



GENESTRA
BRANDS®

HMF Immune Powder

Vitamins, minerals and probiotics targeting the immune system†

- Helps to maintain immune and gastrointestinal health†
- Provides 15 billion CFU per dose from a combination of five proprietary strains
- Includes 10 vitamins and seven minerals to help maintain good health‡
- Convenient, once-daily powder format
- Delicious, natural mixed berry flavor

HMF Immune Powder combines 17 essential vitamins and minerals with five research-driven probiotic strains to support overall well-being, gastrointestinal health and immune function. This blend offers zinc with vitamins C and D to support immune health by regulating the production and activity of immune cells. It also offers B vitamins to support energy metabolism, plus electrolytes to maintain good health. Notably, approximately 80% of the body's immunologically active cells are located in gut-associated lymphoid tissue, demonstrating an important interaction between the intestines and the immune system. Each convenient, once-daily sachet of HMF Immune Powder provides 15 billion CFU of probiotic strains clinically demonstrated to support gastrointestinal and immune health. In one trial, 12.5 billion CFU of HMF probiotics and 50 mg of vitamin C were found to support upper respiratory tract health in schoolchildren, while another study reported that 2 billion CFU of BI-04 promoted upper respiratory immune health in adults. Available in a delicious, natural mixed berry-flavored formula, HMF Immune Powder is an easy way to increase vitamin, mineral and probiotic intake for overall, gastrointestinal and immune health support.‡



Supplement Facts

Serving Size 1 Sachet (5 g)
Servings Per Container 30

| | Amount Per Serving | % DV |
|---|-----------------------------------|-----------------|
| Calories | 10 | |
| Total Carbohydrate | 2 g | |
| Total Sugars | 1 g | * |
| Includes 1 g Added Sugars | | 2% [^] |
| Vitamin C (as ascorbic acid/zinc ascorbate) | 1000 mg | 1111% |
| Vitamin D (as cholecalciferol) | 25 mcg (1000 IU) | 125% |
| Thiamin (as thiamin hydrochloride) | 0.6 mg | 50% |
| Riboflavin (as riboflavin 5'-phosphate sodium) | 0.65 mg | 50% |
| Niacin (as niacinamide) | 8 mg | 50% |
| Vitamin B ₆ (as pyridoxine hydrochloride) | 10 mg | 588% |
| Folate (as Metafolin® L-5-MTHF) | 167 mcg DFE (100 mcg L-5-MTHF) | 42% |
| Vitamin B ₁₂ (as hydroxocobalamin) | 25 mcg | 1042% |
| Biotin | 25 mcg | 83% |
| Pantothenic Acid (as calcium d-pantothenate) | 2.5 mg | 50% |
| Calcium (as calcium carbonate/tribasic calcium phosphate) | 50 mg | 4% |
| Phosphorus (as tribasic calcium phosphate) | 13 mg | 1% |
| Magnesium (as magnesium hydroxide/carbonate) | 60 mg | 14% |
| Zinc (as zinc ascorbate) | 5.5 mg | 50% |
| Manganese (as manganese gluconate) | 0.75 mg | 33% |
| Sodium (as sodium bicarbonate) | 55 mg | 2% |
| Potassium (as potassium bicarbonate/carbonate) | 200 mg | 4% |
| Probiotic Consortium | 15 billion CFU | * |
| <i>Lactobacillus acidophilus</i> (CUL-60 & CUL-21) | | |
| <i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (CUL-34) | | |
| & <i>Bifidobacterium bifidum</i> (CUL-20) | | |
| <i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (BI-04) | | |

* Daily value (DV) not established

[^] Percent daily values (DV) are based on a 2,000 calorie diet

Other Ingredients: Glucose, natural black currant, raspberry and strawberry flavors, raspberry fruit juice powder, DL-malic acid, citric acid, silica, potato maltodextrin, L-tartaric acid, L-glycine, stevia leaf extract
Metafolin® is a registered trademark of Merck KGaA, Darmstadt, Germany.

Recommended Dose

Adults: Mix 1 sachet in 1-2 cups of cold water. Take once daily with a meal, a few hours before or after taking medications or other supplements, or as recommended by your health professional.

Size

30 - 0.18 oz (5 g) Sachets of Powder
[Net Weight 5.3 oz (150 g)]

Product Code

10488A



Non
GMO



Gluten
Free



Soy
Free



Dairy
Free



No
FOS



Vegetarian

Tried, tested and true.

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HMF Immune Powder

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 Probiotics are live microorganisms that support gastrointestinal health and contribute to a healthy microflora composition.¹ They act by mediating intestinal pH, secreting mucin and other substances, and strengthening the epithelial barrier to regulate permeability and reduce microbial adherence to cells.^{2,3†}

The epithelial barrier is a critical factor in maintaining host defenses.² Additionally, approximately 80% of the body's immunologically active cells are located in gut-associated lymphoid tissue, demonstrating an important interaction between the intestines and the immune system.⁴ Preclinical research suggests that probiotics may directly mediate the activation of immune cells, the release of cytokines, and IgA antibody-mediated responses in the mucosa.^{5†}

Bifidobacterium animalis subsp. *lactis* (**BI-04**) is a proprietary probiotic strain that has been investigated for its effects on immune health.⁶ In a randomized, double-blind, placebo-controlled trial, physically active adults consumed either a placebo or probiotic supplement (containing 2.0x10⁹ CFU of BI-04) daily for 150 days.⁶ When compared to the placebo, daily supplementation with BI-04 significantly promoted upper respiratory immune health.^{6†}

Similarly, a combination of **HMF probiotics** and vitamin C supported schoolchildren's respiratory immune health in a six-month, randomized, double-blind, placebo-controlled study.⁷ Children consumed either a placebo or probiotic and vitamin C tablet (12.5 billion CFU of *Lactobacillus acidophilus* CUL-60 and CUL-21, *Bifidobacterium animalis* subsp. *lactis* CUL-34, *Bifidobacterium bifidum* CUL-20 and 50 mg of vitamin C).⁷ Tablets were consumed once daily for six months and respiratory health was evaluated by a pediatrician every two months.⁷ Compared with the placebo group, upper respiratory tract health and immune function were significantly better supported in children that received the probiotic and vitamin C supplement.⁷ An additional clinical trial reported that daily supplementation with 25 billion CFU of these probiotic strains (plus 2 g of fructooligosaccharides) significantly regulated the production of cytokines, including IL-6 and IL-1 β .⁸ This further demonstrates the potential of these probiotics to beneficially modulate the immune response.^{8†}

Vitamin C is a water-soluble antioxidant in the plasma and cellular fluid.⁹ It directly scavenges reactive oxygen and nitrogen species, and further protects cells by regenerating other antioxidants, such as glutathione

and vitamin E.¹⁰ It supports the immune system by regulating lymphocyte proliferation, natural killer cell activity, immunoglobulin production and histamine release.¹⁰ In addition, neutrophils contain vitamin C to protect against reactive oxygen species produced during phagocytosis.¹⁰ Research suggests that daily intake of approximately 1,000 mg of vitamin C may support immune health in competitive athletes or those with low-to-adequate vitamin C status.^{11-13†}

The **vitamin D** receptor is found on most immune cells, demonstrating the importance of this vitamin in immune health.¹⁴ Low-vitamin D status has been associated with decreased upper respiratory immune function, while vitamin D supplementation has been shown to beneficially impact the function of a variety of immune cells – including dendritic cells, macrophages, and T cells.¹⁵⁻¹⁷ Research demonstrates that vitamin D mediates the proliferation of T and B cells, increases the phagocytic activity of macrophages, and promotes a healthy cytokine balance to promote normal immune function.¹⁸ One controlled clinical trial reported that daily supplementation with 1,000 IU of vitamin D for three months significantly increased plasma vitamin D levels and regulated the production of IL-2, IL-4, IL-6, and IFN- γ .^{19†}

Zinc is also critical to the immune system as a cofactor of thymulin, a hormone involved in T cell maturation and differentiation, and is required for proper macrophage development, natural killer cell activity, and cytokine production.²⁰⁻²¹ In addition to its roles in energy metabolism and bone health, zinc participates in normal DNA synthesis and helps maintain healthy hair, nails, and skin.^{20†}

B vitamins play an important role in energy metabolism as cofactors for numerous biochemical reactions in the body.²² Vitamins B₆, B₁₂ and riboflavin are particularly critical in the metabolism of the amino acid metabolite homocysteine, while vitamins B₆ and B₁₂ have an additional role in red blood cell formation.⁹ In addition, biotin helps maintain cognitive function and healthy hair, nails, mucous membranes, and skin.^{3†}

Maintaining **electrolyte balance** is also important to overall health.²³ Potassium is the main cation inside cells and contributes to cellular metabolism and muscular function.²³ Magnesium and calcium are also important cations primarily known for their ability to support bone health and muscle function.²³ Sodium is mainly found in the extracellular fluid, where it helps regulate osmolality and acid-base balance.²³ Additionally, phosphorus, the predominant intracellular anion, contributes to the proper structure of cells and bones, energy metabolism and acid-base balance.^{23†}

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