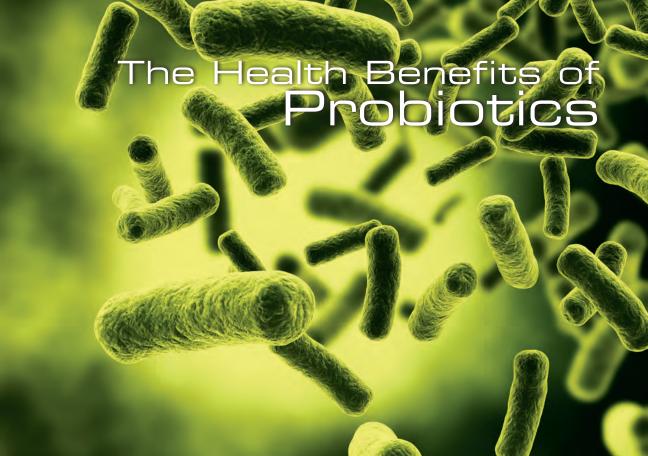


NOW® Guide to Probiotics

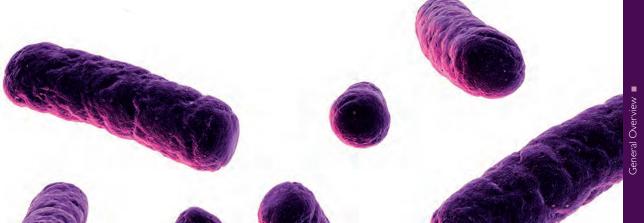




Microorganisms for Health

Did you know that you have trillions of microorganisms, including bacteria and yeast, living in and on your body at any given time? In fact, microorganisms outnumber the cells in your body by about 10 to 1. But don't run out to your doctor for an antibiotic! The majority of these microorganisms are actually beneficial, and live both inside and outside of your body.

Outside, the majority of these microorganisms are found on your skin. Inside, the bulk of beneficial microorganisms is found in your intestinal tract, and these organisms, called probiotics, are important for your overall health and well-being.





We have a symbiotic relationship with probiotic bacteria and yeast, a mutual partnership that benefits both parties. Probiotics get a home and all the nutrients they could ever want, and in return they assist digestion, immune function, and more.

What Are Probiotics?

As mentioned, probiotics are beneficial microorganisms that reside on and within the human body. Most of the probiotics we'll be covering in this brochure are found in the intestinal tract, or the gut.

There are numerous families of probiotic microorganisms in our gut, but four in particular are predominant and important for our health. They're represented by the following groups of related organisms: Lactobacillus, Bifidobacterium, Streptococcus, and Saccharomyces, a probiotic yeast. These are the microorganisms you'll most often find in probiotic supplements, because they have the most supporting research. There are also specialized strains of certain species that offer specific benefits for our health and well-being.

How Do We Get Them?

Within 48 hours of birth, microorganisms acquired from the birth canal are colonizing our brand-new digestive tract. In addition, breast-feeding and some formulas also supply beneficial bacteria. This is a crucial early life process that is a normal part of gastrointestinal and immune system development.

As we grow and mature we obtain probiotic organisms from our diet, primarily from fermented foods and dairy products such as yogurt, kefir, kimchi, kombucha, pickles, sauerkraut, and more. Because they're naturally found in foods and are a natural part of the human body's ecosystem, probiotics are considered safe for human use.





Who Needs Probiotics?

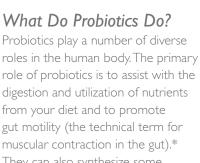
Everyone needs probiotics. While you'll find differing opinions concerning the overall importance of supplemental probiotics, there's no question that intestinal flora are necessary for our well-being. Once probiotic microorganisms have colonized our digestive tract they continue to flourish throughout our lifetime, but numerous factors can adversely affect the balance of microorganisms, either by having a negative effect on beneficial organisms or introducing harmful ones into the gut ecosystem. Certain life situations can also adversely affect overall bacterial populations.



Obtaining probiotics from our diet throughout life is important for everyone, from infants to the elderly, to maintain a healthy balance of gut flora.



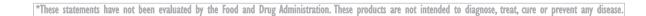
They can also synthesize some nutrients, such as B vitamins and vitamin K*



There's mounting evidence that probiotics are also important for immune system development and support normal immune system function by modulating the activity of specific immune system cells and maintaining normal barrier function, as well as through other aspects of immune function.* They also play a role in protecting the delicate tissues of the gut, where a lot of the immune system activity takes place.*

In addition to helping your body get what it needs, probiotics also help your body get rid of what it doesn't need such as metabolic waste materials that are a normal byproduct of metabolism.*

The presence of beneficial probiotic microorganisms makes it difficult for undesirable microorganisms to gain a foothold in your



digestive tract.* Therefore, it's a good idea to maintain a healthy majority of beneficial microorganisms for overall health and well-being.*

Over the course of our lifetime a number of factors can affect the balance of flora in our gut, and not always for the better. A good probiotic formula can help to quickly replenish vital gut microflora during travel or other stressful situations and help to maintain normal digestive function.*

What Are Prebiotics?

In addition to probiotic supplements you can also find "prebiotics," which are substances that serve as nutrients for probiotics, helping these beneficial microorganisms to survive and multiply.* Prebiotics are non-digestible carbohydrates that are functional foods for our microscopic friends.* Some of our best probiotic supplements include

prebiotics, such as inulin, fructooligosaccharides (FOS) or xylooligosaccharides (XOS), for additional support.

Superior Strains

At NOW® we choose superior probiotic strains with clinically validated benefits for our probiotic formulas.

NCFM® – Lactobacillus acidophilus NCFM® is the most clinically studied probiotic strain. Shown to support immune function, rapidly restore microbial populations following temporary disruptions, support GI regularity, and help with seasonal immune support.*

HN019[™] – Bifidobacterium lactis HN019[™] is a clinically validated probiotic strain that's been shown to support GI regularity and help reduce bloating.* Especially helpful for middle-aged and older populations.

BI-04® – *Bifidobacterium lactis* BI-04® is a clinically validated probiotic strain that's been shown to help promote a robust, balanced response to immune system challenges.*

BLIS $K12^{\circ}$ – Although digestive function isn't its primary purpose, the probiotic strain *Streptococcus* salivarius BLIS $K12^{\circ}$ has been clinically shown to support ear, nose, and throat health in children and can also



help improve breath when used in conjunction with proper oral hygiene.* Saccharomyces boulardii — A subspecies of Saccharomyces cerevisiae (a probiotic yeast), Saccharomyces cerevisiae var. boulardii 1-3799 is helpful for occasional diarrhea.* It's also useful when traveling and during temporary disruptions in gut flora, because it promotes a healthy balance of intestinal flora.*

The Latest Research

Within the past decade research on probiotics has increased substantially. With more and more research supporting the benefits of probiotics, major food product manufacturers have started fortifying certain foods with them, a strong endorsement for the safety and efficacy of these beneficial organisms.

As researchers have delved deeper into probiotic microorganisms over the past several years they've made some surprising observations that are taking modern probiotic research in exciting new directions.

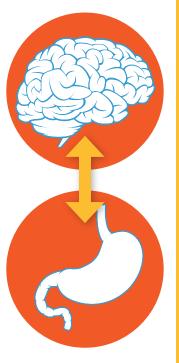
*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.

The gut-brain connection is a focus of recent research. Scientists have discovered that our brain and gut have the ability to communicate with one another directly, and now believe that certain probiotic species may have the ability to affect the release of neurotransmitters, leading to more questions about the potential role of probiotics in areas such as mood and normal cognition.* In fact, probiotic microorganisms may play a role in the development of our brain and nervous system; although, this is not yet proven through research.*

The immune-supporting benefits of probiotics may also be relevant for physical fitness.* A study at the University of Western Ontario recently examined the potential role of probiotics in reducing the duration of fatigue after exercise.* Because our immune system becomes depressed when we're

fatigued, researchers theorize that the immune-boosting activities of probiotics may be of benefit to active individuals.*

Again, more research is needed to validate these purported benefits, but indications are probiotics play a much larger role in our overall wellbeing than originally thought. The future of probiotics appears to be very bright.





The NOW® Difference

NOW has your probiotic supplement needs covered. Our Science team stays abreast of the latest advances in probiotic research, and we incorporate the latest findings into our formulations to ensure you're getting a modern formula that's guaranteed to be potent and effective through the "Best By" date.

In addition, NOW utilizes some of the most advanced instrumentation available today for the analysis of probiotics. Our RiboPrinter® is an automated molecular analysis instrument that allows NOW technicians to guarantee the identity, potency, and purity of the bacterial strains used in NOW probiotic products.

We offer probiotic supplements in a variety of forms for your convenience, including capsules, vegetable capsules, chewable lozenges, powders, and packets. We also offer several different potencies ranging from 1 billion organisms up to 100 billion organisms.



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