GENESTRA BRANDS®

HMF™ Multi Strain
(shelf-stable)

16-strain probiotic combination

- Provides 15 billion CFU per capsule from a combination of 16 strains
- Supports gastrointestinal health, abdominal comfort and a healthy microflora‡
- Balances microflora composition‡
- No refrigeration necessary
- Potency guaranteed through expiration

HMF™ Multi Strain offers a comprehensive combination of 16 probiotic strains that promote a healthy gut microflora. Each shelf-stable capsule provides a variety of strains to promote colonization in both the small and large intestines. HN019, a probiotic strain included in this formula, was shown in a placebo-controlled trial to promote a healthy gut microflora. It significantly increased *Bifidobacteria* and *Lactobacilli* counts, while reducing the population of *Enterobacteria* (a genus that includes many pathogenic bacteria). Similarly, Genestra's HMF™ probiotic consortium, *Lactobacillus acidophilus* (CUL-60 and CUL-21), *Bifidobacterium bifidum* (CUL-20) and *Bifidobacterium animalis* subsp. *lactis* (CUL-34), contained in HMF™ Multi Strain, has been demonstrated in clinical trials to support abdominal comfort and promote a healthy microflora balance in the gastrointestinal tract. This convenient shelf-stable format has potency guaranteed through expiration and may improve patient compliance.‡

Supplement Facts
Serving Size 1 Capsule
Servings per Container 50

	Amount Per Serving	% DV
Probiotic Consortium	15 billion CFU	*
Lactobacillus acidophilus (CUL-60 & CUL-21)		
Bifidobacterium animalis subsp. *lactis* (CUL-34) & *Bifidobacterium bidum* (CUL-20)		
Lactobacillus salivarius (CUL-61)		
Lactobacillus fermentum (CUL-67)		
Lactobacillus gasseri (CUL-09)		
Lactobacillus acidophilus (NCFM®)		
Lactobacillus casei (CUL-06)		
Lactobacillus paracasei (CUL-08)		
Bifidobacterium animalis subsp. *lactis* (CUL-62)		
Bifidobacterium breve (CUL-74)		
Bifidobacterium animalis subsp. *lactis* (HN019)		
Lactobacillus plantarum (CUL-66)		
Streptococcus salivarius subsp. *thermophilus* (CUL-68)		
Lactobacillus rhamnosus (HN001)		

* Daily Value (DV) not established

Other Ingredients: Microcrystalline cellulose, hypromellose, sunflower lecithin, silica

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Recommended Dose
Adults, Adolescents and Children (6 years and older): Take 1 capsule daily or as recommended by your health professional.

Size
50 Vegetarian Capsules

Product Code
10662-50U

Non GMO · Gluten Free · Soy Free · Dairy Free · No FOS · Vegan

Tried, tested and true.

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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.

662PDS0521U

HMF™ Multi Strain (shelf-stable)

Scientific Rationale:

The human intestinal tract contains more than 400 bacterial species.[1] This microflora composition can be altered by a number of factors, including diet, occasional stress, certain medications, aging and travel.[1] When the microflora balance is affected in the intestines, common gastrointestinal complaints can occur, including mild bloating and gas.[2‡]

Probiotics are defined by the World Health Organization as "live microorganisms which when administered in adequate amounts confer a health benefit on the host".[3] Probiotics have been found to support gastrointestinal health and contribute to a healthy microflora composition.[1] Studies have shown that they mediate microbial colonization and support the growth of beneficial bacteria in the intestines.[1] Probiotics accomplish this by mediating intestinal pH and strengthening the epithelial barrier.[4] They mediate the integrity of tight junctions and increase mucin release, which in turn regulates permeability and reduces microbial adherence to cells.[4,5‡]

HMF™ Multi Strain is formulated using probiotic strains that have been used in a wide body of clinical research, including HN019, NCFM®, and Genestra Brands® HMF™ proprietary *Lactobacillus* and *Bifidobacterium* probiotic consortium.[6-12] Studies demonstrate that these strains effectively contribute to a healthy gut flora and support gastrointestinal health.[6-12‡]

Microflora Composition

In one randomized, double-blind, placebo-controlled trial, supplementation with HN019 significantly contributed to a favorable gut flora in aging adults. Elderly participants (over 60 years of age) consumed either a placebo or one of three probiotic supplements daily for four weeks [low ($6.5x10^7$ CFU), medium ($1.0x10^9$ CFU) or high ($5.0x10^9$ CFU)]. Probiotic supplementation significantly increased the mean number of fecal *Bifidobacteria* when compared to baseline levels. 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‡]

In addition, HN019 intake significantly increased *Lactobacilli* and *Enterococci* counts in the high and medium groups after four weeks. As *Bifidobacteria* produce acetate and lactate, they may also help to support the growth of *Lactobacilli*. This further demonstrates that daily supplementation with HN019 can contribute to a healthy gut flora composition in older adults.[9‡]

The HMF™ Probiotic consortium was found to modulate the intestinal microflora composition in a double-blind, placebo-controlled trial. Participants were divided into two groups, receiving either a probiotic or placebo supplement for 21 days. Fecal samples were collected at baseline (day one) and on days 7 and 35 to determine the average bacterial composition. Each probiotic capsule was taken once daily and contained $2.5x10^{10}$ CFU from a combination of two strains of *Lactobacillus acidophilus* (CUL-60 and CUL-21), *Bifidobacterium animalis* subsp. *lactis* (CUL-34), and *Bifidobacterium bifidum* (CUL-20). HMF probiotic supplementation helped to support the growth of beneficial strains and maintain a healthy microflora balance in adults.[6‡]

Intestinal Transit Time

In a placebo-controlled trial, daily supplementation with HN019 for two weeks significantly improved whole gut transit time (WGTT) and gastrointestinal comfort and function scores.[10] One hundred adults were randomized to one of three groups, consuming placebo, low- (1.8 billion CFU of HN019) or high-dose probiotic (17.2 billion CFU of HN019) capsules daily for two weeks.[10] WGTT was determined using abdominal X-ray scans at baseline and after two weeks of supplementation.[10] Gastrointestinal comfort and function scores were also analyzed between baseline and study completion.[10] Supplementation with HN019 was dose-dependently associated with a significant improvement in WGTT (25% and 33% decrease for the low-and high-dose groups, respectively).[10] Probiotic supplementation also significantly improved both upper (abdominal comfort, gurgling) and lower (occasional constipation, bowel movement regularity and flatulence) gastrointestinal comfort and function scores.[10] Similarly, a randomized, double-blind, placebo-controlled study found that combined supplementation with HN019 and *Lactobacillus acidophilus* NCFM® for two weeks significantly reduced transit time compared to the control group.[11‡]

In an eight-week long, double-blind, randomized, placebo-controlled study involving 52 adults, supplementation with a combination of four HMF™ probiotic strains significantly reduced mild intestinal discomfort.[12] Participants were randomized to either the placebo or probiotic capsule group (25 billion CFU from CUL-60, CUL-21, CUL-34 and CUL-20) and consumed one capsule daily for eight weeks.[12] Participants scored their intestinal discomfort (including bloating, satisfaction with bowel habits and quality of life) at baseline and every two weeks during the supplementation period.[12] In comparison with baseline values, probiotic supplementation significantly improved intestinal discomfort scores, including a 22% decrease in days with intestinal discomfort, 32% improvement in satisfaction with bowel habits and 30% improvement in quality of life scores.[12] These improvements were also significantly greater when compared to placebo values.[12‡]

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