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# Innovative prebiotics and probiotics for digestive support

## High prevalence of digestive issues

Several factors may influence gut health, including diet, stress, genetics, medications (e.g., antibiotics, NSAIDs), tobacco use, alcohol use, activity level, geography, and age. [3][6] Additionally, the Western diet often lacks gut-supportive ingredients from vegetables, fruit, and fermented foods. [17] It's no surprise that digestive issues such as irritable bowel syndrome (IBS) are some of the most common concerns seen by primary care physicians in the United States. [1]

# A unique blend of prebiotics and probiotics

Prebiotics and probiotics work synergistically to support the health of intestinal microbiota and promote normal gut-barrier function.

## Human milk oligosaccharides (HMOs)

Human milk oligosaccharides (HMOs), the third-largest component of human breast milk after lactose and fat, act as prebiotics by feeding beneficial bacteria in the gut. HMOs play a role in developing an infant's immune system, brain, and metabolism. [18]

2'-Fucosyllactose (2'-FL), the most abundant type of HMO, demonstrates anti-inflammatory properties and may contribute to the development and functioning of the immune system. [5][10] Recent studies suggest that HMOs, particularly 2'-FL, may modulate microorganisms living in the intestines, promote an environment favorable to beneficial bacteria such as *Bifidobacterium*, and limit the growth of potentially harmful bacteria. [9][15]

### Health benefits of HMOs

HMOs may play a beneficial role in alleviating digestive symptoms such as:

- Abdominal pain
- Constipation
- Excessive gas

### Dosing and adverse effects

The dosing in studies for HMOs varies considerably from 5 to 20 g per day for a minimum of four weeks. Studies have found that supplementing with as little as 5 g of HMOs per day can significantly improve IBS symptoms. However, supplementing with higher doses (10 to 20 g) appears to have a greater impact on modulating the gut microbiota. [7][9][15]

HMOs are generally well tolerated, even in individuals with IBS and at higher doses (20 g). [9] However, mild gastrointestinal symptoms such as gas, abdominal discomfort, or bloating are possible. [15]

# *Bacillus coagulans* Unique IS2

*Bacillus coagulans* Unique IS2 is a probiotic strain used in dietary supplements to help maintain optimal gut flora. *B. coagulans* Unique IS2 is a spore-forming bacteria with a protective coating that allows it to survive the stomach's acidic environment and reach the gut intact. [14]

### Health benefits of *B. coagulans* Unique IS2

The *B. coagulans* Unique IS2 strain has been researched for its potential health benefits, including alleviating symptoms such as:

- Abdominal pain
- Bloating
- Constipation [8][11]

### Dosing and adverse effects

*B. coagulans* Unique IS2 is typically dosed at 2 billion CFU per day for four to eight weeks. It is well tolerated, and no adverse effects have been reported. [11][12]

# Comparing 2'-FL and *B. coagulans* Unique IS2 to other ingredients

This table compares 2'-FL and *B. coagulans* Unique IS2 to other ingredients commonly recommended for digestive discomfort.

| Addresses | Abdominal discomfort | Bloating and gas | Constipation | Diarrhea |
|---|---|---|---|---|
| 2'-FL [15] | ✓ | ✓ | ✓ | — |
| *B. coagulans* Unique IS2 [12] | ✓ | ✓ | ✓ | — |
| Peppermint oil [4][13] | ✓ | ✓ | — | ✓ |
| Magnesium [21] | — | — | ✓ | — |
| Soluble dietary fiber [19][20] | — | — | ✓ | ✓ |

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*These statements have not been evaluated by the Food and Drug Administration.