



HMF Multi Strain 100

PROBIOTIC FORMULA

Concentrated 14-strain probiotic combination

- Provides 100 billion CFU per convenient, once-daily capsule
- Supports gastrointestinal health
- Contains proprietary, human-sourced strains
- Potency guaranteed through expiration

HMF Multi Strain 100 capsules offer 100 billion CFU from a combination of 14 probiotic strains. Included in this blend of proprietary, human-sourced probiotics are eight strains of *Lactobacilli* and six strains of *Bifidobacteria* to promote colonization in both the small and large intestines.¹ These research-driven strains were selected based on their superior adherence to the gut lining, natural resistance to pH and bile acid, and ability to support gastrointestinal health and promote a favourable gut flora.² Research has also found that supplementation with large numbers of a combination of probiotic strains helps maximize intestinal colonization and promote the growth of beneficial bacteria.³



EACH CAPSULE CONTAINS:

Probiotic Consortium	100 billion CFU
<i>Lactobacillus acidophilus</i> (CUL-60)	10 billion CFU
<i>Lactobacillus acidophilus</i> (CUL-21)	10 billion CFU
<i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (CUL-34)	19 billion CFU
<i>Bifidobacterium bifidum</i> (CUL-20)	1 billion CFU
<i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (BL-04)	15 billion CFU
<i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (HN019)	10 billion CFU
<i>Lactobacillus salivarius</i> (CUL-61)	6 billion CFU
<i>Lactobacillus paracasei</i> (CUL-08)	5 billion CFU
<i>Lactobacillus gasserii</i> (CUL-09)	5 billion CFU
<i>Lactobacillus acidophilus</i> (NCFM®)	4 billion CFU
<i>Lactobacillus casei</i> (CUL-06)	4 billion CFU
<i>Lactobacillus plantarum</i> (CUL-66)	4 billion CFU
<i>Bifidobacterium breve</i> (CUL-74)	4 billion CFU
<i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (CUL-62)	3 billion CFU

Non-Medicinal Ingredients: Hypromellose, cellulose, silica
NCFM[®] is used with permission under licence

Recommended Dose: Adults, Adolescents and Children (6 years and older): Take one capsule daily, at least two to three hours before or after taking antibiotics, or as recommended by your healthcare practitioner.

Product Size: 30 Vegetable Capsules **Product Code:** 10197

NPN 80067574



REFERENCES

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2. Seroyal. Data on file.
3. Garaiova, I, Muchová, J, Nagyová, Z, Wang, D, Li, J, Országhová, Z, Michael, DR, Plummer, SF, Duračková, Z. Eur J Clin Nutr. 2015; 69(3): 373-379.

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Scientific Rationale:

The human intestinal tract contains more than 400 bacterial species.¹ The distribution of these microorganisms throughout the gut is not uniform, with the concentration and diversity of species increasing towards the distal end of the GI tract.² In addition, certain species preferentially colonize specific areas of the digestive system.³ Compared to other strains, *Lactobacilli* survive better in acidic environments, and are one of few species present in the stomach and duodenum.³ In contrast, *Bifidobacteria* are found in larger numbers in the colon, where they play a role in fermentation and complex carbohydrate digestion.³

The composition of the gut microflora can be altered by a number of factors, including diet, stress, aging and travel.¹ These factors may cause an imbalance in the intestines, wiping out the beneficial bacteria and allowing pathogenic bacteria to multiply.¹ This can lead to common gastrointestinal complaints, including bloating and gas.⁴

Probiotics are live microorganisms that contribute to a healthy microflora composition and support gastrointestinal health.¹ Studies have shown that they support the growth of beneficial bacteria in the intestines, while limiting the proliferation of pathogenic bacteria.¹ They prevent pathogenic bacteria from colonizing the gastrointestinal tract by reducing the pH and stimulating the production of antimicrobial peptides in the intestine.⁶ In addition to decreasing bacterial survival, probiotics strengthen the epithelial barrier.⁶ They mediate the integrity of tight junctions and increase mucin release, which in turn regulates permeability and prevents pathogens from adhering to cells.^{6,7} This course of action decreases the movement of bacteria from the intestines into circulation.⁸

HMF Multi Strain 100 is formulated using probiotic microorganisms that have been used in a wide body of clinical research, including HN019, BL-04, NCFM®, and GENESTRA BRAND's proprietary *Lactobacillus* and *Bifidobacterium* probiotic consortium.⁹⁻¹⁵ Studies demonstrate that these strains effectively contribute to a healthy gut flora and support gastrointestinal health.⁹⁻¹³

In one randomized, double-blind, placebo-controlled trial, supplementation with *Bifidobacterium animalis* subsp. *lactis* HN019 significantly contributed to a favourable gut flora in aging adults.⁹ Elderly participants (over 60 years of age) were randomly assigned to consume a placebo or one of three probiotic supplements daily for four weeks [low (6.5×10^7 CFU daily), medium (1.0×10^9 CFU daily) or high (5.0×10^9 CFU daily)].⁹ Fecal samples were collected every two weeks for a total of eight weeks and analyzed for bacterial counts.⁹ After four weeks of probiotic supplementation, the mean number of fecal *Bifidobacteria* was significantly higher than baseline levels.⁹ HN019 intake also significantly increased *Lactobacilli* and *Enterococci* counts in the high and medium groups when compared to baseline values.⁹ In contrast, probiotic supplementation was reported to decrease the level of fecal *Enterobacteria* (potentially pathogenic

bacteria).⁹ As the levels of *Bifidobacteria* naturally decrease with age, supplementation with HN019 may represent an easy way to promote its proliferation in the intestines.⁹ Similarly, *Bifidobacteria* produce acetate and lactate, which may support the growth of *Lactobacilli*.⁹ Supplementation with *Bifidobacteria* may provide additional benefit to the gastrointestinal tract by reducing the level of *Enterobacteria*, whose levels naturally increase with age.⁹ Therefore, daily supplementation with HN019 contributed to a healthy gut flora composition in older adults.⁹

Similarly, a placebo-controlled clinical trial reported that daily supplementation with HN019 for two weeks significantly improved whole gut transit time and gastrointestinal comfort further increasing gastrointestinal health.¹⁰ Fifty-four adult participants (aged 25-65) were randomized to either the placebo capsule supplementation group or the probiotic capsule supplementation group (1.8 billion CFU of HN019 per day).¹⁰ Whole gut transit time (WGTT) was determined using abdominal X-ray scans - following ingestion of radiopaque markers daily for six days - at baseline and after 14 days of supplementation.¹⁰ Probiotic intake was associated with a significant improvement in WGTT.¹⁰ Prior to supplementation, mean WGTT in the probiotic group was 59.5 hours; after two weeks of probiotic supplementation, the WGTT was 41.5 hours, an approximately 30% decrease.¹⁰ Regularity, abdominal pain and flatulence symptoms also significantly improved after two weeks of probiotic supplementation; constipation decreased by 35.8%, abdominal pain decreased by 26.6%, irregular bowel movements decreased by 22.8%, and flatulence decreased by 15.3% in the probiotic group.¹⁰ This demonstrates that HN019 supports gastrointestinal health.¹⁰

Similarly, a double-blind, placebo-controlled trial reported that HMF probiotics significantly modulated the intestinal microflora composition.¹² Participants were divided into two groups, receiving either a probiotic or placebo supplement for 21 days.¹² Two fecal samples were collected at baseline (day one) to determine the average bacterial composition at baseline.¹² Fecal samples were also collected on days seven and 35.¹² Each probiotic capsule was taken once daily and contained 2.5×10^{10} CFU from a combination of two strains of *Lactobacillus acidophilus* (CUL-60 and CUL-21) and two strains of *Bifidobacterium* spp. (CUL-34 and CUL-20).¹² HMF probiotic supplementation supported a healthy microflora composition.¹² Similarly, a second randomized, double-blind, placebo-controlled trial found that daily supplementation with an HMF probiotic [2.5×10^{10} CFU from a combination of two strains of *Lactobacillus acidophilus* (CUL-60 and CUL-21) and two strains of *Bifidobacterium bifidum* (CUL-34 and CUL-20)] for 15 days helped to support the growth of beneficial strains and contribute to a healthy microflora composition.¹³

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