



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 six minerals to help maintain good health
- Convenient, once-daily powder format
- Delicious, natural mixed berry flavour

HMF Immune Powder combines 16 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.^{1,3} 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.⁴ Each convenient, once-daily sachet of HMF Immune Powder provides 15 billion CFU of clinically studied probiotic strains to support gastrointestinal health and contribute to a favourable gut flora. Available in a delicious, natural mixed berry-flavoured formula, HMF Immune Powder is an easy way to increase vitamin, mineral and probiotic intake for overall, gastrointestinal and immune health support.

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3. Mora, JR, Iwata, M, von Andrian, UH. Nat Rev Immunol. 2008; 8(9): 685-698.
4. Saavedra, JM. Nutr Clin Pract. 2007; 22: 351-365.



EACH SACHET (5 g) CONTAINS:

Vitamin C (ascorbic acid/zinc ascorbate)	1000 mg
Vitamin D (cholecalciferol)25 mcg (1000 IU)
Thiamine (thiamine hydrochloride)	0.6 mg
Riboflavin (riboflavin 5'-phosphate sodium)	0.65 mg
Niacinamide8 mg
Vitamin B ₆ (pyridoxine hydrochloride)10 mg
Folate (calcium L-5-methyltetrahydrofolate, Metafolin®)100 mcg
Vitamin B ₁₂ (hydroxocobalamin)25 mcg
Biotin25 mcg
Pantothenic Acid (calcium d-pantothenate)	2.5 mg
Calcium (calcium carbonate/tribasic calcium phosphate)50 mg
Phosphorus (tribasic calcium phosphate)13 mg
Magnesium (magnesium hydroxide/carbonate)60 mg
Zinc (zinc ascorbate)	5.5 mg
Manganese (manganese gluconate)	0.75 mg
Potassium (potassium bicarbonate/carbonate)	200 mg
Probiotic Consortium	15 billion CFU
<i>Lactobacillus acidophilus</i> (CUL-60 & CUL-21)	10 billion CFU
<i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (CUL-34)	
& <i>Bifidobacterium bifidum</i> (CUL-20)	2.5 billion CFU
<i>Bifidobacterium animalis</i> subsp. <i>lactis</i> (BI-04)	2.5 billion CFU

Non-Medicinal Ingredients: Glucose, natural black currant, raspberry and strawberry flavours, raspberry fruit juice powder, DL-malic acid, sodium bicarbonate, 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 antibiotics, other medications or natural health products, or as recommended by your healthcare practitioner.

Size

30 - 5 g Sachets of Powder (150 g)

Product Code

10488A

NPN 80089604



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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, stress, antibiotic use, digestive disorders, 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 In turn, this can lead to common gastrointestinal complaints, including bloating and gas.²

Probiotics are live microorganisms that support gastrointestinal health and contribute to a healthy microflora composition.¹ In addition to supporting the growth of beneficial bacteria, probiotics limit the proliferation of pathogenic bacteria in the intestines by reducing the pH and stimulating the production of antimicrobial peptides.^{1,3} Probiotics also play an important role in strengthening the epithelial barrier, a critical factor in maintaining host defences.³ They mediate the integrity of tight junctions and increase mucin release, which in turn regulates permeability and prevents pathogens from adhering to cells.^{3,4} 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.⁵

HMF Immune Powder is formulated with CUL-60, CUL-21, CUL-34 and CUL-20, which comprise a proprietary *Lactobacillus* and *Bifidobacterium* probiotic consortium. These microorganisms have been demonstrated in a wide body of clinical research to contribute to a favourable gut flora and support gastrointestinal health.⁶⁻⁹ To further support the gastrointestinal tract, HMF Immune Powder includes *Bifidobacterium animalis* subsp. *lactis* (BI-04), another proprietary, clinically studied probiotic strain.

This formula also offers a comprehensive combination of vitamins and minerals to target the immune system and support overall health.

Vitamin C is the most effective water-soluble antioxidant in the plasma and cellular fluid.¹⁰ It directly scavenges reactive oxygen and nitrogen species, which can damage cells and disrupt normal cellular function.¹¹ Vitamin C further protects cells by regenerating other antioxidants, such as glutathione and vitamin E.¹¹ It supports the immune system by regulating lymphocyte proliferation, natural killer cell activity, immunoglobulin production and histamine release.¹¹ In addition, neutrophils contain vitamin C to protect against reactive oxygen species produced during phagocytosis.¹¹ 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.¹²⁻¹⁴

The **vitamin D** receptor is found on most immune cells, including T cells, B cells and macrophages, demonstrating an important interaction between vitamin D and the immune system.¹⁵ Vitamin D levels vary depending on the season, with highest levels present during summer and lowest levels present during winter; this pattern also resembles the seasonal variation in immune system health.¹⁵ Low-vitamin D status has been associated with decreased upper respiratory immune function, while vitamin D supplementation has been shown to have beneficial effects on the function of a variety of immune cells.¹⁶⁻¹⁸ Research demonstrates that vitamin D mediates the proliferation of T and B cells, increases the phagocytic activity of macrophages, and regulates the production of cytokines.¹⁹ 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 .²⁰

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.²¹⁻²³ 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.

B vitamins play an important role in energy metabolism as cofactors for numerous biochemical reactions in the body.¹⁰ Vitamins B₆, B₁₂ and riboflavin are particularly critical in the metabolism of the amino acid metabolite homocysteine.¹⁰ Vitamin B₁₂ has an additional role supporting immune system function and is involved in red blood cell formation alongside vitamin B₆. In addition, biotin helps maintain cognitive function and healthy hair, nails, mucous membranes, and skin. As a result, low levels of biotin can result in hair loss and dry, itchy or red skin.¹⁰

Maintaining **electrolyte balance** is also important to overall health.²⁴ Phosphorus is the predominant intracellular anion, while potassium is the main cation inside cells and contributes to cellular metabolism and muscular function.²⁴ Magnesium and calcium are also important cations primarily known for their ability to support bone health and muscle function.²⁴

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