



Nature's Immune Stimulator

Stock #1839-3 (90 capsules)

Nature's Immune Stimulator contains a powerful blend of natural substances known for their immune-stimulating and disease-fighting abilities. Working synergistically, the ingredients in Nature's Immune Stimulator help strengthen the body's immune system, while providing specific antibacterial, antiviral, antioxidant and antitumor activity.

Arabinogalactan, a polysaccharide found in echinacea and in concentrated amounts in the Western larch tree, is believed to be the constituent primarily responsible for echinacea's effective immune-stimulating properties. A study published in the *Journal of the National Cancer Institute* showed that arabinogalactan activated macrophages to cytotoxicity (toxicity to specific cells) against tumor cells and microorganisms, as well as stimulated macrophages to produce tumor necrosis factor (a protein that destroys cancerous tumor cells), interleukin-1 (an immune system hormone that stimulates T-cell function), and interferon-beta 2. Arabinogalactan has also been shown to increase the presence of

anaerobes and lactobacillus in the gastrointestinal tract—anaerobes help increase the acidity of the gut contents, in turn, reducing overgrowth of pathogenic bacteria.¹⁻³

Beta glucan has been recognized by researchers since the 1940s for providing immune benefits—beta glucan stimulates the immune system to enhance immunity and protect the body against infection. Beta glucan is a naturally occurring polysaccharide compound (a complex carbohydrate) found in algae, baker's yeast, barley, mushrooms and oats. According to research, beta glucan potentiates the immune system, specifically activating macrophages to fight bacteria, viruses and other foreign invaders. Beta glucan also facilitates the transmission of cellular information among the macrophages, T-cells, B-cells, antibodies and interferons and interleukins, thus enhancing overall immune response. A promising study published in the *Journal of Immunology* showed that beta glucan slowed tumor growth in mice—by the end of the 4-week study, the tumors in mice treated with beta glucan were up to 79% smaller than those in untreated mice.⁴⁻⁶

Colostrum is provided by the mammary glands of mammals (including humans) during the first 24 to 48 hours following birth. Colostrum contains essential immune factors that are vital to a newborn's underdeveloped immune system, as well as certain growth factors to ensure proper development of all body cells. Important substances in colostrum also promote the development of bifidobacteria colonies, which create an environment within the body that is inhospitable for harmful bacteria. Studies show that colostrum recharges the immune system and destroys bacteria, viruses and fungi, as well as speeds the healing of all body tissues. In fact, over 4,000 clinical studies have been conducted around the world researching colostrum's beneficial effects on numerous diseases, including AIDS/HIV, allergies, autoimmune disorders, cancer, colds and flus, diabetes, gastrointestinal complaints, and bacterial, viral and parasitic infections, to name a few. In addition, conventional medical specialists utilize many isolated colostrum components—interferon, gamma globulin, growth hormone, IgF-1, and protease inhibitors—in the treatment of autoimmune disorders, cancer, and chronic viral infections such as HIV.⁷⁻¹²

Cordyceps is a rare and highly-prized edible fungus (mushroom) that is known for its ability to stimulate immune function. Cordyceps polysaccharides are primarily responsible for the mushroom's immunostimulant effects and have been found to enhance macrophage and lymphocyte activity, as well as provide protection against damage from chemotherapy and radiation. Cordyceps also contains substances that demonstrate anti-tumor activity and the ability to stimulate antibody-forming cells (immunoglobulins G and M)—successful animal studies indicate the possible use of cordyceps as an anti-tumor agent in the treatment of lymphoma and other cancers. In vitro studies show that cordyceps polysaccharides can significantly inhibit the proliferation of human leukemic cells by 78-83%. In addition, in vitro and in vivo studies found that cordyceps stimulates the activity of NK (Natural Killer) cells, indicating its potential for use as an immunopotentiating agent in the treatment of cancer (including adult leukemia) and immunodeficient patients. Furthermore, a clinical study of 36 individuals diagnosed with advanced breast and lung cancer showed that a pharmaceutical preparation providing similar active principles as found in *Cordyceps sinensis* restored cellular immunological function and improved the patients' quality of life.¹³⁻²²

Maitake and reishi mushrooms have been used in traditional Asian medicine to stimulate the immune system and treat cancer and other chronic wasting diseases. These mushrooms contain numerous phytochemicals, including beta glucans. Beta glucan extracts of reishi, maitake and other medicinal mushrooms have been shown repeatedly to slow, reverse or even prevent the growth of tumors in both animal and human clinical trials. Mushroom extracts prevent tumor growth by increasing immune cell activity, rather than by killing cancer cells directly.²³

Maitake mushroom has been shown to increase the activity of macrophages, natural killer cells and T-cells, as well as enhance production of interleukin-1, which activates T-cells. Animal studies show that maitake

mushroom inhibits the growth of tumors, as well as stimulates the immune system in cancerous mice. Human research conducted in China showed that maitake mushroom extract provided an "anticancer" effect in patients with liver, lung and stomach cancers and leukemia. A Japanese study demonstrated the antitumor activity of beta glucans from various mushrooms, with maitake being among the most effective. In particular, maitake mushroom has been shown to be effective in preventing breast cancer in mice, with evidence suggesting that it is also effective against tumors in humans. In addition, a recent laboratory study confirmed that a beta glucan extract of maitake mushroom showed promising results against human prostate cancer cells. Furthermore, researchers have also identified hepatoprotective (liver-protecting), hypoglycemic (blood sugar-lowering), and hypotensive (blood pressure-lowering) effects from maitake mushroom.²³⁻²⁹

Reishi mushroom has been used in China and Japan for 4,000 years to treat arthritis, hypertension (high blood pressure), liver problems and other ailments. Recent studies have found that reishi mushroom demonstrates antiallergic, anti-inflammatory, antibacterial and antioxidant effects. Reishi mushroom also possesses powerful anti-tumor, immune-enhancing, antiviral and cholesterol-reducing properties. Reishi mushroom has been shown to augment the activity of T-lymphocytes and increase levels of interleukin, as well as significantly inhibit the growth of leukemia cells. Incidentally, reishi mushroom is officially listed as an adjunct herb for cancer by the Japanese government.^{25,26,30}

References:

- 1 Gregory, C. "Study could put echinacea back on cold-and-flu-season shopping list." *Natural Foods Merchandiser*; October, 1999.
- 2 Luettig, B., et. al. "Macrophage activation by the polysaccharide arabinogalactan isolated from plant cell cultures of *Echinacea purpurea*." *Journal of the National Cancer Institute*; 1989, 81(9): 669-675.
- 3 "Larch: The New Echinacea?" *Nutrition Science News*; September, 1999.
- 4 Orey, C. "Immunity Nutrition." *Energy Times*; 2000, 10(9): 25-29.
- 5 Aviv, S. "Beta glucan for immunity." *Natural Health*; 2000, 30(9): 38.
- 6 Mindell PhD, E. *Earl Mindell's Supplement Bible*. NY, NY: Fireside, 1998.
- 7 Rona MD, Z. "Bovine colostrum emerges as immune system modulator." *American Journal of Natural Medicine*; 1998, 5(2): 19-23.
- 8 —. "Bovine colostrum, immunity and the aging process." *Nature's Impact*; August/September 1998.
- 9 Ley, B. *Colostrum: Nature's Gift to the Immune System*. Aliso Viejo, CA: BL Publications, 1997.
- 10 Jensen PhD, B. *Colostrum: Life's First Food*. Escondido, CA: Bernard Jensen, 1993.
- 11 Burke PhD, E. "Colostrum As An Athletic Enhancer And Help For AIDS." *Nutrition Science News*; May 1996: 1-5.
- 12 Tokuyama, H. and Tokuyama, Y. "Bovine colostric transforming growth factor-beta-like peptide that induce growth inhibition and changes in morphology of human osteogenic sarcoma cells (MG-63)." *Cell Biol Int Rep*; 1989, 13(3): 251-258.
- 13 Hobbs, LAc, C. *Medicinal Mushrooms*, 3rd Ed. Loveland, CO: Botanica Press, Inc., 1996.
- 14 Stamets, P. *Mycomedicinals*. Olympia, WA: MycoMedia, 1998.
- 15 Yamaguchi, N., et. al. "Augmentation of various immune reactivities of tumor-bearing hosts with an extract of *Cordyceps sinensis*." *Biotherapy*; 1990, 2(3): 199-205.
- 16 Yoshida, J., et. al. "Antitumor activity of an extract of *Cordyceps sinensis* (Berk.) Sacc. against murine tumor cell lines." *Japanese Journal of Experimental Medicine*; 1989, 59(4): 157-161.
- 17 Kuo, Y.C., et. al. "Growth inhibitors against tumor cells in *Cordyceps sinensis* other than cordycepin and polysaccharides." *Cancer Investigation*; 1994, 12(6): 611-615.
- 18 —. "*Cordyceps sinensis* as an immunomodulatory agent." *American Journal of Chinese Medicine*; 1996, 24(2): 111-125.
- 19 Chen, Y.J., et. al. "Effect of *Cordyceps sinensis* on the proliferation and differentiation of human leukemic U937 cells." *Life Sciences*; 1997, 60(25): 2349-2359.
- 20 Xu, R.H., et. al. "Effects of *Cordyceps sinensis* on natural killer activity and colony formation of B16 melanoma." *Chinese Medical Journal*; 1992, 105(2): 97-101.
- 21 Liu, C., et. al. "Effects of *Cordyceps sinensis* (CS) on in vitro natural killer cells." *Chung Kuo Chung Hsi I Chieh Ho Tsa Chih*; 1992, 12(5): 267-269.
- 22 Zhou, D.H. and Lin, L.Z. "Effect of Jinshuibao capsule on the immunological function of 36 patients with advanced cancer." *Chung Kuo Chung Hsi I Chieh Ho Tsa Chih*; 1995, 15(8): 476-478.
- 23 Broadhurst PhD, C. & Duke PhD, J. "Inside Plants." *Herbs For Health*; 1999, 3(6): 24.
- 24 Lieberman PhD, L. & Babal CN, K. *Maitake: King of Mushrooms*. New Canaan, CT: Keats, 1997.
- 25 Hobbs, LAc, C. *Medicinal Mushrooms*. Loveland, CO: Interweave Press Inc., 1995.
- 26 —. "Medicinal mushrooms." *Herbs For Health*; 1997, 1(4): 53-53.
- 27 Nanba, H., et. al. "The chemical structure of an antitumor polysaccharide in fruit bodies of *Grifola frondosa* (Maitake)." *Chemical and Pharmacological Bulletin*; 1987, 35.
- 28 Fremerman, S. "13 Ways to Prevent Breast Cancer." *Natural Health*; January-February, 1999.
- 29 "Maitake Extract Shows Promise Against Prostate Cancer." *Alternative & Complementary Therapies*; August, 2000.
- 30 Schofield, L. "Mycoceticals: The New Mushroom Revolution." *Vitamin Retailer*; February, 2000.