Bifido SAP

Science-based bifidobacterial probiotic for gastrointestinal health

Bifidobacteria represent one of the major genera in the healthy intestinal tract of humans. As one of the earliest colonizers of the early gut microbiota, bifidobacteria play critical roles in the metabolism of dietary components, otherwise indigestible in the upper parts of the intestine, and in the maturation of the immune system. Bifidobacteria are known to interact with human immune cells and to modulate specific pathways, involving innate and adaptive immune processes. Substantial evidence supports that bifidobacteria confer positive health benefits to their host via their metabolic activities.

Bifido SAP can help manage symptoms of SIBO and help support healing of intestinal lining from the damage of SIBO. **Bifido SAP** can help improve IBS symptoms including gas, bloating, constipation, and diarrhea. **Bifido SAP** may be useful in eradicating *H. pylori* infection and for the prevention and management of colorectal cancer.

ACTIVE INGREDIENTS

Each enteric vegetable capsule contains:

Bifidobacterium longum subsp. longum - R0175	3.8 billion CFU
Bifidobacterium breve - R0070	3.6 billion CFU
Bifidobacterium bifidum - R0071	2.1 billion CFU
Bifidobacterium longum subsp. infantis - R0175	0.5 billion CFU

Other ingredients : Magnesium stearate, potato starch and ascorbic acid, maltodextrin, yeast peptone, saccharose in a capsule composed of hypromellose (vegetable carbohydrate gum), hypromellose acetate succinate and purified water.

Contains no: Gluten, wheat, eggs, citrus, preservatives, artificial flavour or colour.

This product is non-GMO and vegetarian friendly.

Bifido SAP contains 90 capsules per bottle.

Features:

- Provides a complementary blend of 4 well researched bifidobacterial probiotic strains to address a wide spectrum of gastrointestinal health benefits.
- **Delayed release vegetable capsule** ensures 100% delivery of live microbial cells to the intestine and is resistant to gastric and bile acids.
- Contains no prebiotics to support SIBO therapy.

DIRECTIONS FOR USE

Adults, adolescents, and children ≥ 6 years old: Take 1 capsule daily or as directed by your healthcare practitioner. If you are on antibiotic(s), take at least 2-3 hours before or after.

INDICATIONS

Bifido SAP may help:

- Manage symptoms of SIBO.
- To alleviate symptoms of IBS including gas, bloating, constipation, and diarrhea.
- Improve colon regularity and eradicate H. pylori infection.
- Prevent and manage colorectal cancer.

CAUTIONS AND WARNINGS

Discontinue use and consult a healthcare practitioner if symptoms of digestive upset (e.g. diarrhea) occur, worsen, or persist beyond 3 days. Consult a healthcare practitioner prior to use If you have fever, vomiting, bloody diarrhea or severe abdominal pain.

CONTRAINDICATIONS

Do not use if you have an immune-compromised condition (e.g. AIDS, lymphoma, patients undergoing long-term corticosteroid treatment). This product has come into contact with milk and soy. Do not use this product if you have a milk or soy allergy.

Keep refrigerated in a tightly closed container.

PURITY, CLEANLINESS, AND STABILITY

All ingredients listed for each **Bifido SAP** lot number have been tested by an ISO 17025 accredited third-party laboratory for identity, potency, and purity.

Scientific Advisory Panel (SAP): adding nutraceutical research to achieve optimum health

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BIFIDOBACTERIA

The genus Bifidobacterium belongs to the phylum Actinobacteria, one of the major phyla in the healthy intestinal tract of humans. Bifidobacterium represents one of the most predominant genera in adults, but its abundance is especially more pronounced in infants, particularly during lactation.[1, 2] As one of the earliest colonizers of the developing infant gut microbiota, bifidobacteria play critical roles in the metabolism of dietary components, otherwise indigestible in the upper parts of the intestine, and in the maturation of the immune system.[1, 2] Bifidobacteria are known to interact with human immune cells and to modulate specific pathways, involving innate and adaptive immune processes.[2] Bifidobacterium strains have been shown to survive gastric acid and bile *in vitro* and *in vivo*, allowing them to interact with intestinal bacteria and mucosa.[1, 2]

Evidence supports that bifidobacteria confer positive health benefits to their host via their metabolic activities.[3] Bifidobacterial molecules (proteins and peptides, exopolysaccharides, metabolites, and DNA), are known to exert immunomodulatory effects as well maintain immune homeostasis through cross-feeding mechanisms that involves bifidobacterial metabolism.[3]

SMALL INTESTINAL BACTERIAL OVERGROWTH

Small intestinal bacterial overgrowth (SIBO) results from the imbalance between the host defense mechanisms and symbiotic bacteria, characterized by an excessive concentration of bacteria in the small intestine.[4] Some of the most common etiologies include anatomic alterations, motility disorders, and gastric acid secretion abnormalities.[4] It has been specifically observed that SIBO occurs in patients with irritable bowel syndrome, cirrhosis, gastroparesis, and those following a proton-pump inhibitor prescription.[4]

A number of recent studies support that probiotic therapy could be effective for management of SIBO. In one study conducted in 44 patients after gastric bypass surgery, a significant reduction in bacterial overgrowth was observed in the probiotic group compared with the control group at 6 months.[5] In another study conducted in 53 patients with chronic liver disease who were randomized to either probiotic therapy (containing *B. bifidum, B. lactis, B. longum, L. acidophilus, L. rhamnosus, and Streptococcus thermophilus*) or placebo for 4 weeks, researchers observed that SIBO disappeared in many individuals of the probiotic therapy group, but none in the placebo.[6]

In a study which attempted to correlate the presence of SIBO with cancer prevalence and cancer symptoms and to evaluate the effect of probiotic intervention on SIBO and cancer symptoms, gastric and colorectal cancer patients with SIBO were administered a bifidobacterium rich probiotic capsule (250 mg of each tablet, once 2 tablets, 3 times per day, for 4 weeks) or placebo. The probiotic treatment was found to be effective in alleviating SIBO related symptoms.[7]

The intestinal lining may need time to repair from the damage of SIBO before it can properly digest and absorb all foods. A minimum of three months of supplementation with probiotics is recommended for this purpose. More future studies with large sample sizes are warranted to understand the mechanisms through which probiotics, especially bifidobacteria affect SIBO treatment individuals.[8]

IRRITABLE BOWEL SYNDROME

It has been shown that probiotics strengthen the intestinal mucosal barrier by preventing mucosal adhesion of pathogens, improving intestinal inflammatory response, and stabilizing gastrointestinal tract motility. In addition, probiotics can also help controlling intraluminal fermentation and improving intestinal microflora.[9] Research evidence demonstrates the important pathogenetic and pathophysiological role of gut microbiota in Irritable Bowel Syndrome (IBS), where a lower bacterial diversity and elevated temporal instability of the gut microbiota were reproducibly observed in in IBS.[9, 10, 11] Gut microbiota composition differs across different subtypes of IBS and always exhibit increased amounts of Firmicutes and reduced amounts of Bacteroides.[9] Mucosal and fecal samples from IBS patients show decreased bifidobacteria suggesting the potential benefit of Bifidobacterium supplementation for improving IBS symptoms.[9]

A study in 274 primary care patients with constipation-predominant IBS, demonstrated that the administration of yoghurt containing *B. animalis* compared with placebo for six weeks improved abdominal pain and bloating, constipation and quality of life after the 3rd week.[12] In another study, administration of yoghurt containing *B. lactis* for 4 weeks in 34 women with constipation-predominant IBS reduced abdominal pain, abdominal distension, volume of gas produced, oro-cecal transit time and colonic transit time.[13] A multi-center study in 362 patients with IBS from primary care, aged 19-69 supplemented *B. infantis* in capsule form for 4 weeks at three different doses (10^6, 10^8 and 10^{10} CFUs) showed a 20% improvement in abdominal pain/discomfort than with placebo, but only at doses of 10^8 CFUs/day.[14] As supported by research evidence, modulating intestinal microflora to correct an imbalance could be a valuable therapeutic approach for long-term treatment of IBS symptoms.[15]

COLORECTAL CANCER

Preclinical studies suggest that a combination of prebiotics and bifidobacteria may reduce the occurrence of carcinogen-induced cancerous cells.[16, 17] Certain strains of *B. longum* and *B. breve* have been shown to prevent DNA damage by carcinogens, and inhibit the genotoxic effect carcinogens.[18] Well-controlled human clinical studies are warranted to further investigate the impact of bifidobacteria in colorectal cancer.[3]

DIARRHEA

B. longum subsp. infantis and *B. breve* have been successfully employed in the treatment of diarrhea and the mechanism of action was found to be due to inhibition of rotavirus, the primary cause of sporadic diarrhea in infants.[19, 20] In a double-blind study supplementation with a probiotic formula containing *B. bifidum* and *Streptococcus thermophilus* was found to reduce antibiotic-associated diarrhea in infants.[21]

COLON REGULARITY

B. animalis enriched fermented milk has been shown to improve colon regularity.[3, 22] Clinical studies support the effect of bifidobacteria for the alleviation of constipation.[3] However, future research investigation is needed to understand the exact mechanism(s) of action through which bifidobacteria support prevention and treatment of constipation.[3]

HELICOBACTER PYLORI INFECTION

Bifidobacteria represent one of the main group of probiotics along with lactobacilli in the prevention and eradication of *Helicobacter pylori* infections and alleviate associated symptoms. Several preclinical and clinical studies support the effective use of bifidobacterial alone or in combination with lactobacilli probiotics for the treatment of *H. pylori* infections.[23]

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