ProbioMed™ Infant

Infant Probiotics with Human Milk Oligosaccharides

designs for healthy kids™

By David M. Brady, ND, DC, CCN, DACBN and Caitlin Higgins, MS, CNS, LDN

Product Summary

ProbioMed™ Infant is a synergistic combination of 5 billion colony-forming units (CFUs) of seven diverse, clinically relevant probiotic strains, human milk oligosaccharides, and an infant enzyme blend delivered as an unflavored, easy-to-mix powder ideal for formula-fed infants. This custom formula provides infant-specific nutritional requirements that can be found in human breast milk to promote infant gastrointestinal (GI) microbial diversity, immune health, and digestive support.* ProbioMed™ Infant also contains protease, alpha-galactosidase, and lactase enzymes — in amounts emulating what naturally occurs in breast milk — to assist infants in the digestion of carbohydrates, proteins, and lactose. Although ProbioMed™ Infant is recommended for infants from birth up to 3 years old who are unable to be breastfed, as it is intended to be mixed in formula, this probiotic powder can also be mixed in water or juice for young children who could benefit from additional probiotics or who were not breastfed as infants. This product may be ideal for infants delivered by cesarean section (C-section) who may have a reduced abundance of *Bifidobacterium spp.*[3]

Human Milk Oligosaccharides

Human milk oligosaccharides (HMOs) are the third most abundant component of human breast milk after lactose and lipids, and this plays a significant role in shaping the development of intestinal microbiota in early life, particularly by enhancing the growth of bifidobacteria.[4,5,11,12] HMOs are complex indigestible sugars that serve as "prebiotics" for the gut flora, helping to ensure a healthy gut microbiota and immune system.[5,13]

Breastfed infants have a survival advantage over non-breastfed infants, as formula-fed infants have been shown to be more susceptible to infectious and immune-mediated diseases, such as acute otitis media, gastroenteritis, and allergies.[4] According to stool analysis, there were marked differences in the total microbial abundances of infants who received infant formula with HMOs compared with controls receiving infant formula with no HMOs.[5]

The microbial composition appeared to be closer to that of breastfed infants (with a significantly higher abundance of *Bifidobacteriaceae* fecal community types) at 3 months, and the infants who received infant formula with HMOs were shown to be significantly less likely to require antibiotics during the first year of life.[5]

Furthermore, HMOs provide critical immune support by helping to modulate the gut-brain-immune axis.[4] In vitro and in vivo studies have shown HMOs contribute to infant immune system development by improving intestinal barrier function against pathogens, driving infant intestinal microbiota, and modulating intestinal epithelial cell receptor signaling and response.[4,14]

Highlights

- Strain transparency — specific strain identification with disclosed CFUs
- Combines a total of 5 billion CFUs of seven diverse probiotic strains for infants
- Shelf-stable — significant overage of strains ensures long shelf life and ensures delivery of stated CFU count
- Contains HMOs — vital immune support for infants*
- Combines probiotics with an infant enzyme blend for digestive support*
- Provides infant-specific nutritional requirements found in human breast milk
- Delivered as an unflavored, easy-to-mix powder
- Portable, travel-sized stick packets
- No artificial flavors, ingredients, or sweeteners

Probiotic Strains for Infant Support

Bifidobacterium infantis: is unique in its capacity to comprehensively utilize HMOs as a primary food source, and it is considered to be the "champion colonizer of the infant's gut."[15] Because *B. infantis* metabolizes HMOs in the gut into short-chain fatty acids (e.g., acetate), infant fecal pH remains lower, which helps restore colonization resistance and promotes immune development in the infant's gut.[3,16] In the presence of HMOs, *B. infantis* has been shown to proliferate more than other bacterial strains, significantly reducing clostridia counts, and enhancing interleukin (IL)-10 and IL-6 production (regulators of immune response to infection) in vitro.[2,15] In vitro studies show that *B. infantis* possesses anti-inflammatory properties and may reduce intestinal permeability.[15] Infants who lack *B. infantis* in the first 60 days of life presented with signs of chronic enteric inflammation associated with an increased risk of atopy and asthma later in life.[17]

Lactobacillus plantarum, Lactobacillus rhamnosus GG, and Bifidobacterium lactis: were also shown to improve atopic dermatitis symptoms in children.[9] Infants treated with *L. rhamnosus* GG for 28 days (in addition to the mother removing cow's milk from her diet) presented with improved colic symptoms, including reduced crying time and calprotectin levels (a marker for inflammatory bowel disease).[7] In vitro, *L. plantarum* isolated from healthy infants demonstrated antagonistic effects against bacteria that cause nosocomial infections.[18] A systematic review and meta-analysis of *L. rhamnosus* GG significantly reduced the duration of acute rotavirus-associated diarrhea, the most common cause of severe diarrhea in children and infants worldwide, when comparing these children to controls.[19]

Supplement Facts

Serving Size 1 stick pack (1 gram)

Amount Per Serving		% Daily Value
Total Carbohydrate	<1 g	<1%
Dietary Fiber	<1 g	*
Infant Probiotic Blend	75 mg (5 billion CFU)	*
Bifibobacterium infantis (Bi-26)	0.5 billion CFU	*
Lactobacillus fermentum (LF61)	1.0 billion CFU	*
Lactobacillus gasseri (Lg-36)	0.5 billion CFU	*
Lactobacillus plantarum (Lp-115)	0.9 billion CFU	*
Bifidobacterium lactis (Bl-04)	1.0 billion CFU	*
Lactobacillus rhamnosus (GG)	0.6 billion CFU	*
Lactobacillus salivarius (Ls-33)	0.5 billion CFU	*
Infant Enzyme Blend	10 mg	*
Protease	2,000 HUT	*
Alpha Galactosidase	25 GalU	*
Lactase	25 ALU	*

*Daily Value not established.

Other Ingredients: Fructooligosacchardes, human milk oligosacchardies (2-fucosyllactose), medium chain triglycerides.
Contains milk.

Lactobacillus fermentum, Lactobacillus salivarias, and Lactobacillus gasseri: *L. fermentum* is found in human breast milk and has been shown in vitro, in vivo, and in clinical trials to be safe and well-tolerated, and it may be effective for community-acquired infection prevention.[20] In vitro studies demonstrated *L. fermentum* to have high GI survivability and antibacterial activity against *Listeria monocytogenes.*[21] *L. fermentum* and *L. salivarias* were shown to have a significant effect on the severity of atopic dermatitis in children.[8] *L. gasseri* (also a component of human milk) was shown to be the dominant *Lactobacillus* strain of the oral cavity in breastfed infants and inhibit cariogenic bacteria growth in vitro.[22]

Digestive Enzyme Blend for Infants

ProbioMed™ Infant provides a combination of digestive enzymes modeled after human breast milk to assist infants' ability to properly breakdown and digest carbohydrates and protein. The addition of proteolytic enzymes and lactase is important for the digestion of milk proteins that are not found in infant formula. Although many formulas do contain enzymes, they do not include enzymes found in human breast milk, making it critical for formula-fed infants to supplement with these enzymes to support proper nutrient digestion and absorption.

ProbioMed™ Infant may benefit the following*:

- Infants delivered by C-section[1-3]
- Formula-fed infants or those unable to be breastfed[4,5]
- Healthy immune system maturation[3-5]
- Mucosal health of the GI tract and improved intestinal barrier function[3]
- Improved stool frequency and consistency[6]
- Infantile colic[7]
- Atopic conditions[8,9]
- Infants whose mothers received antibiotics during pregnancy/lactation[10]

Recommended Use:
Mix one stick pack (1 gram) into breast milk, infant formula, milk or juice per day, or as directed by your health-care practitioner.

For a list of references cited in this document, please visit:
https://www.designsforhealth.com/techsheet-references/probiomedinfant-references.pdf

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