



## Sunshine Heroes Elderberry Immune

Stock #3347-8 (90 soft chews)

Sunshine Heroes Elderberry Immune provides children with essential nutrients that have been shown to strengthen and support healthy immune system function.

**Vitamin C** (Ascorbic acid) is essential for stimulating the immune system, as research shows that levels of vitamin C in plasma and leukocytes (the scientific term for 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 (NK) cell activity, as well as the proliferation of lymphocytes (a type of white blood cell). In addition, research indicates that vitamin C inhibits the multiplication of viruses in vitro, including influenza. 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.<sup>1-6</sup>

**Vitamin D3** (Cholecalciferol) is recognized for its profound effects on human immune function. Vitamin D acts as an immune system modulator, increasing the activity of macrophages (white blood cells that destroy bacteria) and providing anti-inflammatory effects. Vitamin D also dramatically stimulates the production of antimicrobial peptides (AMP) that play a crucial role in protecting the respiratory tract against infection and inhibit the function of the influenza virus. Recent research has discovered considerable evidence that influenza epidemics, and possibly even the common cold, occur as a result of seasonal deficiencies in AMP, secondary to seasonal deficiencies in vitamin D. Likewise, epidemiologic studies suggest a correlation between vitamin D concentrations and the incidence of respiratory infections, including influenza. Epidemiological studies also clearly demonstrate that vitamin D deficiency predisposes children to respiratory infections. Furthermore, results of a randomized, double-blind, placebo-controlled trial suggest that vitamin D3 supplementation among schoolchildren during the winter months may reduce influenza A infections, particularly among children who have not been receiving vitamin D supplements.<sup>7-13</sup>

**Zinc** (Zinc citrate) - 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 (a process that stimulates the immune response against viral infection), and NK cell activity. Zinc supplementation has been shown to lower incidences of respiratory tract infections in children, including the common cold. One study also found that zinc supplementation decreased the incidence rate of otitis media (inflammation of the middle ear) among children. In addition, randomized controlled trials have found that adequate intakes of zinc and vitamin C can reduce the symptoms and shorten the duration of the common cold.<sup>4,6,14-18</sup>

**Elderberry** (*Sambucus nigra*) is primarily used as an antiviral agent to improve immunity against colds and influenza. Research suggests that taking elderberry at the first sign of a cold or flu may cut recovery time in half. For example, 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, a recent study found that elderberry flavonoids inhibited human influenza A (H1N1) infection in vitro—the inhibitory action was likened to the anti-influenza activities of the antiviral drugs oseltamivir (Tamiflu) and amantadine. Furthermore, the German Commission E has approved elderberry for the treatment of colds and fevers.<sup>6,19-24</sup>

**Astragalus** (*Astragalus membranaceus*) is a Chinese herb that has been used for centuries as a tonic for treating general debility and chronic illnesses. Astragalus has also been used to enhance the body's natural defenses during the cold and flu season. Studies have shown that astragalus provides important adaptogenic, antioxidant and immunostimulant effects, including the ability to enhance phagocytosis. In addition, astragalus has demonstrated a significant effect in treating children with recurrent tonsillitis.<sup>6,25-29</sup>

**Echinacea** (*Echinacea purpurea*) is notably the most recognized herbal supplement for preventing and treating colds and flu. Echinacea demonstrates antibacterial, antiviral and immunomodulating properties that have been shown to enhance innate and adaptive immune functions. 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, flu 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.<sup>6,14,19,25,30-34</sup>

**Reishi mushroom** (*Ganoderma lucidum*), also known as "the mushroom of immortality," has been used in Asian

countries for over 2,000 years to promote health and longevity and to enhance immune system function. Extensive immunomodulating effects have been identified for reishi mushroom, including the ability to modulate the production of cytokines (regulatory proteins involved in immunity), activate lymphocytes and NK cells, and enhance both humoral and cellular immunity. In addition, reishi mushroom demonstrates other pharmacological effects, including analgesic (pain-relieving), antibacterial, anti-inflammatory, antioxidant, and antiviral activities.<sup>35-41</sup>

**Maitake mushroom** (*Grifola frondosa*) is a rare medicinal mushroom prized in China and Japan for promoting wellness, strength and vitality. Modern research has confirmed that maitake mushroom enhances immune function by stimulating cell-mediated immunity. Maitake mushroom increases the activity of immune cells such as macrophages, NK cells and T-cells, and facilitates production of interleukin-1 (IL-1), which activates T-cells. Furthermore, in vitro studies have shown that maitake mushroom effectively induces the production of substances that inhibit the growth of viruses, including influenza A virus.<sup>36,42-47</sup>

Each serving of Sunshine Heroes Elderberry Immune also provides the Sunshine Heroes Protector Shield—a proprietary blend of whole foods, fruit juice concentrates, and beneficial micronutrients. The Sunshine Heroes Protector Shield provides important antioxidants, vitamins, minerals and amino acids (the "building blocks" of protein), which promote healthy growth and development and a strong immune system. The Protector Shield contains:

*Whole Food Complex* (mangosteen, cranberry, broccoli, spinach, asparagus, carrot, tomato, açai and pomegranate) - These fruits and vegetables are rich sources of antioxidants, immune-boosting phytonutrients, minerals and vitamins, including vitamins A, B-Complex, C, E and K.

*Fruit Juice Concentrates* (white grape, apple, pear, orange, pineapple, cherry, strawberry, and blueberry) - This antioxidant-rich blend of fruit juices provides vitamin C, folic acid, potassium, and other nutrients that promote cardiovascular and immune health and help protect against certain cancers.

*Micronutrients Blend* (L-leucine, L-lysine, L-valine, Choline, Inositol, L-isoleucine, L-threonine, L-phenylalanine, L-arginine, L-cysteine, L-methionine, and L-tyrosine) - Amino acids are the building blocks of proteins necessary for healthy growth and development and proper functioning of the central nervous system and brain. Choline and inositol are members of the B-complex vitamin and are necessary for healthy brain development, as well as cognitive (brain) and memory function.<sup>48</sup>

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