

# ProbioMax<sup>®</sup> 350 DF & ProbioMax<sup>®</sup> Complete DF

High-Potency, Multispecies, Multistrain Probiotic



ProbioMax 350 DF is available in 15 stick packs  
ProbioMax Complete DF is available in 30 acid-resistant vegetable capsules

## Discussion

Multiplicity of microbiota species is characteristic of the GI microbiome in healthy individuals, and a loss in species has adverse effects.<sup>[1-3]</sup> Dietary diversity and taking a variety of probiotic species and strains are methods that help support a healthy microbiome.<sup>[1,4]</sup> ProbioMax 350 DF and ProbioMax Complete DF provide 18 different strains belonging to 13 different species of three different genera. For consumer convenience, these formulas are available as a powder at a dose of 350 CFUs per stick pack or encapsulated at a maintenance dose of 45 billion CFUs per capsule. The HOWARU and FloraFIT strains that comprise these formulas are stable, proven, and trusted worldwide.\*

### Featured Strains: *Bifidobacterium lactis* HN019<sup>®</sup> and *Lactobacillus rhamnosus* HN001<sup>®</sup>

*B. lactis* HN019<sup>®</sup> and *L. rhamnosus* HN001<sup>®</sup> have been studied extensively in vitro and in vivo (in animals and humans) to establish beneficial effects and safety.<sup>[5-20]</sup> In human research, *B. lactis* HN019<sup>®</sup> significantly decreased mean whole-gut transit time in adults compared to placebo.<sup>[6]</sup> Supplementation also had a positive effect on functional GI symptoms, as were self-reported by patient surveys. In a randomized, double-blind, placebo-controlled human dietary intervention study in subjects 60 or more years of age, supplementary HN019<sup>®</sup> resulted in desirable changes in the intestinal microflora, including significant increases in bifidobacteria and lactobacilli.<sup>[13]</sup> HN019<sup>®</sup> has also shown promising effects on parameters of cardiovascular and metabolic health. Compared with baseline and control group values, individuals taking 27 billion CFU had a significant reduction in body mass index, significant improvements in cholesterol and low-density lipoprotein metabolism, and significant decreases in tumor necrosis factor-alpha and interleukin-6.<sup>[19]</sup> In a three-week study, individuals consuming low-fat/low-lactose milk supplemented with HN019<sup>®</sup> or HN001<sup>®</sup> showed increased immune activity when compared to a milk-alone run in.<sup>[10]</sup> These increases were significantly correlated with age; that is, subjects older than 70 years experienced significantly greater improvements than those under 70 years. Researchers suggest that these results demonstrate the ability of HN019<sup>®</sup> and HN001<sup>®</sup> to combat some of the deleterious effects of immunosenescence on cellular immunity.<sup>[10]</sup> Animal studies demonstrate the ability of HN001<sup>®</sup> to support natural and acquired immunity as well as promote resistance.<sup>[17,18]</sup> More recently, human studies have demonstrated HN001<sup>®</sup>'s protective effect on skin health in genetically susceptible individuals.\*<sup>[7,11]</sup>

## Clinical Applications

- » Supports a Healthy Microbiome\*
- » Replenishes Good Bacteria in the Gut\*
- » Supports the Natural Immune Response\*
- » Supports Lactose Digestion\*
- » Supports Bowel Regularity\*

*ProbioMax<sup>®</sup> 350 DF and ProbioMax<sup>®</sup> Complete DF feature a diverse blend of HOWARU<sup>®</sup> and FloraFIT<sup>®</sup> probiotic strains to support a healthy gut microbiome. Each strain is well-researched and identity-verified and has been genetically characterized and properly classified for your safety and assurance. These strains were not only selected for their health benefits and complementary actions but also for their viability and stability. To protect the bacteria from light and moisture, opaque and foil-lined packaging is utilized for both formulas.\**

### Other Strains in ProbioMax 350 DF and ProbioMax Complete DF Have Demonstrated Probiotic Effects in Either In Vitro or In Vivo Research:

- Cause the development of inhibition zones around *Clostridium difficile*, *Salmonella typhimurium*, *Staphylococcus aureus*, *Escherichia coli*, and *Listeria monocytogenes* in agar assays\*<sup>[20]</sup>
- Populate vaginal tissue\*<sup>[21]</sup>
- Induce moderate maturation and activation of dendritic cells\*<sup>[22]</sup>
- Degrade oxalates\*<sup>[23]</sup>
- Increase IgA and IgG responses\*<sup>[25]</sup>
- Reduce levels of *E. coli* and *enterococcus* after antibiotic therapy\*<sup>[26]</sup>
- Help increase and recover numbers of intestinal lactobacilli and/or bifidobacteria\*<sup>[27]</sup>
- Promote well-being in relation to intestinal cytokine production\*<sup>[28,29]</sup>
- Improve gastrointestinal health and well-being when under challenge\*<sup>[27,29]</sup>
- Help maintain upper respiratory health\*<sup>[30]</sup>
- Alter the fecal microbiota in obese subjects\*<sup>[31]</sup>
- Maintain healthy fluid balance and integrity of intestinal wall\*<sup>[32]</sup>
- Support intestinal barrier function\*<sup>[32]</sup>

### Genetic Testing, Acid and Bile Tolerance, Adhesion

The lactic acid-producing strains in these formulas have a history of safe consumption and, based on testing, have excellent probiotic potential.<sup>[20,33,34]</sup> Each bacterium has been genetically characterized and properly classified by independent labs. The organisms have demonstrated tolerance to low pH conditions (hydrochloric acid and pepsin at pH3 for one hour at 37°C), tolerance to bile at concentrations existing in the duodenum, and the ability to adhere to human epithelial cell lines (Caco-2 and HT-29). Adhesion is thought to be an important factor affecting these bacteria's length of time in the intestines, their ability to modulate immune function, and their ability to take up intestinal "real estate" in competition with other organisms.\*<sup>[34]</sup>

Many of the strains have had additional studies performed, which include testing for the following<sup>[20]</sup>:

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

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Cytokine Balance Support

Female Health

Gastrointestinal Support

Immune System Support

Probiotics

**Competitive Inhibition** – The ability of probiotics to maintain a healthy microbial balance in the gut is unquestionably important to its usefulness. Probiotics produce inhibitory compounds that limit the growth of other organisms, they compete with other organisms for adhesion sites and nutrients, and they inhibit the production of toxins, among other actions.\*

**Cytokine and Immune Modulation** – Microbiota are key elements in the body's defense system. Cytokines regulate immune system function, and the included strains have demonstrated the ability to upregulate or downregulate various cytokines.\*

**Antibiotic Resistance** – Antibiotic susceptibility patterns are an important means of indicating the potential of an organism to be readily inactivated by antibiotics used in human therapy. Importantly, acquired antibiotic resistance or antibiotic resistance transfer have not been detected in any of these strains.\*

**ProbioMax® 350 DF Supplement Facts**

Serving Size: 1 Stick Pack (about 4.5 g)  
Serving Per Container: 15

	Amount Per Serving	%Daily Value
Calories	15	
Total Carbohydrate	3 g	1%†
Protein	1 g	
Sodium	5 mg	<1%†
<i>Lactobacillus acidophilus</i> La-14®	625 mg (125 Billion CFU)†	**
<i>Bifidobacterium lactis</i> BI-04®	200 mg (100 Billion CFU)†	**
<i>Lactobacillus bulgaricus</i> Lb-87™	100 mg (5 Billion CFU)†	**
<i>Bifidobacterium longum subsp. Infantis</i> BI-26™	100 mg (5 Billion CFU)†	**
HOWARU® Bifido ( <i>Bifidobacterium lactis</i> HN019®)	83.3 mg (25 Billion CFU)†	**
<i>Lactobacillus plantarum</i> Lp-115®	50 mg (20 Billion CFU)†	**
<i>Bifidobacterium longum</i> BI-05™	50 mg (5 Billion CFU)†	**
<i>Bifidobacterium bifidum</i> Bb-06™	50 mg (5 Billion CFU)†	**
HOWARU® Rhamnosus ( <i>Lactobacillus rhamnosus</i> HN001®)	33.3 mg (15 Billion CFU)†	**
<i>Lactobacillus rhamnosus</i> Lr-32®	25 mg (5 Billion CFU)†	**
<i>Lactobacillus brevis</i> Lbr-35™	25 mg (5 Billion CFU)†	**
<i>Lactobacillus gasseri</i> Lg-36™	25 mg (5 Billion CFU)†	**
<i>Lactobacillus casei</i> Lc-11®	16.67 mg (5 Billion CFU)†	**
<i>Lactobacillus salivarius</i> Ls-33®	16.67 mg (5 Billion CFU)†	**
<i>Bifidobacterium breve</i> Bb-03™	16.67 mg (5 Billion CFU)†	**
<i>Lactococcus lactis</i> LI-23™	16.67 mg (5 Billion CFU)†	**
<i>Streptococcus thermophilus</i> St-21™	12.5 mg (5 Billion CFU)†	**
<i>Bifidobacterium bifidum/Bifidobacterium lactis</i> Bb-02™	11.1 mg (5 Billion CFU)†	**

† Percent Daily Values are based on a 2,000 calorie diet.  
\*\* Daily Value not established.

**Other Ingredients:** Potato maltodextrin, calcium silicate, and magnesium stearate.  
‡ Colony-Forming Units  
†† Formulated with 650 billion CFU‡ at time of manufacture  
HN001® and HN019® are registered trademarks of Fonterra™ Limited and are licensed to DuPont Nutrition Biosciences.

**DIRECTIONS:** Dissolve the contents of one stick pack (350 billion CFU)†† into 2-4 oz of pure water and consume once daily, or take as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Do not use if stick pack is damaged.

**STORAGE:** Keep tightly closed in a cool, dry place out of reach of children.

**DOES NOT CONTAIN:** Wheat, gluten, soy, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, artificial colors, artificial sweeteners, or artificial preservatives.

**HOWARU®**

HOWARU®, FLORAFIT® and the HOWARU® logo are registered trademarks of DuPont or its affiliates.

**ProbioMax® Complete DF Supplement Facts**

Serving Size: 1 Capsule  
Servings Per Container: 30

	Amount Per Serving	%Daily Value
<i>Lactobacillus acidophilus</i> La-14®	80 mg (16 Billion CFU)†	**
<i>Bifidobacterium lactis</i> BI-04®	26 mg (13 Billion CFU)†	**
<i>Lactobacillus bulgaricus</i> Lb-87™	12 mg (0.6 Billion CFU)†	**
<i>Bifidobacterium longum subsp. Infantis</i> BI-26™	12 mg (0.6 Billion CFU)†	**
HOWARU® Bifido ( <i>Bifidobacterium lactis</i> HN019®)	10.66 mg (3.2 Billion CFU)†	**
<i>Lactobacillus plantarum</i> Lp-115®	7.5 mg (3 Billion CFU)†	**
<i>Bifidobacterium longum</i> BI-05™	6 mg (0.6 Billion CFU)†	**
<i>Bifidobacterium bifidum</i> Bb-06™	6 mg (0.6 Billion CFU)†	**
HOWARU® Rhamnosus ( <i>Lactobacillus rhamnosus</i> HN001®)	4.44 mg (2 Billion CFU)†	**
<i>Lactobacillus rhamnosus</i> Lr-32®	3 mg (0.6 Billion CFU)†	**
<i>Lactobacillus brevis</i> Lbr-35™	3 mg (0.6 Billion CFU)†	**
<i>Lactobacillus gasseri</i> Lg-36™	3 mg (0.6 Billion CFU)†	**
<i>Lactobacillus casei</i> Lc-11®	2 mg (0.6 Billion CFU)†	**
<i>Lactobacillus salivarius</i> Ls-33®	2 mg (0.6 Billion CFU)†	**
<i>Bifidobacterium breve</i> Bb-03™	2 mg (0.6 Billion CFU)†	**
<i>Lactococcus lactis</i> LI-23™	2 mg (0.6 Billion CFU)†	**
<i>Streptococcus thermophilus</i> St-21™	1.5 mg (0.6 Billion CFU)†	**
<i>Bifidobacterium bifidum/Bifidobacterium lactis</i> Bb-02™	1.3 mg (0.6 Billion CFU)†	**

\*\* Daily Value not established.

**Other Ingredients:** Potato maltodextrin, acid-resistant capsule (hypromellose, gellan gum, and water), hydroxypropyl cellulose, magnesium stearate, and calcium silicate.  
† Colony-forming units  
HN001® and HN019® are registered trademarks of Fonterra™ Limited and are licensed to DuPont Nutrition Biosciences.

**DIRECTIONS:** Take one capsule with water daily, or as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner.

**STORAGE:** Keep tightly closed in a cool, dry place out of reach of children.

**DOES NOT CONTAIN:** Wheat, gluten, soy, animal or dairy products, fish, shellfish, peanuts, tree nuts, egg, artificial colors, artificial sweeteners, or artificial preservatives.

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Additional references available upon request



All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.

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