



dōTERRA® | eBooks

# ProBiome

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# Welcome

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## Your Microbiome Talks, So Join the Conversation

Human beings have evolved alongside trillions of tiny organisms called microbes. In fact, scientists estimate there are at least as many microbes in your body as there are human cells!

These microbial communities are called microbiomes. Your microbiome functions like a huge, invisible organ that influences every aspect of your health. You may have heard about the gut microbiome, but your microbiome involves more than just the digestive system. It exists throughout your body, including the skin, mouth, eyes, ears, nose, lungs, kidneys, urinary tract, reproductive system—basically anywhere that has contact with the outside world. Each microbial community communicates with and helps support your cells and vital organs and is foundational for systemic health.

However, disruptions in your microbiome can negatively impact your health. Lifestyle factors such as diet, stress, sleep, activity level, and environmental influences all affect your microbial communities for better or worse.

Welcome to the dōTERRA ProBiome Product Course! In this course, you'll learn more about the integrated nature of a healthy microbiome and a healthy you. We'll dive into the recent advances in microbiome science and unravel the complex ecosystem of the microorganisms within you, as well as their profound impact on digestive, immune, metabolic, and mental health.

Most importantly, we'll discuss what you can do to encourage a healthy, thriving, and diverse microbiome in your gut and beyond. A vibrant microbiome is completely within your reach. By understanding how it works, adopting habits that are friendly to it, and a little help from dōTERRA ProBiome products, you can unlock the potential for improved overall health and vitality.

**Macro change starts with your microbiome.**



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# Your Microbiome and Health

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## A Vibrant Garden

A vibrant garden is a beautiful place with a variety of plants, flowers, and insects. Your microbiome is similar to a garden, where the bacteria, viruses, and fungi are like different plants and insects. Just like a healthy garden needs a good balance of plants and insects to thrive, your body needs a diverse and balanced microbiome to stay healthy.

Your microbiome plays an incredibly important role in your health. The gut microbiome helps you digest food and absorb nutrients, just like how a team of microbial gardeners breaks down dead leaves and helps the plants get the nutrients they need from the soil. The gut microbiome also helps protect your body from harmful invaders, like how a fence around a garden keeps out unwanted pests.

However, just like how a garden can get out of balance if there's just one type of one plant or too many insects, your microbiome can also become unbalanced. Factors like a poor diet, stress, or even some medicines can disrupt the balance of your microbiome, leading to health issues. So it's important to take care of your microbiome by eating a diverse and healthy diet, getting enough sleep, and managing stress. Think of it as tending to a garden by giving it water, exposing it to sunlight, and removing weeds. When you take care of your microbiome, it helps you stay healthy, just like a well-tended garden blossoms with vibrant flowers and abundant life.

Microbiomes are their own ecosystems. They're sensitive to temperature, pH, nutrients, and environmental influences. Healthy microbiomes have more good microbes—sometimes called flora—than bad, but there's more to it than just numbers. Like a garden, your microbiome requires diversity to thrive. Diverse microbiomes are more resilient at handling stressors and adapting quickly to changing circumstances. You need a variety of microbes to metabolize food and supplements, produce

important signaling messages, and assist the immune system, among other crucial functions.

If you take care of your microbiome, it'll take care of you. When you tend to it like a garden, you'll get a higher yield of the good and weed out the bad. What that means is pathogens or problematic microorganisms—the ones you don't want—will have trouble colonizing or infecting you if the good bacteria is filling up the garden's planter boxes. There's simply no room for the pathogens to land, colonize, and infect.

That's just one example of how a well-cared-for microbiome takes care of you. We know the microbiome has several critical health functions, including immunity, digestion, energy metabolism, sleep, brain and heart support, and healthy weight maintenance. Multiple studies have shown disruptions to your microbiome may contribute to metabolism issues.



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# Your Microbiome and Health

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You may be wondering, if your microbiome is so important, why you haven't learned more about it before. Studying and understanding the microbiome has been a slow, complex process. Your microbiome is like your fingerprint. It's unique from animals and even other human beings. Your microbiome is intricate, adaptable, and mysterious. It's huge in scope yet minuscule in visibility. So it's not surprising that we still don't fully understand it.

But we've learned so much in recent years through cutting-edge research techniques about the microbiome and its impact on health and wellness. New results arrive almost every day, making it hard to come up with actionable recommendations from every finding. While we wait for new developments, it's important to implement what we do know and understand about the microbiome, because the impact on systemic health and wellness can be massive.



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# Your Microbiome and Health

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## Your Microbiome Is More than the Gut

In today's world, words like bacteria or virus have negative connotations. You hear about sicknesses that pathogens can infect your body with, and it makes you want to sanitize every hour and steer clear of touching something when you don't know where it's been.

But not all bacteria and viruses are bad for us; in fact, many are essential for your health. When you support a healthy microbiome, your body becomes much better at determining which ones are good and bad. Your body contains more bacterial and fungal cells than human cells. That's right. You're more microbe than human!

Just like different natural habitats, your body has various niches where microbes reside. These niches include your skin, mouth, gut, and other mucous membranes. No matter where you look in the body, you'll find communities of these tiny organisms living there. Healthy fungi, bacteria, and viruses coexist with you—you're like their life raft.

The organisms in your microbiome live better as a community than individually, meaning they depend on each other. The balance species strike within and without microbial communities has been shown to be highly beneficial to your health and wellness. Researchers agree a diverse microbiome is a healthy microbiome. Going back to the garden analogy, can you imagine if you lived on a planet that only grew one type of food? Not only would it be terribly boring, but it'd also negatively impact your health.

Unfortunately, lack of food diversity isn't just a hypothetical problem—it's affecting your microbiome now. According to the Food and Agricultural Organization of the United Nations, 75% of plant genetic diversity has been lost as farmers worldwide have left multiple local varieties for genetically

uniform, high-yielding crops. Of the 250,000 to 300,000 known edible plant species, humans only use 150 to 200. Today, 75% of the world's food is generated from only 12 plants and five animal species! Modern food systems effectively starve your microbiome of the diversity it needs to thrive!

Research confirms that cultivating a wide array of microbes in your gut makes your microbiome more capable and resilient. If one microbe can't fulfill its function in your body's microbiome, another can step in and take its place. Starting from the top of your head, let's run through your different bodily organs and summarize how the microbiome affects, and is affected by, those organs.

The brain is a central processing unit, meaning everything you encounter is processed by it, organized into patterns, and then distributed as signals to the rest of your body. Did you know a link of short-chain fatty acids connect your brain and gut? Thanks to the ecosystem of microbes that live and communicate along this chain, scientists have determined your gut health affects your mood, cognition, mental health, and even pain sensitivity. When you feel stressed, your gut knows it and reacts. Be sure to watch an upcoming video with Dr. Nicole Stevens, who shares how probiotic bacteria act as tiny factories to produce these important short-chain fatty acids that fuel the gut-brain axis.

Your skin is a physical barrier that protects you against foreign pathogens, but it would have a hard time doing so without a team of diverse microbiota that colonize your skin, eyes, ears, and—for women—reproductive tract. Like the microbiota in your gut, these essential microorganisms protect and educate your immune system.

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# Your Microbiome and Health

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Next, let's discuss your nose, sinuses, and lungs. They're integral to your immune health. While you only eat three to five times a day, you breathe 10 to 20 times a minute. Each breath introduces new bacteria, fungi, yeast, and protozoa into your internal environment. While that sounds scary, your immune system handles millions of interactions every day. Many interactions are with microorganisms, and not all are harmful.

Your dentist has probably told you about all the harmful bacteria that can reside in your mouth. Your mouth is an ideal environment for microorganism growth and is distinct from your gut and skin microbiomes. If you want your oral microbiome to be healthy, drink plenty of water, get your essential nutrients, and maintain a moderate temperature. You'll also want to pay attention to the ingredients in your oral care products. Recent groundbreaking research has linked regular use of alcohol-based mouthwash, which disrupts the oral microbiome, and sugar metabolism problems. The research shows a 4.5-fold increase in sugar metabolism issues in people who regularly use alcohol-based mouthwash! Aside from being alarming, this connection demonstrates the types of research you can expect in the near future, validating the interconnectivity between your microbiome and health.

Now, we come to the body's powerhouse—your gut. The microbial communities in your stomach, small and large intestines, liver and colon all play important roles in bodily health and must function properly for everyday well-being. Your gut microbiome helps decide which nutrients to keep and use and which to dispose of. It can even determine how your food impacts your genes!

Your microbiome serves as a sensor for your external environment and a communication network within your body. I mentioned the gut-brain connection earlier, referring to how your gut microbiome communicates with the brain in what scientists call bidirectional axes. Well, there's also a connection between your oral microbiome and the brain. Throughout your body, your microbiome communicates with your tissues and organs and receives information from other microbial communities.

Something you need to understand about your microbiome is it changes as you age. Your microbiome undergoes rapid development as a baby and toddler. Microflora colonization of the GI tract begins at birth. Within a few days, a complex microbial ecosystem is established. Within a month, a newborn's microflora is predominantly composed of Lactobacilli and Bifidobacteria. Within one to two years, the microflora resembles that of a young adult. This rate of colonization is astounding!

This early period of rapid growth and development is followed by relative stability through most of early adulthood. But your microbiome is never static. By the time you reach 60 years old, your gut microbiome isn't the same. The microbial communities become less diverse, and beneficial microbes—like Lactobacillus and Bifidobacterium—lose ground. Instead, there's an increase in enterobacteria populations. These opportunistic bacteria will cause infection when given the opportunity. Many researchers are studying the role of the microbiome in the aging process.

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# When You Care for Your Microbiome, It Cares for You

## Foundational Lifestyle Habits for a Healthy Microbiome

The diversity of your microflora declines as you age. This fact is important because a healthy, thriving microbiome (and, consequently, a healthy, thriving you) requires the right mix of bacteria, proper nutrients, and resilience to handle changes. It's important to proactively care for and support your microbiome so it can do its vital work.

The good news is healthy lifestyle habits promote a healthy microbiome, which in turn supports healthy aging. Scientists have discovered gut microbiome patterns are different in elderly adults who exercise and eat well. Those with healthy microbiomes tend to live longer, healthier lives as well! So if you take care of your microbiome, especially as you age, it'll take care of you.

What healthy lifestyle habits promote healthy microbiomes? They're the same healthy lifestyle habits that promote wellness in nearly every other aspect of life: a balanced and nutritious diet, exercise, and plenty of restful sleep.

The foundation of the dōTERRA Wellness Pyramid—nutrition and digestion—is also the foundation of microbiome support. Your microbiome is healthiest when you eat a balanced diet with a variety of whole foods, especially raw fruits and vegetables and fermented foods like kimchi, sauerkraut, and kefir. You should also stay away from processed foods. Research has shown fast food can decrease the number and variability of bacteria in your gut, which can lead to weight challenges.



Next is movement and metabolism. Exercising sufficiently and caring for your metabolic health reaps rewards for your microbial communities. Studies suggest exercise enhances and encourages microbiome diversity. In turn, your gut microbiome plays an important role in metabolic health. You can stack your metabolic hacks!

You need to also rest and manage your stress to support healthy flora. Though simple and easy to overlook, sleep affects nearly every aspect of your health, just like your microbiome! Prioritizing sleep and stress management while working on the health of your microbiome will create a positive feedback loop for both areas.

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# When You Care for Your Microbiome, It Cares for You

As you consider how to engage in informed self-care for yourself and your family, limit heavy sanitization.

Sanitizers can protect against pathogens, but the purpose of your microbiome is to help your body take care of itself. Disinfecting every corner and crevice of your life can prevent your friendly microbes from thriving and halt information that could be essential to optimal bodily function. The most common sanitizers are for your hands. While sometimes you do want to sterilize your hands, doing so on a regular basis clears off both the unhealthy and healthy microbes, leaving space for anything to move there without competing microbes. I always recommend using simple soap, such as dōTERRA On Guard® Foaming Hand Wash, and water to wash your hands, which cleans but doesn't necessarily sterilize.

In addition to stacking these healthy habits, you can support your microbiome with smart supplementation. Thoughtful, high-quality supplementation can help you fill in nutritional gaps so your human and microbial cells have everything they need to thrive. From vitamins and minerals to digestive enzymes and beyond, dōTERRA has supplementation solutions that are made with natural, whole-food sources and optimized for absorption. You can also supplement your microbiome directly with pre-, pro-, and postbiotics and bacteriophages.

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# How to Choose and Use a Quality Microbiome Supplement

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## Defining the Four Ps of ProBiome

There are four Ps to being "pro" biome: prebiotics, probiotics, postbiotics, and 'phages, which is short for bacteriophages. Let's define what each of those are.



### Prebiotics

Prebiotics aren't the same as probiotics. Prebiotics refers to dietary substances that favor the growth of probiotics, or beneficial bacteria. A simple way to think of prebiotics is the food (or fuel) for probiotics. Prebiotics are selectively fermented by commensal probiotic bacteria to produce short-chain fatty acids—acetate, propionate, and butyrate.



### Probiotics

Probiotics are live microorganisms that confer health benefits to the host when administered in adequate amounts. Probiotics directly compete with pathogenic bacteria for epithelial binding sites on cells and within the gut's mucus layer to support gut barrier integrity. For a probiotic to be effective, it must survive and resist gastric, bile, and pancreatic secretions; attach to the epithelial cells; and colonize the intestines. People worldwide have consumed probiotic cultures for thousands of years in cultured yogurt or kefir and in fermented vegetables like sauerkraut and soybeans. More recently, people have come to appreciate the benefits of daily supplementation with quality microbiome support.

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Probiotic bacteria function like tiny factories within your body to produce beneficial nutrients, such as folate; vitamins B1, B2, and B12; and more.

Probiotics are also like tiny superheroes that can help you with a variety of mechanisms. For example:

- They use teamwork or direct combination, working together and combining their efforts to be more effective.
- They can protect you via competitive exclusion, competing with bad bacteria and crowding them out so they don't take over and cause trouble.
- They can secrete antimicrobial compounds, which are like germ-fighting weapons that keep you healthy.
- They interact with the host, being friendly with the microbial communities already present in your microbiome.
- They enhance the epithelial barrier, strengthening the walls of your gut to ensure gut barrier integrity.
- They support your natural defense system, modulating the immune system to strengthen your natural immunity.
- They assist your body with absorbing important electrolytes and nutrients from the food you eat.
- They're beneficial for modulating gut mobility, helping with smooth bowel movements and preventing problems like constipation.

Probiotics have also been shown to be effective at altering pain sensations, which can help reduce how much pain you feel from stomach upset or similar maladies.

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## Postbiotics

Simply put, postbiotics are helpful substances made by probiotics that deliver benefits long after the probiotics have passed through the digestive tract. When probiotics or existing healthy gut bacteria eat prebiotic fiber, they create good stuff—postbiotics, which are also known as metabolites. In fact, when you take prebiotics or probiotics, your end goal is to create postbiotics!

Examples of these helpful substances are short-chain fatty acids, bioavailable vitamins and amino acids, peptides, enzymes, quorum-sensing molecules, indole, GABA, dopamine and other neurotransmitters, and more.

Postbiotics have five mechanisms that support your health:

1. Modulation of resident microbiota
2. Enhancement of epithelial barrier function
3. Modulation of systemic and localized immune responses
4. Modulation of systemic metabolic responses
5. Systemic signaling via the nervous system

As you can see, postbiotics are the quiet heroes of the microbiome story!



## 'Phages

There's one more term you need to know: bacteriophages (or 'phages). Bacteriophages are a natural part of the human gastrointestinal system. They're often found in great amounts, similar to bacteria in the gut. But bacteriophages aren't actually bacteria. They're healthy viruses that infect and eliminate specific pathogenic bacteria. The specificity of bacteriophages allows them to selectively target harmful pathogens, and leave beneficial microbes to flourish. The use of bacteriophages as medicine was common in Europe prior to the discovery of antibiotics. Bacteriophages are particularly beneficial when they are used in combination with probiotics.

Bacteriophages are abundant in nature. They're found in sea water, soil, fermented food, and people! In fact, you have 10 times more bacteriophages in your body than bacteria. After over 90 years of investigation on phages along with their interactions with eukaryotic cells including human and animal cells, scientists have not found any evidence regarding the harmful or negative effect on your health.

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## To summarize:

- Prebiotics are fibrous nutrients that promote the growth of beneficial microbes as food for probiotics.
- Probiotics are beneficial living microorganisms (healthy flora or bacteria) that support and build flourishing flora colonies when ingested.
- Postbiotics are what come from probiotics or existing healthy gut microbes eating prebiotic fiber and creating metabolites that continue providing multiple benefits, even after probiotics are done with their work. Your body uses postbiotic metabolites to produce a wide range of compounds that support cellular, organ, and general health functions.
- Phages are healthy viruses that help support and protect your cells and healthy flora by targeting and eliminating harmful pathogenic bacteria.



# How to Choose and Use a Quality Microbiome Supplement



## How to Choose a Quality Microbiome Supplement

With all the well-deserved attention the gut microbiome has received in recent years, it's likely you've heard of probiotic supplements. You may already be taking one. But like all supplements, they aren't all created equal. One of the biggest challenges for consumers is there are huge differences in standards and quality among supplements.

How do you choose a high-quality supplement for your microbiome? Let me tell you a little secret—there's a lot more to consider than just a high CFU count! Here are five factors to help you evaluate the quality of any microbiome supplement, including ones from dōTERRA.

## 1. Strains and Species

Have you ever looked at the supplement facts on a probiotic supplement and wondered what all those names and numbers mean? The names refer to the bacteria species, while the numbers next to the name refer to a specific strain within the species.

As Dr. Osguthorpe, Dr. Riggs, and Dr. Stevens all said, microbial diversity matters a lot! So you want a microbiome supplement with multiple strains and species—far more than one, two, or even a few.

You also want more than just probiotics in your supplement. For example, prebiotics are vital because they're like food for probiotics, fueling their growth and survival and ultimately serving the creation of metabolites, as Dr. Stevens explained.

Finally, make sure your supplement is gluten- and sugar-free so you avoid feeding unhealthy bacteria.

## Supplement Facts

Serving Size 1 Sachet  
Servings Per Container 30

Amount Per Serving	% DV
<b>PB Assist+ ProBiome Complex:</b> (7 Billion AFU Live Cells)*	220 mg
Prebiotic: Fructooligosaccharides	
Probiotics:	
<i>Bifidobacterium lactis</i> BS01	
<i>Lactobacillus rhamnosus</i> GG	
<i>Lactobacillus rhamnosus</i> LR06	
<i>Lactobacillus plantarum</i> LP01	
<i>Lactobacillus plantarum</i> LP02	
<i>Bifidobacterium breve</i> BR03	
<i>Lactobacillus rhamnosus</i> LR04	
<i>Bifidobacterium longum</i> 04	
<i>Bifidobacterium breve</i> B632	
<i>Bifidobacterium lactis</i> BS05	
<i>Streptococcus thermophilus</i> FP4	
<i>Lactobacillus reuteri</i> LRE02	
<i>Lactobacillus salivarius</i> subsp. <i>salivarius</i> CRL1328	

\*Daily Value not established.

**Other Ingredients:** Xylitol, Citric Acid, Gum Arabic, Glycerin Fatty Acids, Silicon Dioxide, Natural Flavors

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# How to Choose and Use a Quality Microbiome Supplement

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## 2. Origin

Consider the origin of the strains used in your probiotic supplement. Are they from natural sources like humans, animals, soil, and roots? Bacteria are all around you! Just exposing yourself daily to the greater biome outdoors is a wonderful way to nurture your microbiome health.

When we at dōTERRA selected strains and species for our new microbiome products, we intentionally combined a variety of natural sources, focusing on strains from human origin.

Before we define what a human origin strain is, let's set the record straight on one critical issue. Some of our microbial strains are human origin, but we do not collect them from humans, nor do they contain any human byproducts.

Human origin refers to the ability of these bacteria to grow within your body and are widely considered to be the premium source for microbiome supplements. There are trillions of bacteria types on the planet, and human origin strains have co-evolved alongside people. We give them a place to live, and they provide us with health benefits.



# How to Choose and Use a Quality Microbiome Supplement

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## **dōTERRA PB Restore™ offers 19 human origin strains:**

*Bifidobacterium bifidum* SP 9  
*B. breve* Bbr8  
*B. animalis ssp. lactis* BLC1  
*Lactobacillus acidophilus* LA1  
*L. casei* BGP 93  
*L. fermentum* CS57  
*L. helveticus* SP 27  
*L. paracasei* BGP 2  
*L. paracasei* IMC 502  
*L. reuteri* LR92  
*L. rhamnosus* SP 1  
*L. rhamnosus* LB21  
*L. rhamnosus* IMC 501  
*Enterococcus faecium* SF68  
*Streptococcus thermophilus* SP 4  
*L. crispatus* SP 28  
*B. longum ssp. infantis* SP 37  
*B. longum ssp. longum* SP 54  
*L. gasseri* SP33



## **PB Assist+® offers five human origin strains:**

*Bifidobacterium animalis ssp. lactis* BS 01  
*B. breve* BR 03  
*Lactobacillus plantarum* LP 01  
*L. salivarius* CRL 1328  
*L. rhamnosus* GG (LGG), ATCC 53103

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## **Some strains are sourced from food and plants.**

### **dōTERRA PB Restore offers three food origin strains:**

*Lactobacillus brevis* SP 48  
*L. delbrueckii ssp. bulgaricus* LB2  
*Lactococcus lactis ssp. lactis* SP38

### **dōTERRA PB Restore offers one plant origin strain:**

*Lactobacillus plantarum* 14D

Finally, we've included a single animal origin strain, which has been isolated from animal cultures. Just like human origin strains, we do not collect this microbial strain from animals, nor does it contain any animal byproducts.



# How to Choose and Use a Quality Microbiome Supplement

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## 3. Potency

With probiotic supplements, you want them to be alive when you take them. It's vital you ensure the product you choose contains active, live bacteria cultures and the life of the strains is guaranteed at time of use rather than at time of manufacture.

Colony-forming units (CFU) count in supplements indicates the number of live cell bacteria. However, buyer beware! Some companies can be misleading, advertising their CFU "at time of manufacture" rather than giving a shelf-life commitment. It's a mischievous way to label their products with a higher CFU count than you're actually getting at time of use, so keep an eye out for that and avoid products with misleading CFU counts.

Another measurement method is active fluorescent units (AFU). This measurement comes from a modern, sophisticated flow cytometry test method for the precise enumeration of live cells. AFU is considered the most advanced and precise enumeration method to calculate all viable cells.

## 4. Survivability and Viability

You'll also want to consider the survivability and viability of the probiotics within your microbiome supplement. The acidic environment of the stomach is an inhospitable place! You want a probiotic complex that has an encapsulation, an enteric coating, or a similar solution for helping the microbes survive the stomach and make it to where they're needed in your gut.

## 5. Testing and Science

Hundreds of microbial strains and genera are present in the human microbiome. A fraction of these microbes are currently available in probiotic supplements. An even smaller fraction of them have been clinically tested to prove any meaningful health benefits when included in supplements.

When you're researching microbiome supplements, it pays to review whether the strains selected in any product have been well researched or clinically tested. Are the claims made by the manufacturer confirmed by science?

Every strain selected for dōTERRA PB Restore capsules and PB Assist+ sticks have been selected because of the substantiation in science and medical publications about the strains. All research papers were meticulously reviewed by our team of researchers and science and medical experts as we created the formulas for these market-leading products.

# How to Choose and Use a Quality Microbiome Supplement

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## How Does Your Supplement Stack Up?

If you already have a probiotic or microbiome supplement you've been using, pull it out. In the next section, we'll share all the information you need to know about both dōTERRA ProBiome supplements and how they stack up. If you have your current supplement on hand, you can compare it to what dōTERRA PB Restore and PB Assist+ offer.

Until recently, dōTERRA had two products—PB Assist+ and PB Assist Jr—that were both amazing supplements and incredibly innovative when they were launched. The new dōTERRA PB Restore capsules and PB Assist+ sticks are even better. If you were using PB Assist+ or PB Assist Jr and still have either product on hand, go ahead and pull it out. Compare it to the new products and see for yourself the massive uplevel you get with the new dōTERRA PB Restore and PB Assist+.



# Meet dōTERRA PB Restore™ ProBiome Complex

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The PB in dōTERRA PB Restore™ and PB Assist+® stands for ProBiome. It captures our intention to always be delivering the best proactive health support for your microbiome so you can experience macro benefits to your health and well-being.\*

dōTERRA PB Restore ProBiome Complex is designed with your whole-body biome in mind. It's formulated as a foundational, holistic supplement to benefit your systemic health in a number of ways, including:\*

- Digestive health
- Gut barrier integrity
- Gut immune function
- Micronutrient synthesis
- Healthy metabolism
- Respiratory health
- Oral health
- Dermatological health
- May support cardiovascular health, urological health, plus brain and DNA function†

Of course, the gut microbiome is a powerhouse, so PB Assist+ ProBiome Gut Complex sticks have been formulated to provide additional strains that support the gut microbiome specifically, as well as being potent enough for adults and safe enough for kids—more on that in the next section!\*

dōTERRA PB Restore is truly revolutionary in the microbiome supplement space. In one little dual-chambered capsule, we deliver a proprietary blend

of 30 bioactive components of pre-, pro-, and postbiotics, and bacteriophages—the four Ps in one ProBiome Complex. That's a four-fold increase in the number of strains compared to our previous capsule. This patent-pending formulation makes dōTERRA PB Restore the market leader in diversity of strains and species within a microbiome supplement!

Each ProBiome Complex capsule offers you a CFU count of 18 billion active, live cells at time of use. If you've been taking our previous capsules, that's a triple increase in potency!

To ensure survivability and viability, dōTERRA PB Restore uses patented encapsulation technology, with an inner and outer capsule to ensure the delivery of the 30 bioactive components at just the right time to the appropriate areas in the digestive system. You can see the outer capsule hosts the prebiotic FOS, plus the postbiotic and bacteriophages. Also, inside the outer capsule is the time-release inner capsule, which holds the 24 strains of probiotics. This unique double-layer capsule technology protects the bioactive cultures from the harsh environment of the stomach, delivering their active benefits to the site of adhesion in the intestinal tract.\*



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† More confirming clinical research is needed

# Meet dōTERRA PB Restore™ ProBiome Complex

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Now, let's review each of the 30 science-backed bioactive components in the formulation.

One of those bioactive components is the all-important prebiotic fructooligosaccharide (FOS). FOS is a naturally occurring carbohydrate—an indigestible fiber that's found in fruits and vegetables such as artichokes, bananas, barley, garlic, honey, onions, wheat, and tomatoes. Fructooligosaccharides have the ability to selectively promote the growth of beneficial bacteria.

Next, there are 24 probiotic strains that've been meticulously selected for dōTERRA PB Restore ProBiome Complex. Let's review some of these strains and their benefits.

## Primary Probiotic Strains and Health Benefits\*

### Synbio *L. rhamnosus* IMC501 + *L. paracasei* IMC502

1. Increases healthy bacteria counts, while inhibiting the impact of unwanted bacteria.
2. Improves the body's recovery processes and tiredness sensation after training by lowering exercise-induced oxidative stress.<sup>4</sup>
3. Supports gastrointestinal functions and promotes a healthy immune response.
4. Maintains healthy and stable vaginal environment by increasing Lactobacillus abundance at the vaginal level.
5. Lowers reactive oxygen metabolites after exertion, which gets harder to do with age.<sup>4</sup>
6. Maintain healthy immune function and strength and efficiency of gastrointestinal tract when responding to stressful conditions.

### *B. animalis ssp. lactis* BLC 1

1. Promotes lactose digestion to suppress occasional bloating or digestive discomfort.<sup>1</sup>
2. Maintains healthy bowel habits and digestive health and helps manage occasional constipation.<sup>1</sup>

### *L. acidophilus* LA1

1. Offers general digestive health support.
2. Stimulates natural immune system by inhibiting unwanted bacteria.
3. Can improve lipid metabolism, benefiting overall health.
4. Produces enzymes that are associated with supporting cardiovascular health.

### *L. rhamnosus* SP1

1. Maintains the health of teeth and maintenance of oral mucosa, which acts as a barrier to harmful microbes, when regularly taken.<sup>3</sup>
2. Promotes skin health and visual improvement in occasional blemishes or dryness.
3. Supports maintaining of oral health as we age.<sup>3</sup>

### *L. brevis* SP48

1. Supports mood, sleep, and brain function by naturally increasing GABA levels—a principal neurotransmitter of the central nervous system.<sup>1</sup>

### *L. rhamnosus* LB21

1. Maintains oral health and supports healthy teeth throughout life.<sup>3</sup>

### *L. reuteri* LR92

1. May help reduce occurrence of digestive discomfort in infants as part of maternal prenatal supplementation during the last four weeks of pregnancy.

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# Meet dōTERRA PB Restore™ ProBiome Complex

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## Contributing Probiotic Strains and Health Benefits

### ***B. breve* BBr8**

1. Helps sustain a healthy microbiota for improved digestive health.
2. Boosts the health of the immune system.<sup>1</sup>
3. May contribute to healthy weight.<sup>1</sup>

### ***Enterococcus faecium* SF68**

1. Has antimicrobial properties that support gut immune function and inhibit the spread of unwanted gut flora.

### ***L. fermentum* CS57**

1. Can improve lipid metabolism, benefiting overall health.<sup>3</sup>
2. Improves long-term quality of life and wellness health.<sup>3</sup>
3. Supports gut immune function by releasing specific healthy microbial molecules.<sup>3</sup>

### ***L. paracasei* BGP2**

1. Positively impacts intestinal and immune pathways for biological health benefits.<sup>1</sup>
2. Can improve lipid metabolism, benefiting overall health.<sup>1</sup>
3. Enhances gut health.<sup>1</sup>

### ***L. plantarum* 14D**

1. Helps sustain a healthy microbiota for improved digestive health.
2. Sustains bifidobacteria—a beneficial bacteria that declines with age.<sup>1</sup>

### ***S. thermophilus* SP4**

1. Supports the maintenance of healthy microbiota balance and improves lactose digestion.

### ***L. crispatus* SP28**

1. Maintains predominance of lactobacilli and a healthy vaginal ecosystem.

### ***L. delbrueckii ssp. bulgaricus* LB2**

1. Aids in lactose digestion.<sup>1</sup>
2. Helps sustain a healthy microbiota for improved digestive health.<sup>1</sup>

### ***B. longum ssp. longum* SP54**

1. Supports the intestinal barrier to help inhibit unwanted microbes from growing.<sup>2</sup>

### ***L. gasseri* SP33**

1. Maintains predominance of lactobacilli and a healthy vaginal ecosystem.

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1 Based on preclinical research. More clinical research is needed.

2 Based on multi-strain research. More research on this strain alone is needed.

3 Based on research involving different delivery systems. More research involving capsules is needed.

4 Based on research of young athletes. More research on other age groups is needed.

# Meet dōTERRA PB Restore™ ProBiome Complex

There's one postbiotic strain in dōTERRA PB Restore: **L. rhamnosus CRL 1505 HI**. It functions like a ghost probiotic. It's an after-life, nonliving probiotic that's still recognized by your epithelial and immune cells. Comparative studies about this strain have demonstrated this heat-inactivated immunobiotic provides a cell wall and peptidoglycan, supporting the innate immune response related to respiratory health.\*

There are four bacteriophages in dōTERRA PB Restore: **LH01-Myoviridae**, **LL5-Siphoviridae**, **T4D-Myoviridae**, and **LL12-Myoviridae**.

These 'phages seek out unwanted microbes that can compromise digestive health, urinary tract health, and other systems of the body. They effectively clear space for probiotics to do their important work. They destabilize the cell walls of the unwanted bacteria and take over important functions to subdue their impact.\*

While a good probiotic can help to maintain microbiome balance and strengthen the immune system, the innovative addition of bacteriophages to our dōTERRA PB Restore ProBiome Complex means the 24 probiotics strains may have an amplified impact and ability to improve your intestinal health.\*

The prebiotic FOS, postbiotic strain, and these four bacteriophages are encapsulated in the outer cap of the dual-chamber capsule. They're ready to get to work before the probiotics are released, which are inside the dark green inner cap.

By taking one dual-chamber capsule per day with a meal, you support your body's microbiome with unparalleled diversity in one supplement.\*

In summary, clinical and experimental research about the 30 bioactive components in dōTERRA PB Restore suggest this formulation:\*

- Benefits overall digestive health and may provide digestive comfort.
- Promotes a protective and cleansing effect and healthy microflora.
- Promotes a healthy inflammatory response.
- Promotes a healthy respiratory system.
- May promote healthy-looking skin.
- Supports a healthy immune system.
- Promotes healthy lipid metabolism.†
- Supports a healthy cardiovascular system.†



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† More confirming clinical research is needed

# dōTERRA PB Assist+® ProBiome Gut Complex

While dōTERRA PB Restore™ is meant for your body's overall microbiome, PB Assist+ ProBiome Gut Complex provides targeted strains to support gut and digestive health specifically.\*

PB Assist+ is a proprietary blend of 13 strains of probiotics and a prebiotic in a convenient stick pack for the whole family to enjoy. That's double the number of strains when compared to our previous stick pack. The 13 probiotic strains are different from those offered for gut health in dōTERRA PB Restore, delivering maximum diversity to anyone taking both products daily.\*

PB Assist+ ProBiome Gut Complex delivers seven billion AFU at time of use. Remember, AFU stands for active fluorescent units. It's the most sophisticated method for enumerating the live cultures in a probiotic supplement.

Like dōTERRA PB Restore, PB Assist+ contains prebiotic FOS inulin, which clinical and experimental research suggest promotes a healthy digestive system and may provide digestive comfort, promotes healthy lipid metabolism, promotes a healthy cardiovascular system, may promote a healthy nervous system, and promotes a healthy immune system.\*

Plus, it's so tasty! Kids and adults alike have told us how much they love the new strawberry melon flavor. It's fun for the whole family to take PB Assist+ together. Its potency is strong enough for adults while being absolutely safe for kids. Enjoying PB Assist+ as a family is one of the easiest ways to promote healthy habits in your kids from an early age.

Without the unique double-layer capsule technology, how does PB Assist+ ensure its probiotics survive the harsh stomach acid and reach your gut? The answer is microencapsulation. While PB Assist+ feels like it just melts in your mouth, remember that these friendly floras are microscopic. The probiotic strains are micro-encapsulated with a protective coating, which supports efficient delivery to the intestines in the lower GI tract where they can flourish and get to work.\*



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# dōTERRA PB Assist+® ProBiome Gut Complex

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Let's review each of the 13 science-backed probiotic strains in the ProBiome Gut Complex formulation:

*L. rhamnosus* LGG

*L. plantarum* LP01

*L. plantarum* LP02

*B. breve* BR03

*B. lactis* BS01

*L. rhamnosus* LR04

*L. rhamnosus* LR06

*B. longum* O4

*B. breve* B632

*B. lactis* BS05

*Streptococcus thermophilus* FP4

*L. reuteri* LRE02

*L. salivarius ssp. salivarius* CRL 1328

In summary, clinical and experimental research about the 13 bioactive components in dōTERRA PB Assist+ suggest this formulation:\*

- Benefits overall digestive health and may provide digestive comfort.
- Promotes healthy gut microflora.
- Promotes a healthy inflammatory response.
- Promotes a healthy mouth in children.
- May promote healthy-looking skin in toddlers and children.
- Supports a healthy immune system.
- Supports childhood health and healthy nervous system development.

13 strains are unique from the 24 probiotic strains in dōTERRA PB Restore. That means when taken together, PB Assist+ sticks and dōTERRA PB Restore capsules provide 37 strains of probiotics. Add in pre- and postbiotics, plus bacteriophages, and that's a whopping 43 bioactive components! A diverse microbiome is a healthy microbiome, so adults may choose to combine both ProBiome supplements daily for superior diversity and health support.\*



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# How to Use dōTERRA ProBiome Supplements

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Now that we've covered how to identify a quality microbiome supplement and looked at dōTERRA PB Restore™ and PB Assist+®, let's talk about how to use these two microbiome supplements.

Taking dōTERRA ProBiome supplements is simple. You can take one dōTERRA PB Restore ProBiome Complex a day just prior to a meal. You can pour PB Assist+ powder straight into your mouth or mix it with cold water and drink immediately. It can also be mixed with cold foods like a smoothie, applesauce, or yogurt.

We do recommend taking these supplements with a meal. That's when your digestive system is most active and will move the probiotics through the stomach's harsh environment at the pace required for the encapsulation technology to do its job. If you were to take them at another time—like before bed—your supplement is more likely to sit idle in stomach acid for too long because digestion slows when you sleep.

As mentioned by Alex and Dr. Stevens, you want your probiotics to be alive! So take them with a meal, but away from any foods above body temperature and never with hot beverages, which will damage the bioactive components.

Be sure to take your new microbiome supplements daily! It might surprise you, but when we talk about how probiotics colonize, that doesn't actually mean they settle in and take up residence in your body long-term. Don't be confused by the enumeration terminology. CFU stands for colony-forming units, but probiotics are transient microorganisms. They travel through your digestive tract and activate systemic benefits through interactions with your gut and local immune cells, dietary nutrients, and gut microbiota already rooted in your intestines before they leave your body.

Because the probiotics in your supplements are transient, their benefits depend upon daily use. Just like how you need water to hydrate your cells each day or you take dōTERRA Lifelong Vitality Pack® daily for sufficient micronutrient intake, dōTERRA PB Restore and PB Assist+ are recommended as a foundational daily supplement.

As Alex mentioned before, probiotic consumption during childhood has well-established health benefits and may support long-term well-being, so many parents want to know how to use ProBiome products with their children. Both dōTERRA PB Restore and PB Assist+ can be taken by teenagers, and children as young as four years old can take a full dose of PB Assist+ daily. If you have toddlers, you can start with a half dose—half a sachet—of PB Assist+ and build up to a regular dose over a couple of weeks, attending to their bowel movements and adjusting as needed.



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# Tailoring for Personal Health Goals

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## Establish Your Personal Health Goals

The best personal protocols are the ones you'll follow, and you're more likely to stick to a "pro" biome routine if it helps you achieve your health goals. Think up a few health goals you might like to achieve. As you're deciding which of your ideas to implement first, consider the dōTERRA Wellness Pyramid.

Remember how every level of the Wellness Pyramid supports the health of your microbiome, and your microbiome is connected to every level of the Wellness Pyramid. One of the great rewards of working on your health in any area is it naturally improves other areas at the same time! Wellness is interconnected and interdependent.

Once you've identified your top priorities, identify specific actions or habits that'll support your goals. Let's say you wanted to support your microbiome with better sleep. Your goals might include supplementing with dōTERRA PB Restore™ and PB Assist+®, sticking to a personalized bedtime routine at a set time every night, avoiding screens for one hour before bed, and using the dōTERRA Serenity® Sleep System. Or if you wanted to focus on your microbiome and metabolism, your goals might include supplementing with dōTERRA PB Restore™ and the MetaPWR® system, following a personalized exercise regimen, and implementing one habit related to your nutrition and diet.

You may find the SMART goal framework useful as you're nailing down specific habits or goals to implement. S stands for specific, M for measurable, A for achievable, R for relevant, and T for time-bound. For the time-bound category, we suggest a minimum of 30 days to enact your personal protocol, but you could also make a 60- or 90-day goal. By the end of the period, the goals you've been working on will ideally have become habits, so continuing with them or adapting them to remain integral to your daily wellness lifestyle will come naturally.

Whether you want to see improvements in your nutrition, skin health, mood and mental health, hormone health, or elsewhere, integrating health goals with special attention to your microbiome will yield more powerful, lasting, and holistic results.

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