# ProbioMed™

designs for health®

## *Shelf-stable, broad spectrum probiotics available in three potencies: 50, 100, and 250 billion CFUs*

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Designs for Health's ProbioMed™ high potency probiotics formulations consist of ten of the most highly-researched probiotic strains in a unique moisture-resistant, desiccant-lined packaging to ensure strain survivability without the need for refrigeration. The diversity and therapeutically significant quantities of these specific strains target gastrointestinal health to address common gastrointestinal conditions, bowel function, and varying degrees of dysbiosis associated with lifestyle or life-stage, antibiotic therapy, dietary imbalances or stress. This family of products also possesses specific strains that have strong immunomodulatory actions to mature and enhance the immune system during all life stages. These formulations are offered in three potencies: 50, 100, and 250 billion CFUs. This allows for a highly diverse range of use and extensive titration options.

Common problems associated with probiotic supplementation include strain identification and disclosure of individual counts, strain integrity and stability during storage and internal delivery, resistance/tolerance to stomach acid and bile salts, adherence to intestinal walls, and antibiotic resistance. These high potency formulations have been developed to address these common challenges and maximize their therapeutic potential. Each probiotic strain and count has been carefully selected after extensive review of scientific literature to ensure superior viability in low pH conditions and in the presence of bile salts, with proven adherence to human epithelial and mucosal surfaces, and antibiotic resistance.

### Highlights

- Combines 10 boutique strains at therapeutically significant dosages
- Evidence-based formulations – the strains are heavily researched and validated
- Specific strain identification with disclosed CFU count
- Shelf stable – significant overage ensures long shelf life and guarantees delivery of stated CFU count
- State-of-the-art moisture, oxygen, and light resistant, desiccant-lined packaging to protect probiotics and extend shelf life, and eliminate the need for refrigeration
- 250 B option offered as convenient, single serving stick packs lined with a moisture, oxygen, and light resistant film to preserve viability
- Superior tolerance/resistance to stomach acid and bile salts
- 50 B & 100 B capsules feature delayed release technology for optimal survivability from stomach acid and properly timed release of the probiotics in the lower GI tract
- Does not cause antibiotic resistance
- Strong adherence to intestinal epithelial and mucosal walls
- Probiotic interaction with the mucosa may provide a better opportunity for the probiotic to modulate the immune response
- Protects against pathogens by limiting their ability to colonize in the intestine and by effectively blocking the pathogens adhesion site
- Dairy-free formulations

## Probiotic Strains

**Lactobacillus acidophilus (DDS®-1):** is a potent immunomodulatory probiotic strain shown to enhance immune activity by increasing regulatory T cells, inducing chemokine and cytokine response, stimulating dendritic cells to promote Th1/Th2/Th3 immunity, and improving IgA response.[1-5] Studies show *L. acidophilus* DDS-1 significantly reduces the incidence and duration of cold and flu symptoms, improves colitis, and enables immune maturation in fetal enterocytes.[2-4, 6-7] It has also been shown to improve microbiome diversity following antibiotic therapy and is effective against *C. difficile*, candidiasis, and SIBO, while reducing constipation and increasing bowel frequency.[8-19]

**Lactobacillus plantarum (UALp-05™):** significantly inhibits the invasion of pathogenic *E. coli*, especially when combined with other probiotic strains, and effectively reduces disturbance of the microbiome resulting from antibiotic therapy.[20-21] Studies show it reduces abdominal pain, bloating and other gastrointestinal symptoms associated with IBS and colitis.[22-23] As an immunomodulatory agent, *L. plantarum* enhances the IgG response and improves the body's response to influenza in elderly individuals, especially.[24-25]

**Bifidobacterium lactis (UABla-12™):** has been present in human food for decades and is broadly recognized for its key role in the human intestinal microflora throughout life. Its anti-inflammatory properties are useful in attenuating the symptoms of colitis, while supporting the body against allergies and allergic rhinitis.[23, 26] It protects and restores the microbiome following antibiotic therapy and boosts the body's IgG response.[9, 26]

**Lactobacillus casei (UALc-03™):** improves systemic and mucosal immune responses, reducing the occurrence of infections in elderly, especially.[27-28] Its anti-inflammatory properties are noted as it lowers hsCRP, reduces the occurrence of necrotizing enterocolitis, modifies the expression of toll-like receptor in ulcerative colitis, and repairs aspirin-induced bowel injury.[29-32] *L. casei* also improves insulin sensitivity, thus, playing a role in helping to prevent diabetes mellitus.[33]

**Bifidobacterium breve (UABbr-11™):** is a normal commensal microorganism that prevents and improves constipation, abdominal bloating, anal itch, burn, pain, and other symptoms of ulcerative colitis and necrotizing enterocolitis.[32, 34-35] It also maintains fasting glucose, decreases hsCRP, and increases plasma glutathione.[36]

**Lactobacillus paracasei (UALpc-04™):** can inhibit pathogenic salmonella, *S. aureus*, *E. coli*, and listeria, while protecting and restoring the microbiome following antibiotic therapy.[9-10] As an immunomodulatory agent, it induces IL-10, (TNF)-α, (IFN)-γ, and IL-12, and enhances the IgG and IgM response.[24] Colitis models show a significant reduction in intestinal inflammation with *L. paracasei* therapy.

**Lactobacillus salivarius (UALs-07™):** mitigates inflammatory symptoms, and modulates cytokine production and the cellular response to pathogenic challenges while restoring a disrupted microbiome.[9, 37] It also improves oral health by reducing gum bleeding and physiologic halitosis while increasing resistance to caries.[38-39]

**Lactobacillus rhamnosus (GG):** is a potent immunomodulatory strain that increases interleukin and cytokine production, phagocytosis and NK-cell activity, sIgA secretion, fetal immunity, and immunomodulatory components of breastmilk.[12, 40-42] It is effective against *C. difficile*, *E. coli* O157:H7, and *S. typhimurium*.[43-45]

**Bifidobacterium bifidum (UABb-10™):** improves functional constipation and symptoms of IBS, including abdominal pain, bloating, belching, flatulence, and diarrhea.[46] Upper gastrointestinal symptoms associated with *H. pylori* infections also benefit from *B. bifidum*.[47]

**Bifidobacterium longum (UABI-14™):** improves the composition and metabolic activities of colonic bacterial communities and immune parameters, helping the symptomatic effects of celiac disease, IBS, and functional constipation.[46, 48-49] Studies show *B. longum* significantly reduces TNF-alpha, CRP, serum AST, insulin resistance, serum endotoxin, and steatosis in patients with non-alcoholic steatohepatitis.[50]

## Probiotic Strain Comparison Chart

| STRAIN | Low pH Resistance* | Bile Acid Tolerance** | Mucosal Adherence*** | L/D Lactic Acid Production† | Immuno-modulation |
|---|---|---|---|---|---|
| *L. acidophilus* (DDS®-1) | Extremely resistant (>90% survival) | Extremely resistant (>90% recovery) | HT-29: +++ Very good<br>Caco-2: +++ Very good | 60/40 molar ratio | IL-1<br>TNF- α<br>IgA |
| *L. plantarum* (UALp-05™) | Extremely resistant (>90% survival) | Extremely resistant (>90% recovery) | HT-29: ++ Good<br>Caco-2: ++++ Excellent | 55/45 molar ratio | IgG |
| *B. lactis* (UABla-12™) | Extremely resistant (>90% survival) | Extremely resistant (>90% recovery) | HT-29: +++ Very good<br>Caco-2: +++ Very good | 100/0 molar ratio | IL-10<br>IL-12<br>IgG |
| *L. casei* (UALc-03™) | Extremely resistant (>90% survival) | Extremely resistant (>90% recovery) | HT-29: ++ Good<br>Caco-2: ++++ Excellent | 60/40 molar ratio | |
| *B. breve* (UABbr-11™) | Tolerant (<60% survival) | Tolerant (<60% recovery) | HT-29: + Fair<br>Caco-2: +++ Very good | 100/0 molar ratio | |
| *L. paracasei* (UALpc-04™) | Very highly resistant (80-89% survival) | Resistant (60-69% recovery) | HT-29: +++ Very good<br>Caco-2: ++++ Excellent | 100/0 molar ratio | IL-10<br>IL-12<br>TNF- α<br>IgG<br>IgM |
| *L. salivarius* (UALs-07™) | Highly resistant (70-79% survival) | Very highly resistant (80 - 89% recovery) | HT-29: ++++ Excellent<br>Caco-2: ++++ Excellent | 100/0 molar ratio | IL-10<br>IL-12 |
| *L. rhamnosus* (GG) | Highly resistant (70-79% survival) | Highly resistant (70-79% recovery) | HT-29: +++ Very good<br>Caco-2: +++ Very good | 100/0 molar ratio | sIgA |
| *B. bifidum* (UABb-10™) | Extremely resistant (>90% survival) | Extremely resistant (>90% recovery) | HT-29: ++++ Excellent<br>Caco-2: ++++ Excellent | 100/0 molar ratio | |
| *B. longum* (UABl-14™) | Highly resistant (70-79% survival) | Very highly resistant (80 - 89% recovery) | HT-29: +++ Very good<br>Caco-2: +++ Very good | 100/0 molar ratio | |

* Acid resistance after incubation in hydrochloric acid and pepsin (1%) at pH 3 for 1h at 37°C

**Fresh cultures diluted and plated onto MRS agar plates with and without 0.3% bovine oxgall bile salts

***in vitro adherence to two human intestinal cell lines, Caco-2 and HT-29

†Boehringer Mannheim/R-Biopharm D-lactic acid/L-lactic acid UV-method

**ProbioMed™ formulations may be useful for:**

- Minimizing the side effects of antibiotics
- Reestablishing a healthy and diverse microbiome
- Alleviating symptoms associated with inflammatory bowel disease/ulcerative colitis
- Enhancing the immune system
- Inhibiting the growth of pathogenic organisms including candidiasis, E. coli, C. difficile, H. pylori, and salmonella
- Improving constipation and/or diarrhea during all life stages
- Reducing severity and duration of cold/flu symptoms

## ProbioMed™ 50

### Supplement Facts

Serving Size 1 capsule

| Amount Per Serving | % Daily Value |
|---|---|
| Probiotic Blend | 50 billion CFU * |
| *Bifidobacterium lactis* (UABla-12™) | 17.8 billion CFU * |
| *Lactobacillus acidophilus* (DDS®-1) | 5.7 billion CFU * |
| *Lactobacillus plantarum* (UALp-05™) | 8.6 billion CFU * |
| *Lactobacillus casei* (UALc-03™) | 3.5 billion CFU * |
| *Bifidobacterium breve* (UABbr-11™) | 3.5 billion CFU * |
| *Bifidobacterium bifidum* (UABb-10™) | 1.0 billion CFU * |
| *Bifidobacterium longum* (UABl-14™) | 1.0 billion CFU * |
| *Lactobacillus salivarius* (UALs-07™) | 2.9 billion CFU * |
| *Lactobacillus rhamnosus* (GG) | 3.0 billion CFU * |
| *Lactobacillus paracasei* (UALpc-04™) | 3.0 billion CFU * |

*Daily Value not established.

**Other Ingredients:** Microcrystalline cellulose, delayed release capsule (hydroxypropyl methylcellulose, gellan gum), vegetable stearate, silica.

**50 B: Formulated with 75 billion CFU at time of manufacture.**

## ProbioMed™ 100

### Supplement Facts

Serving Size 1 capsule

| Amount Per Serving | % Daily Value |
|---|---|
| Probiotic Blend | 100 billion CFU * |
| *Bifidobacterium lactis* (UABla-12™) | 36.4 billion CFU * |
| *Lactobacillus acidophilus* (DDS®-1) | 10.8 billion CFU * |
| *Lactobacillus plantarum* (UALp-05™) | 18.0 billion CFU * |
| *Lactobacillus casei* (UALc-03™) | 7.2 billion CFU * |
| *Bifidobacterium breve* (UABbr-11™) | 7.2 billion CFU * |
| *Lactobacillus salivarius* (UALs-07™) | 6.0 billion CFU * |
| *Lactobacillus rhamnosus* (GG) | 6.0 billion CFU * |
| *Lactobacillus paracasei* (UALpc-04™) | 6.0 billion CFU * |
| *Bifidobacterium bifidum* (UABb-10™) | 1.2 billion CFU * |
| *Bifidobacterium longum* (UABl-14™) | 1.2 billion CFU * |

*Daily Value not established.

**Other Ingredients:** Microcrystalline cellulose, delayed release capsule (hydroxypropyl methylcellulose, gellan gum), vegetable stearate, silica.

**100 B: Formulated with 145 billion CFU at time of manufacture.**

## ProbioMed™ 250

### Supplement Facts

Serving Size 1 stick pack (2 grams)

| Amount Per Serving | % Daily Value |
|---|---|
| Probiotic Blend | 250 billion CFU * |
| *Bifidobacterium lactis* (UABla-12™) | 89.2 billion CFU * |
| *Lactobacillus acidophilus* (DDS®-1) | 29.7 billion CFU * |
| *Lactobacillus plantarum* (UALp-05™) | 44.7 billion CFU * |
| *Lactobacillus casei* (UALc-03™) | 17.8 billion CFU * |
| *Bifidobacterium breve* (UABbr-11™) | 17.8 billion CFU * |
| *Lactobacillus salivarius* (UALs-07™) | 14.8 billion CFU * |
| *Lactobacillus rhamnosus* (GG) | 15.0 billion CFU * |
| *Lactobacillus paracasei* (UALpc-04™) | 15.0 billion CFU * |
| *Bifidobacterium bifidum* (UABb-10™) | 3.0 billion CFU * |
| *Bifidobacterium longum* (UABl-14™) | 3.0 billion CFU * |

*Daily Value not established.

**Other Ingredients:** Potato maltodextrin, silica.

**250 B: Formulated with 360 billion CFU at time of manufacture.**


**Suggested Dosage Implementation**

**ProbioMed™ 50 —** 50 Billion CFU: high potency, broad-spectrum maintenance formula for healthy microflora

**ProbioMed™ 100 —** 100 Billion CFU: higher potency formula for continuous microflora replenishment

**ProbioMed™ 250 —** 250 Billion CFU: therapeutic formula for intensive recolonization due to microbiome depletion

*For a list of references cited in this document, please visit:*
http://catalog.designsforhealth.com/assets/itemresources/ProbioMed_References.pdf



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