillus paracasei

• *L. paracasei* is naturally present in the GI tract and provides antimicrobial effects against common pathogens that affect oral health, including gingivitis.

#### Lactobacillus gasseri

- Naturally occurring strains of *L. gasseri* can inhibit pathogenic bacteria like *Salmonella, Listeria, Campylobacter, or Helicobacter pylori* and block the attachment of *E. coli* to the wall of the GI tract.
- High levels of *L. gasseri* also aid energy metabolism, so might provide benefit for maintaining a healthy weight.

### Probiotics

•	Species	Bifidobacterium longum
-	Species	Lactobacillus gasseri
-	Species	Lactobacillus acidophilus
-	Species	Lactobacillus plantarum
-	Species	Lactobacillus paracasei
-	Species	Bacillus coagulans
-	Strain	Bifidobacterium lactis
-	Species	Saccharomyces boulardii
-	Species	Bifidobacterium bifidum

Indicates number of bacteria found is in the optimal range.

Indicates moderately low levels of this bacteria were found.

Indicates low levels of this bacteria were found.

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#### Pathogen Screening: Normal

Good news - no known pathogens were found in your sample!

Pathogens are bacteria, viruses, and parasites that can cause disease. Most of the bacteria in your gut are not pathogenic—in fact, less than 100 species of identified bacteria are linked to infectious diseases. There are tens of thousands of other bacterial species in the gut that are mostly harmless, or even beneficial!

Pathogens can wreak havoc in the gut--contributing to inflammation that can result in symptoms like pain or diarrhea. In addition, pathogens can damage your intestinal lining, making it more prone to leaking, which could result in food allergies and other adverse conditions.

#### How do pathogens enter the body?

There are four primary routes of entry into one's body.

- 1. **Contact:** Pathogens can be spread by direct or indirect contact. If an infected person touches a surface, for example, a doorknob, the pathogens that are left behind can be transferred to another person.
- 2. Airborne Transmission: Airborne pathogens can enter the body through the mouth or nose when a person is breathing.
- 3. Food/Water: Contaminated food and water are common vehicles for spreading pathogens. Once ingested, the pathogens enter the digestive tract.
- 4. Vectors: Organisms such as fleas, mites, and mosquitos can transmit pathogens directly into the bloodstream.

### Pathogen Screening: NORMAL

Expand each of the below pathogen categories below to learn more.

	Negative	Bacteria	Escherichia coli
•	Negative	Parasite	Cryptosporidium
	Negative	Bacteria	Vibrio cholerae
	Negative	Parasite	Giardia lamblia
	Negative	Parasite	Entamoeba histolytica
	Negative	Bacteria	Clostridium difficile
	Negative	Bacteria	Salmonella enterica
	Negative	Bacteria	Campylobacter
	Negative	Bacteria	Helicobacter pylori

#### Results. Reystone Phyla

Phylum is the taxonomical classification just below kingdom. Regarding bacteria classification, phyla represent a broad overview of multiple bacterial species. By looking at bacteria at the phyla level, we can obtain a broad understanding of the breakdown of the various bacterial species that make up your gut microbiome.

Just two phyla account for almost 90 percent of most human fecal microbiomes: Firmicutes and Bacteroidetes.

The Firmicutes/Bacteroidetes ratio (F:B ratio) is one of the most studied portions of the human microbiome. Typical ratios are between 0.1 and 2.2, and various scientific papers have identified healthy ranges upward of 10.

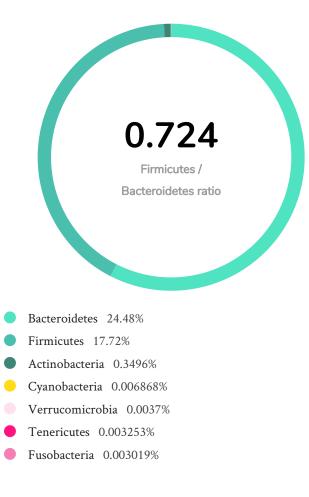
An individual's F:B ratio is highly dependent on their diet and lifestyle factors. In the early days of microbiome studies, F:B ratios were associated with many concerning health conditions, like obesity and metabolic syndrome. A high F:B ratio posed a greater risk of obesity. As the field advances, we still look at the F:B ratio as a baseline measure, but we can add to this understanding with particular bacterial strains and species that may have even more profound consequences.

We are providing this overview as a reference for those who are curious about it, and because some health-care practitioners are still interested in knowing a patient's F:B ratio. Take a deep dive in your specific species by downloading your full community breakdown.

#### The Keystone Phyla

- **Firmicutes** species can efficiently extract energy from food and can help with digesting dietary fats; however, their proportion in the microbiome increases when eating more saturated fats and sugars—to digest them. Elevated Firmicutes levels alone or as a result of a diet high in saturated fats and sugars have been associated with an increased risk of weight gain.
- Bacteroidetes species have many genes that effectively digest carbohydrates through fermentation, which occurs to the cellulose (polysaccharide or carbohydrate source) from plants, and dietary fiber from the foods we eat.
- Although **Proteobacteria** are found in smaller numbers, they have a robust capacity for different metabolic functions. Proteobacteria can be an explanation for metabolic differences between you and someone else, in some cases even more so than Firmicutes and Bacteroidetes.
- Actinobacteria (which include Bifidobacterium), Verrucomicrobia (which include *Akkermansia*) and others are in even lower numbers in healthy gut microbiota, but they can have links to many potential health outcomes.

### Keystone Phyla



#### Results: Breakdown

Most of the cells and DNA found in a stool sample come from microorganisms such as bacteria, archaea, viruses, and other organisms that come from animals, plants, and fungi. These DNA fragments are compared and matched to the known DNA sequences to identify which species are in your gut.

Keep in mind, studies have found that almost half of the DNA in the gut microbiome come from previously uncharacterized species. Since these species are unclassified, scientists don't yet know the impact of such bacteria.

Archaeal species found in the human gut microbiome are primarily from the *Methanobacteriaceae* genus. These archaeal species, known as methanogens, are believed to help in the process of breaking down carbohydrates and turning excess hydrogen molecules into methane. No archaeal species are associated with human disease to date.

Although you may be surprised to find out that there are viruses in your microbiome, most are believed to be components of a healthy microbiome because they provide evolutionary advantages to other microbes.

#### **Unique Species - Your DNA**

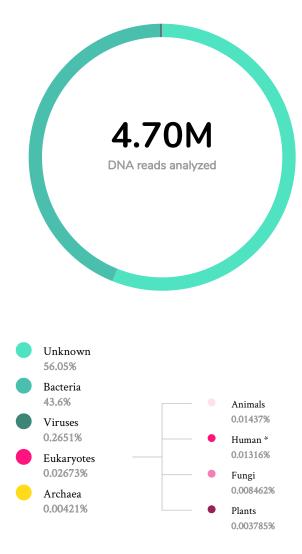
Interestingly, some of the DNA in your stool comes from your own body. Your DNA enters your stool sample from the cells that line your intestinal tract. Those cells die and are replenished naturally, so a small amount of human DNA is always expected in a stool sample. Normal levels range between 0.01- 0.1 percent.

There may be higher levels of human DNA in the stool when the cells of the intestinal tract turn over at a faster-than-normal rate. Higher levels of human DNA in the stool have been associated with various gut health concerns, such as an increased risk of *Clostridium difficile* infection (CDI), ulcers, intestinal permeability, and increased inflammatory response.

#### Unique Species - Unknown

One of the most exciting aspects of the microbiome is the previously uncharacterized species in your stool. Although we don't yet know the role of these species, what we identify in your microbiome today might one day play an important role in human health, as research is advancing our understandings every day.

### Community Breakdown



\*Human DNA Content: Optimal

# B-Complex #12

Because your test results indicate you are low in one or more of the following B vitamins - vitamin B3 (niacin/niacinamide), vitamin B6, folate, or vitamin B12 - we recommend a B complex supplement, **B-Complex #12**. These vitamins are all provided in their most active, tissue-ready forms in this product. A nutritional supplement that contains these active cofactors is optimally used by the body, ensuring the body gets the nutrients it needs.\*

**B-Complex #12** includes eight water-soluble B vitamins: thiamin (vitamin B1); riboflavin/riboflavin 5'-phosphate (vitamin B2); niacinamide (vitamin B3);<sup>1</sup> pantothenic acid (vitamin B5); pyridoxine/pyridoxal 5'-phosphate (vitamin B6);<sup>2</sup> methyl- and adenosylcobalamin (vitamin B12);<sup>3</sup> folinic acid and 5-MTHF (folate);<sup>4</sup> and biotin; plus choline. Although each B vitamin is chemically distinct, the vitamins often work synergistically in various biochemical functions throughout the body - from cellular energy production, to healthy red blood cell formation, to healthy neurological function.\*

# Thorne B-Complex #12



\$18.00

# EnteroMend

**EnteroMend®** helps maintain a healthy inflammatory response in the GI tract, soothes the GI tract's mucus membranes, and supports colonic permeability and bowel regularity.\* It combines the mucosa-protective effects of L-glutamine with highly-absorbable botanical complexes.\*

So what do each of Enteromend's ingredients do? Let's look at the ingredients and the science.

Boswellia phytosome (Casperome®) is a unique Boswellia extract bound to phosphatidylcholine for enhanced absorption. \*A study comparing Casperome to the same Boswellia extract not complexed with phosphatidylcholine, found 7-fold higher plasma levels of 11-keto- $\beta$ -boswellic acid (KBA) and 3-fold higher plasma levels of  $\beta$ -boswellic acid ( $\beta$ BA) when the Boswellia phytosome was consumed.\*<sup>1</sup> A study of Casperome in individuals with ulcerative colitis in remission found it helped maintain remission better than no supplementation.<sup>2</sup>

Curcumin phytosome (Meriva®) is a unique curcumin extract bound to phosphatidylcholine for enhanced absorption.\* A randomized, crossover study compared plasma levels of curcuminoids from curcumin complexed with phosphatidylcholine (Meriva) to non-complexed curcumin. The total plasma curcuminoid level from Meriva was 29 times higher than the non-complexed curcumin.\*<sup>3</sup>

In an experimental mouse model, curcumin phytosome (Meriva) exerted a relaxant effect on the muscles of the ileum and colon.<sup>4,5</sup> Curcumin has been shown to modulate the gut-brain axis to help maintain normal neurotransmitter levels in IBS.<sup>6</sup>

Aloe vera (DaltonMax 700®) is a unique, 200:1-potency aloe extract without a laxative effect.\*

DaltonMax 700 is organic and is taken only from the inner gel of the aloe plant. It does not contain any other portions of the plant that can cause gastric upset or have a laxative effect. It's solvent-free, and its low-heat dehydration preserves its active ingredients. Research supports aloe vera's GI-protective effects.<sup>\*7,8</sup>

Partially hydrolyzed guar gum (PHGG) - Sunfiber® - increases the level of the short-chain fatty acid butyric acid (butyrate) in the colon.\* Butyrate is the primary fuel for the colonocytes in the large intestine and is produced in the colon by the fermentation of fiber, including guar gum. Butyrate is essential for helping to maintain healthy intestinal function.\* In a study of PHGG compared to wheat bran, both significantly improved bowel habits in individuals with IBS, although fewer side effects and patient preference was reported for PHGG.\*<sup>9</sup> Another study reported that consuming PHGG resulted in improved quality of life in individuals with IBS.<sup>10</sup>\*

In addition to being the main fuel for enterocytes in the small intestine, glutamine also joins butyrate as a fuel source for the colonocytes that line the colon.\* Similar to the small intestine, the large intestine can become hyperpermeable, and L-glutamine has been shown to ameliorate gut barrier dysfunction in the colonic epithelium.\*<sup>11</sup>

# Thorne EnteroMend



\$42.00

# FloraMend Prime Probiotic

Because you have low levels of at least one of the beneficial bacterial strains in **FloraMend Prime Probiotic®**, we recommend this particular probiotic supplement. **FloraMend Prime Probiotic** contains three strains of beneficial bacteria (*Lactobacillus gasseri* KS-13, *Bifidobacterium bifidum* G9-1, and *Bifidobacterium longum* MM-2) that normally inhabit the GI tract and can help restore beneficial bacteria when you are low in one or more of the probiotics in this formula. Because these strains are normally found in the human gut, they are more stable (i.e., they are destroyed less easily) and they adhere more strongly to the walls of the intestines - which translates to greater benefit.\* The probiotics in **FloraMend** require no refrigeration and are provided in a capsule that resists destruction by stomach acid. Lactobacilli and Bifidobacterium are commonly found in fermented or cultured foods like yogurt.

In addition to providing a healthy balance of beneficial GI and vaginal flora, probiotics can improve nutrient absorption.\* The strains of bacteria in **FloraMend** have also been shown to support immune function during cold and flu season and improve quality of life for seasonal allergy sufferers.\*

*B. bifidum* and *B. longum* have been shown to enhance the absorption of calcium, magnesium, and phosphorus,<sup>1</sup> all essential minerals for maintaining healthy bones.\*

In a double-blind, randomized, controlled trial of 479 healthy adults, the daily intake of the probiotic strains found in **FloraMend Prime Probiotic** over a 3-month period provided significant nutritional support for individuals having episodes of the common cold.\*<sup>2</sup>

In another double-blind, placebo-controlled study, 173 individuals suffering from nasal symptoms related to seasonal allergies were given either capsules of the exact probiotic strains in **FloraMend Prime Probiotic** or a placebo for eight weeks during spring allergy season. The participants who took the probiotic blend scored significantly better on a quality of life questionnaire than those who took a placebo.<sup>\*3</sup>





# FiberMend

Fiber intake is essential for promoting regular bowel movements.\* **FiberMend®** is a prebiotic fiber formula that stimulates the growth of beneficial bacteria in the GI tract.\* It combines Sunfiber® - a partially hydrolyzed (predigested by enzymes) guar gum fiber - with rice bran, larch arabinogalactans, apple pectin, and green tea phytosome in a water-soluble blend that helps maintain healthy glycemic control (i.e., healthy blood sugar levels) and promotes regularity and optimal digestive function.\*

Although the use of fiber to help improve bowel regularity is well-known and well-researched, some fibers may be more effective than others.

A review of studies that looked at fiber for either chronic constipation or irritable bowel syndrome with constipation (IBS-C) found that fiber was beneficial in five of seven studies on its effect on chronic constipation and three of three studies in IBS-C.<sup>1</sup>

Research supports the use of partially hydrolyzed guar gum (PHGG) in the form of Sunfiber (a primary component of **FiberMend**) for nutritional support in IBS-C. In one study of 68 men and women with constipation associated with IBS, PHGG for four weeks resulted in significant improvement in bowel transit time, number of evacuations, stool consistency, number of incomplete evacuations, and symptoms of gas and bloating.<sup>2</sup>

In a small study of 15 women with an average of 2.8 bowel movements per week, PHGG significantly increased the number of bowel movements and moisture content after two weeks.<sup>3</sup>

Thorne FiberMend



\$38.00

Exercise is an effective way to manage body weight, stress levels, mood, sleep patterns, and more. Exercising from an early age promotes optimal development of brain function by promoting health-enhancing microbial species. Studies investigating the connection between exercise and the microbiome have found numerous positive outcomes. Including, but not limited to:

- Enhancement of beneficial microbial species
- Enrichment of microflora diversity
- Improvement of the development of mutually beneficial bacteria

Interestingly, these outcomes are independent of the diet an individual consumes.

In general, exercise can reduce the inflammatory accumulation of foreign species while protecting gut function and maintaining the integrity of the intestinal lining. Studies have found exercise is associated with phyla increases in the gut of Firmicutes and decreases in Bacteroidetes, benefitting metabolism efficiency and modulating body weight and BMI. Similarly, bacteria *B. coccoides* and *E. rectal* can increase with exercise and help synthesize butyrate, a short-chain fatty acid that plays promotes energy production and protects the gut lining. All these effects are beneficial and are associated with improved metabolic function, immune function, and improved health status.

While more research is needed for specific types of exercise, duration, intensities, and time, we already know that low-intensity exercises improve transient stool time, meaning there is less contact time between pathogens in the stool and the gastrointestinal mucus layer.

- Low-intensity exercise is associated with less risk of colon cancer, diverticulitis, and inflammatory bowel disease.
- Research suggests higher cardiorespiratory fitness levels are associated with better gut diversity levels too. Therefore, highintensity interval training and other exercises that can increase the ability of your heart, lungs, and muscles working together can also benefit your gut health.
- Too much endurance exercise may negative effects that can last for a few days or longer. Prolonged endurance exercise may cause an increase of intestinal permeability or leaking, compromising gut-barrier function and resulting in bacterial translocation from the colon to the bloodstream. Maintaining healthy gut cells through exercise training is crucial in helping avoid any negative consequences of exercise.

Our recommendation is to start and continue an exercise plan that works for you.

\* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.