



Bifidophilus Flora Force

Stock #4080-4 (90 capsules)

NSP's Bifidophilus Flora Force is a probiotic supplement, providing 4 different strains of healthy intestinal flora: *Lactobacillus rhamnosus*, *Lactobacillus acidophilus*, *Lactobacillus casei* and *Bifidobacterium longum*. These important and beneficial bacteria are "friendly" microorganisms that naturally inhabit the intestinal tract, aiding digestion and absorption of nutrients, as well as enhancing immune function and protecting against harmful bacteria, viruses and fungi.

In the gastrointestinal tract, a delicate balance exists between the host and the intestinal bacteria, most of which are present in the colon—at least 400 different species of microflora exist in the human gastrointestinal tract. Intestinal bacteria alter the chemical composition of foods and drugs; break down dietary toxins; produce and degrade vitamins; create toxins and antitoxins; and inhibit the growth of certain pathogens (disease-producing organisms). Upsetting the balance of the intestinal microflora, such as can occur with antibiotic use, disease and aging, can negatively affect the beneficial role of these important

microorganisms.¹⁻⁵

Research has shown that certain live microorganisms known as probiotics can help re-populate the gastrointestinal tract with healthy bacteria. Probiotics are defined as live microorganisms that, once ingested, demonstrate a beneficial effect upon the body by improving the balance of the intestinal flora. The most reliable and well-researched probiotic organisms belong to either the lactobacillus or bifidobacteria genera—lactobacillus bacteria reside mainly in the small intestine and bifidobacteria colonize the large intestine. Probiotics inhibit the growth of harmful microorganisms, boost immune function, increase resistance to infection and promote healthy digestion. Probiotics have been shown to exert antimicrobial, antiallergenic, immunomodulatory, anticarcinogenic, antidiarrheal and antioxidant activities, as well as other health benefits. Probiotics prevent the growth of pathogenic organisms, not only by competing for nutrients and space, but also by secreting organic compounds such as lactic acid, hydrogen peroxide and acetic acid, which make the intestinal pH more acidic—most intestinal pathogens fail to thrive in an acidic environment—as well as producing bacteriocins, which act as natural antibiotics to kill unwanted microorganisms.¹⁻¹¹

Much of the research on probiotics has focused on diarrhea prevention and intestinal health, stomach ulcers, immunity and women's urogenital health. The benefits of probiotic-use that have had substantial support from published peer-reviewed human studies include preventing the onset of atopic dermatitis (an allergic, inflammatory skin disorder causing an itchy rash), preventing urogenital infections, and preventing and reducing the duration of diarrhea in infants and children, including antibiotic-associated diarrhea and some infectious and viral diarrheas such as rotavirus-induced diarrhea. In addition, promising data exist on the use of probiotics for combating *Helicobacter pylori* stomach infections, modulating mucosal immunity (the first line of defense against foreign invaders), reducing the risk of certain cancers, and decreasing serum cholesterol and oxaluria—the excess of calcium oxalate in the urine, which contributes to the formation of kidney stones. Furthermore, preliminary human studies suggest that probiotics have a positive effect in the treatment of colitis (inflammation of the colon), also known as irritable bowel disease (IBD)—a general term for a group of diseases involving intestinal-wall inflammation and characterized by recurrent crampy abdominal pain and diarrhea, including Crohn's disease and ulcerative colitis.^{1,3,5-9,12,13}

Each serving of Bifidophilus Flora Force contains 2.5 billion *Lactobacillus rhamnosus*, 2.5 billion *Lactobacillus acidophilus*, 2 billion *Lactobacillus casei*, and 1 billion *Bifidobacterium longum* cultures, along with fructooligosaccharides (FOS)—a dietary fiber that assists proliferation of these important bacteria.

Lactobacillus rhamnosus - Dietary consumption of *L. rhamnosus* was shown to enhance systemic cellular immune responses in healthy volunteers and thus, appears to be beneficial as a dietary supplement to boost natural immunity. Oral intake of *L. rhamnosus* has also been shown to alleviate clinical symptoms of gastrointestinal inflammation and atopic dermatitis, and significantly reduce the occurrence of atopic eczema (an inflammatory skin condition characterized by redness, itching and oozing lesions that become scaly, crusted or hardened) in children. In addition, two separate studies involving children (ages 1 to 36 months) showed that *L. rhamnosus* significantly shortened the duration of acute-onset rotavirus diarrhea compared to placebo. Furthermore, a landmark study published in the *Journal of Allergy and Clinical Immunology* documented a clear connection between food allergy and intestinal flora. A one-month trial involving 10 infants with food-allergy-related dermatitis showed that *L. rhamnosus* provided significant clinical improvements in the infants' conditions, compared to those given a placebo.^{6,7,14-21}

Lactobacillus acidophilus has demonstrated significant antioxidant activity and has been shown to prevent several intestinal pathogens from attaching to human intestinal cells, including *Escherichia coli*, *Yersinia pseudotuberculosis*

and *Salmonella typhimurium*. *L. acidophilus* also inhibits the growth of *Helicobacter pylori* and has been proven effective in reducing the duration of acute diarrhea in children. In addition, *L. acidophilus* is regarded as a successful natural treatment for bacterial vaginosis, particularly in pregnant women, due to the lack of systemic side effects. Furthermore, a controlled clinical study found that *L. acidophilus* can reduce serum cholesterol and thus, demonstrates the potential for reducing the risk of coronary heart disease.^{3,22-28}

Lactobacillus casei significantly increased natural killer (NK) cell activity in healthy volunteers, particularly those exhibiting low NK activity. In addition, a controlled pilot study showed that *L. casei* reduced the duration of winter infections (gastrointestinal and respiratory) by 20% in elderly people. Furthermore, a 4-month double-blind, randomized trial involving 928 children (ages 6 to 24 months) found that *L. casei* significantly reduced the frequency of diarrhea.²⁹⁻³¹

Bifidobacterium longum exhibited protective effects against invasion of the intestinal mucosa by dietary antigens, as well as significantly suppressed colon tumor incidence in animal studies. *B. longum* has also demonstrated significant antioxidant activity. In addition, a randomized, double-blind trial found that *B. longum* improved lactose digestion in 15 lactose malabsorbers, as evidenced by reduced symptoms of flatulence. Furthermore, a study involving 32 patients with borderline to high cholesterol (serum total cholesterol ranging from 220 to 280 mg/dl) showed that *B. longum* reduced total cholesterol in approximately 50% of treated patients, with significant decreases among those with total cholesterol levels greater than 240 mg/dl.^{22,32-35}

Fructooligosaccharides are a type of nondigestible fiber, derived from foods such as asparagus, garlic, Jerusalem artichoke and onion, that can be considered a prebiotic—a nutritional substance that stimulates the growth of probiotic organisms, leading to a beneficial balance of healthy and harmful intestinal flora. FOS specifically stimulate bifidobacteria growth, while suppressing the growth of potentially harmful pathogens such as *Clostridium perfringens* in the colon. In addition, FOS enhance magnesium absorption in humans and have been shown to reduce colon tumor development in animal studies.^{3,7,36-42}

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