

Immune Support

Immunoplex™ is a combination of vitamins, minerals and botanicals formulated to be immunostimulatory. In situations of acute viral infections, such as cold or flu or possible infection due to trauma or injury, **Immunoplex™** works well to support and enhance the functioning of the immune system and encourage wound healing. **Immunoplex™** may be used for prophylactic purposes for the prevention of cold and flu or it may be used as an adjunct to treat any acute or chronic cases of microbial infection.

INDICATIONS:

- Immune system support
- Cold and flu
- Wound Healing
- Microbial Infection

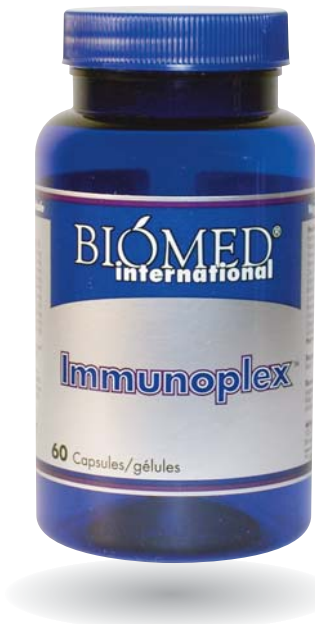
Vitamin A

Vitamin A is an important immune system booster. The likelihood of contracting an infectious disease, particularly viral infections, increases with vitamin A deficiency. Also, following the on-set of an infection, the supply of vitamin A in the body tends to become further depleted. Vitamin A acts to stimulate the body's antibody response, maintain the health of the mucosal lining of the gastrointestinal and respiratory tracts and regulate the level of helper T-cells. Vitamin A supplementation is primarily targeted at enhancing immune system response, especially to viral conditions; yet pregnant women and persons with liver disease should not exceed a dosage of 10,000 IU per day.

Vitamin C

Vitamin C's (ascorbic acid) role as an superior antioxidant is well documented.¹ Treatment with ascorbic acid protects normal cells against apoptosis by activating the anti-apoptotic gene (bcl-2), reducing oxidative damage and enhancing immune function.² Ascorbic acid has important antiviral and antibacterial properties and is effective at combating and reducing the frequency of the common cold and other infectious conditions.³ This water-soluble vitamin can quickly become depleted from the body, especially following the on-set of an infection.

continued on back page



Each vegetarian capsule contains: Ingredients

Mode of Action

Vitamin A (palmitate)	1500 IU	Immune system booster
Vitamin C (ascorbic acid)	250 mg	Anti-oxidant
Vitamin B-6 (pyridoxine HCl)	15 mg	Metaboliser and manufacturer of hormones, RBCs, neurotransmitters, enzymes and presaglandins
Zinc (HVP* chelate)	8 mg	Involved in over 20 different enzymatic reactions in the body, ranging from the synthesis of proteins & collagen to cells in immune system.
Echinacea angustifolia 4:1 extract	200 mg	Anti-microbial; immunomodulator; anti-catarrhal
Bioflavonoids	130 mg	Anti-oxidant
Licorice root (<i>Glycyrrhiza glabra</i> L.)	40 mg	Expectorant
Bromelain (3600 mcu/g)	30 mg	Anti-inflammatory
Ginger root (<i>Zingiber officinale</i>) 4:1	30 mg	Stimulant; carminative; anti-spasmodic
Oregon grape root (<i>Mahonia aquifolia</i>) 4:1	30 mg	Anti-bacterial; anti-diarrhea
Goldenseal (<i>Hydrastis canadensis</i>)	20 mg	Astringent; anti-microbial

*HVP = hydrolyzed vegetable protein (rice)

Other ingredients: Silica

Contraindications: Do not take during pregnancy or lactation.

Warnings: Do not use in individuals with known or suspected sensitivity to the listed ingredients.

ADULT DOSAGE: Take two capsules three times a day or as directed by a practitioner

IMMUNOPLEX™

Vitamin B6

Vitamin B6 (pyridoxine hydrochloride) deficiency is common in North America - with approximately 40% of the population believed to be deficient. Vitamin B6 is an important ingredient in strengthening the immune system, as it triggers the immune system to produce antibodies that ward off disease.

Zinc

Zinc serves to activate key immunity mediators (e.g. enzymes, thymic peptides and cytokines); inhibits the propagation of several viruses; protects against free radicals; assists in lymphocyte transformation; and works synergistically with vitamin A. It has long been recognized as a natural treatment for the common cold and, at least in the elderly, has been shown to increase T-cell production and stimulate cell-mediated immune response.⁵

Echinacea

Echinacea is the most widely used botanical ingredient for immune system stimulation. Echinacea promotes white blood cell production and phagocytic activity.⁶ Echinacea angustifolia has been shown to boost the immune system's ability to combat viruses by activating the leukocytes (e.g. B-cells and T-cells). In clinical studies, Echinacea has decreased the frequency, symptoms and severity of the common cold.⁷ The Natural Health Product Directorate (NHPD) from Health Canada supports a claim that Echinacea "is a supportive therapy in the treatment of cold, flu, upper respiratory infection and urinary infections".

Bioflavonoids

Bioflavonoids are naturally occurring compounds in vegetables, berries, and fruits. Bioflavonoids are usually found in combination with and aid in the absorption of vitamin C and have protective anti-oxidant characteristics which make them important to human health. The citrus flavonoids in **Immunoplex™** are anti-microbial and aid in boosting the immune system.

Licorice Root

Licorice Root is demulcent and expectorant and is a popular remedy for coughs and chest complaints (including bronchitis). The soothing qualities of licorice root cause it to be widely used in cough medications. Studies show licorice root stimulates the production of interferon. It also promotes adrenal gland function and increases the fluidity of mucus from the lungs and bronchial tubes.⁸

Bromelain

Bromelain, which is derived from pineapple, is well known for its anti-inflammatory characteristics. A clinical study involving breast cancer patients in Germany concluded that bromelain stimulates immune function.⁹ Other studies suggest that bromelain increases the quantity of cytokines (immune system hormones) produced by white blood cells.

Ginger root

Ginger root has a proven ability to combat all forms of nausea and vomiting and can be taken to loosen phlegm, relieve gas and tighten tissue. In Asian medicine it is also employed as a treatment for the common cold and shortness of breath. Both ginger root and licorice root are effective anti-viral botanicals, which are used to restore immune function.

Oregon Grape and Goldenseal

Oregon Grape and Goldenseal share in common berberine, as their main active pharmacological ingredient. Berberine exhibits antibiotic, anti-microbial, anti-infective, antipyretic and immunostimulatory effects. Goldenseal is a popular remedy for canker sores, sore throat and upper respiratory inflammation. Echinacea and Goldenseal are often used in combination and may enhance immune function by increasing antigen-specific immunoglobulin production.

REFERENCES

1. Doi K, Matsuura M, Kawara A, Tanaka T, Baba S. Influence of dietary fiber (konjac mannan) on absorption of vitamin B12 and vitamin E. *Tohoku J Exp Med.* 1983 Dec;141 Suppl:677-81.
2. Shima K, Tanaka A, Ikegami H, Tabata M, Sawazaki N, Kumahara Y. Effect of dietary fiber, glucomannan, on absorption of sulfonylurea in man. *Horm Metab Res.* 1983 Jan;15(1):1-3. *FASEB J* 1999
3. Vuksan V, Sievenpipier JL, Owen R, Swilley JA, Spadafora P, Jenkins DJA, Vidgen E, Brighenti F, Josse R, Letier LA, Bruce-Thompson C. Konjac-mannan (glucomannan) improves glycemia and other associated risk factors of heart disease in Type 2 diabetics: a randomized placebo controlled metabolic trial. *Diabetes Care* 1999;22:913-19.
4. ADA Reports: Position of the American Dietetic Association: Health implications of dietary fiber. *J. Am. Dietet. Assoc.* 2002;102:993-1000
5. Vuksan V, Jenkins DJA, Spadafora P, Sievenpipier JL, Owen R, Vidgen E, Brighenti F, Josse R, Letier LA, Xu Z, Novokmet R. Beneficial Effect of viscous dietary fiber from Konjac-mannan in subjects with the Insulin Resistance Syndrome.: Results of a controlled metabolic trial. *Diabetes Care* 2000;23:9-14.
6. Vuksan V, Sievenpipier JL, Owen R, Swilley JA, Spadafora P, Jenkins DJA, Vidgen E, Brighenti F, Josse R, Letier LA, Bruce-Thompson C. Konjac-mannan (glucomannan) improves glycemia and other associated risk factors of heart disease in Type 2 diabetics: a randomized placebo controlled metabolic trial. *Diabetes Care* 1999;22:913-19.
7. (Vuksan V, Sievenpipier JL, Xu Z, Josse RG, Stavro MP. Chronic feeding of the novel soluble fiber improves postprandial glycemia and insulin resistance. *Diab. Nutr. Metab.* 2001;14:158-159.)
8. (Walsh DE et al. Effect of glucomannan on obese patients: a clinical study. *Int J Obes* 1984;8:289-93)
10. Jacob A, et al. Effect of the Indian gooseberry (Amla) on serum cholesterol levels in men aged 35 – 55 years. *Eur J Clin Nutr* 1988;42:939-44).
11. Proprietary research on Reducero™