

## BioDoph-3 Gl... A <u>NEW</u> 3-Strain Probiotic

"Created antimicrobials against six IBS-specific bacterial strains."

The field of targeted probiotics is exploding. We've known for years that probiotics promote a healthy gut. Now data confirms that probiotics affect other organs and organ systems. For example, probiotics in the gut affect the brain. Clinical trials have shown probiotics show improvements in mood, sleep, and feelings of anxiety. What is exciting is the understanding that different strains of the same bacterial species appear to have different properties and effects.

For example, four different Bifidobacterium strains were given to rats and then the rats were fed diets known to induce weight gain. Interestingly one strain caused weight gain above the controls, two Bifidobacterium strains gained

weight comparable to controls. But one of the Bifidobacterium strains prevented diet-induced weight gain. Knowing specific strains within a bacterial species can have targeted effects, Biotics isolated 3 strains that support Gastrointestinal Health in a new product called BioDoph-3 GI. BioDoph-3 GI contains two specific strains of Lactobacillus plantarum and one specific strain of Pediococcus acidi-lac-tici in a 1:1:1 ratio.

Several studies have shown these 3 synergistic strains to have clinical value in restoring an optimal healthy bacterial environment called the microbiota. One of the studies was a double-blinded, randomized trial where the synergistic strains were shown

to significantly improve IBSrelated quality of life compared to placebo. Participants met the Rome-III criteria for IBS-D or IBS-Diarrhea. Additionally, the synergistic trio were the first multispecies probiotic to demonstrate improvement in the Visceral Sensitivity Index (VSI), a validated indicator of gastrointestinal symptomspecific anxiety. Another interesting piece of this trial tested high and low doses of probiotics. By the end of the trial, the low 3 billion dose given once daily was just as effective as a dose 5X higher.

This is important because sometimes patients with IBS symptoms can't tolerate high levels of additional bacteria in their gut. Why would less bacteria have such a positive

effect? I'm glad you asked because it opens another conversation regarding probiotics benefit. Postbiotic benefit! The byproducts of metabolism of certain bacteria create other substances beyond taking up space and inhibiting negative bacteria and other dysbiotic agents. Studies using the 3 specific strains in BioDoph-3 GI showed they created antimicrobials against six IBS-specific bacterial strains. That's a nice side effect.

Here's 3 more examples of post biotic benefits from the synergistic strains in BioDoph 3-GI. The first benefit we see is an increase in Short Chain Fatty Acids. Cells in the gut turn over rapidly, so they need energy to reproduce and repair tissue. Among other things, SCFAs provide energy for the colonic cells. They are anti-inflammatory and are important for water control in the GI tract.

Another postbiotic benefit is the production of the neurotransmitter acetylcholine. Acetylcholine has indirectly been linked to IBS. Acetylcholine is broken down by an enzyme called Cholinesterase. And women with elevated serum cholinesterase activity were found to be twice as likely to be diagnosed with IBS-D. Acetylcholine is also the primary neurotransmitter of the parasympathetic nervous system. And we know the parasympathetic nervous system promotes relaxation, detoxification, digestion, sleep, and tissue repair among other things. Acetylcholine reduces proinflammatory cytokines.

Another postbiotic effect was new to me, an increase in polyphosphate, "poly P", for short. Poly P is a repeating structure of phosphates which protects the intestinal cells from oxidative stress and inflammation. Poly P helps to maintain the integrity of the one cell layer that separates the contents of the gut from the blood stream.

Here's another example of the synergistic effects of the targeted strains in BioDoph-3 GI. In two animal models of colitis the probiotics in BioDoph-3 GI demonstrated a protective effect, by limiting the production of 2 major inflammatory cytokines, IL-6 and IL-23.

It's great to see inflammatory signals going down, but the important thing is the stimulation of beneficial processes in the gut mucosa. It is likely that repair of the intestinal barrier is at least partly mediated by poly P production.

By the way, in another human study, patients with prior lactose intolerance reported less GI irritation when taking BioDoph-3 GI when exposed to lactose.

It is exciting to see targeted probiotics are becoming more available. And its even more exciting to see the positive patient responses. You've heard your wellness clinician talk about the importance of healing the gut. Here's another option. Ask your clinician about BioDoph-3 GI, especially if you or a loved one is experiencing GI distress