



Fizz Active-Immune

Stock #3045-5 (20 effervescent tablets)

Fizz Active-Immune contains a powerful blend of herbal extracts and nutrients that have been shown to enhance immune function and increase the body's resistance to infections, such as the common cold and flu. Each Fizz Active-Immune effervescent tablet quickly dissolves in water to provide rapid absorption of the immune-stimulating ingredients. Each Fizz Active-Immune effervescent tablet contains:

Vitamin C is essential for stimulating the immune system, as research shows that levels of vitamin C in plasma and leukocytes (white blood cells) quickly decrease during infections and as a result of stress, thus reducing the body's resistance to certain pathogens (disease-causing organisms). Numerous studies have shown that supplementation with vitamin C enhances immune system function, including antimicrobial and natural killer cell activity, as well as the proliferation of lymphocytes (a type of white blood cell). Vitamin C has also been shown to reduce the effects that some allergy-producing substances have on the body. In addition, research indicates that vitamin C inhibits the multiplication of viruses in

vitro, including herpes simplex type 1, influenza, and poliovirus type 1. Furthermore, a review of 29 controlled trials found that vitamin C does appear to shorten the duration and reduce the severity of the common cold.¹⁻⁶

Zinc - The importance of zinc in resistance to infections by bacteria, virus and fungi is crucial because of its pivotal role in the efficient functioning of the entire immune system. Zinc is essential for thymus gland function and the production of thymic hormones that regulate the body's defense mechanisms. Zinc is also crucial for maintaining cell-mediated immunity, phagocytosis (the process by which white blood cells fight infection), and natural killer (NK) cell activity. Various studies have confirmed the benefits of zinc supplementation on infectious diseases in humans, including the ability to reduce the occurrence of and increase the survival rate following infection in the elderly. In addition, a large number of randomized controlled intervention trials have found that adequate intakes of zinc and vitamin C can reduce the symptoms and shorten the duration of respiratory tract infections, including the common cold.^{4,6-11}

Potassium is an essential mineral required for healthy energy metabolism and cellular functions, as well as for preserving proper alkalinity of body fluids. Potassium also assists with muscle contraction and nervous system activity, regulates fluid and mineral balance, and works in conjunction with sodium to normalize the heartbeat. Supplementation with potassium bicarbonate may help to reduce or reverse bone loss by significantly reducing urine calcium excretion.^{1,7,12-14}

Beta glucans, naturally occurring polysaccharides derived from algae, barley, mushrooms, oats and baker's yeast (*Saccharomyces cerevisiae*), have been recognized by researchers for over 40 years for providing immune-modulating activities associated with increased resistance to bacterial, viral and parasitic infections. Beta glucans stimulate the immune system, modulating both humoral and cellular immunity. For example, research shows that beta glucans enhance macrophage (a type of white blood cell) and natural killer (NK) cell activities. Beta glucans also facilitate the transmission of cellular information among the macrophages, T-cells, B-cells, antibodies, and interferons (substances that fight viral infection by inhibiting viral growth) and interleukins (substances that regulate immune system function), thus enhancing overall immune response.¹⁵⁻²²

Arabinogalactan, a polysaccharide found in echinacea and in concentrated amounts in the Western larch tree (*Larix spp.*), is believed to be the constituent primarily responsible for echinacea's effective immune-stimulating properties. Arabinogalactan enhances natural killer (NK) cell activity and stimulates macrophage production of interleukin-1 (an immune system hormone that stimulates T-cell function) and interferon-beta 2 (a substance that fights viral infection). Such effects suggest that arabinogalactan may be beneficial in supporting the body's natural defenses in the prevention and treatment of colds and influenza. Research also indicates that larch arabinogalactan can reduce the occurrence and severity of otitis media (middle ear infections) in children. In addition, arabinogalactan enhances beneficial microflora in the gastrointestinal tract, as well as the production of butyrate, a substance that is essential for colon health and protects the intestinal mucosa against disease and carcinogens. Furthermore, combining arabinogalactan with antioxidants such as vitamin C may enhance its efficacy.^{6,23-29}

Echinacea (*Echinacea purpurea*) is notably the most recognized herbal supplement for preventing and treating colds and flu. Echinacea demonstrates antibacterial, antiviral and immunostimulant properties. Echinacea also helps reduce disease-producing waste material in the lymphatic system by stimulating macrophage activity—macrophages filter out and destroy foreign particles, bacteria and toxins in the lymph fluid. Clinical studies support the use of echinacea for preventing and treating colds, flus and upper respiratory infections, as well as increasing general immune system function. For example, a meta-analysis of 14 studies found that echinacea reduced the incidence of the common cold

by 58% and the duration of cold symptoms by 1.4 days.^{6,7,30-34}

Elderberry (*Sambucus nigra*) is primarily used as an antiviral agent to improve immunity against colds and influenza. Studies show that taking elderberry extract at the first sign of a cold or flu can cut recovery time in half. A randomized, double-blind, placebo-controlled study of patients with influenza A and B infections found that elderberry relieved flu-like symptoms an average of 4 days earlier compared to placebo. In addition, the German Commission E has approved elderberry for the treatment of colds and fevers. Elderberry is rich in vitamins A and C, both of which are known to strengthen the immune system, and iron, which is needed by the body to manufacture enzymes and oxidants that destroy bacteria known to cause colds.^{6,31,35-39}

Korean ginseng (*Panax ginseng*), also known as Asian ginseng, has been shown to improve the immune response, in part, by stimulating the production of white blood cells and interferon (a substance that fights viral infection by inhibiting viral growth) and by enhancing phagocytosis. The active constituents in Korean ginseng include acidic polysaccharides, which demonstrate multiple immunomodulating effects. Animal research has confirmed that treatment with Korean ginseng polysaccharides stimulates humoral and cellular immune factors to increase resistance against infection. Furthermore, a two-year clinical observation of Japanese heart patients found that Korean ginseng significantly reduced the incidence of common cold symptoms and flu, including fever, headache, chills, pain in the joints and/or muscles, nasal discharge, cough and sore throat.⁴⁰⁻⁴⁸

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