

# Epimune Complex

## A Vegetarian Immune Support Supplement Designed to Balance Immune Response and Intended for Long-Term Use

Immune system coordination is a complicated, total-body effort. To describe it broadly, the system's response starts in our bone-marrow tissue, where immune cells are made. Organs like the spleen help "clean" our blood. Glands like the thymus act as a vessel for cell maturation. And the lymph system, made up of vessels, nodes, and other tissues, moves or houses immune cells so they can respond when and where they're needed. Outposts of lymph tissue can be found throughout our body, from the familiar ones like tonsils, to the less obvious ones in our airways and digestive system.

This massive, body-wide system has one goal: protection. Every cell has a specific coating that defines that cell as part of the body, or "self." This coating is what our cellular defenders, white blood cells, look for as they patrol. White blood cells are diverse and meet a variety of needs, from acting as sentinels, to directing immune response, to engaging in an active response against anything perceived as "nonself." These immune cells work hard to keep us safe, and because they have a short life, our body is continuously replenishing them.

That's where Epimune Complex comes in. This product is designed to use the synergistic effects of scientifically supported ingredients to comprehensively "feed" the immune system for overall support.†

### What does Epimune Complex contain?

This product contains EpiCor®, Turkey Tail mushroom powder, maitake mushroom powder, MaitakeGold 404®, calcium lactate, acerola, and zinc.

**EpiCor®** is a powder made from dried, fermented brewer's yeast grown under normal conditions, "fed" a proprietary blend of nutrients, and then "stressed" under anaerobic conditions.

**Turkey tail mushroom powder** (*Coriolus versicolor*) is made from a mushroom that grows widely across North America, Asia, and Europe. The turkey tail, also called "cloud mushroom," has a long history of use in traditional Asian medicine. This mushroom is included in writings that date from the Ming Dynasty in China. One author, Li Shi Zhen, writes that this mushroom is good for the spirit, vital energy, and vigor.

**Maitake mushroom powder** (*Grifola frondosa*) is made from another mushroom with a long history of use in traditional Asian medicine. The first recorded use of maitake, also known as "sheep's head" or "hen of the woods," was between 200 B.C. and 200 A.D. It was used to improve spleen and stomach ailments, as well as to calm nerves and minds.

**MaitakeGold 404®** is a patented extract from maitake mushrooms that takes advantage of the health-supporting compounds in these mushrooms. This extract contains immune-modulating compounds consisting of glucan-protein complexes.

*Please copy for your patients.*

**GF** This product contains less than 10 parts per million of gluten per serving size or less than 20 parts per million per the suggested use listed on each product label. **V** Vegetarian (Lacto-ovo)  
†These statements have not been evaluated by the Food & Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.



Introduced in 2009



#### Content:

90 capsules

**Suggested Use:** Two capsules per day, or as directed.

#### Supplement Facts:

Serving Size: 2 capsules

Servings per Container: 45

	Amount per Serving	%DV
Calories	4	
Vitamin C	20 mg	30%
Calcium	30 mg	2%
Zinc	10 mg	60%
Dried Yeast Fermentate (EpiCor®)	500 mg	
Maitake Mushroom Extract (MaitakeGold 404®)	8 mg	
Maitake Mushroom Powder	48 mg	
Turkey Tail Mushroom Powder	150 mg	

**Ingredients:** See Supplement Facts.

Other Ingredients: Calcium lactate, cellulose, zinc rice chelate, acerola (berry), and manioc (root).

**Sold through health care professionals.**

#### Whole Food Philosophy

Our founder, Dr. Royal Lee, challenged common scientific beliefs by choosing a holistic approach of providing nutrients through whole foods. His goal was to provide nutrients as they are found in nature—in a whole food state where he believed their natural potency and efficacy would be realized. Dr. Lee believed that when nutrients remain intact and are not split from their natural associated synergists—known and unknown—bioactivity is markedly enhanced over isolated nutrients. Following this philosophy, even a small amount of a whole food concentrate will offer enhanced nutritional support, compared to an isolated or fractionated vitamin. Therefore, one should examine the source of nutrients rather than looking at the quantities of individual nutrients on product labels.



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## How Epimune Complex Keeps You Healthy (continued)

**Calcium** is an essential mineral that's primarily stored in our bones and teeth. Even though the calcium levels in our cells account for a small amount of the total calcium used by the body, they are essential for cell functioning.

**Acerola** is a source of vitamin C, which is an important micronutrient needed for skin, mucosa, and cell function.

**Zinc** is a mineral that has been used to support the body's natural healing function.†

## How Epimune Complex Keeps You Healthy

### Supports a diversity of immune cells

The immune system's primary role is to recognize "nonself" or foreign substances in the body and actively respond to them. The ingredients in Epimune Complex were chosen for their theoretical synergistic effect on the immune system, as well as their research-supported effects on immune cells involved in normal immune system response. These cells include:

- **Natural killer cells:** Also called "NK cells," these white blood cells contain a package of chemicals (called a granule). When NK cells come into contact with a "nonself" cell, they bind to their target, aim, and deliver a burst of lethal chemicals into the "nonself" cells.
- **B cells:** When a B cell comes into contact with something "nonself," it grabs the protein from the foreign cell and, with the help of a T cell, makes antibodies (proteins) that find, bind, and aid in the killing the foreign cell. After that initial interaction, B cells become "memory B cells" that remember that specific "nonself" cell and respond more quickly and robustly if it shows up again.
- **Antibodies:** When a "nonself" cell is found, B cells produce antibodies that bind to and kill foreign cells so they can't cause trouble. Antibodies, also called immunoglobulins, come in a variety of types. For example, immunoglobulin A (IgA) guards body entrances like the mouth and nose, while immunoglobulin E (IgE) is usually associated with immune cells called mast cells (found largely in the lungs, skin, tongue, and nose, among others) and has a role in allergy symptoms.
- **Macrophage cells:** When a macrophage cell comes in contact with a foreign substance, the macrophage consumes that substance. The macrophage then releases chemicals alerting other immune cells. Macrophage cells are primarily found in tissue, although their precursors, monocytes, circulate in the blood.†

### Provides vitamin C and minerals necessary for maintaining health

The immune system needs vitamins and minerals for normal functioning. Epimune Complex is a supplemental source of calcium, vitamin C, and zinc.†

## What Makes Epimune Complex Unique

### Product Attributes

This product is designed to use the synergistic effects of mushrooms, vitamin C, minerals, and a fermentate of brewer's yeast to comprehensively "feed" the immune system for overall support. Each of these components targets a different aspect of the immune system to provide comprehensive support.†

Studies on nutrients generally use large doses and these studies, some of which are cited below, are the basis for much of the information we provide you in this publication about whole food ingredients. See the supplement facts for Epimune Complex.

*Acerola (Malpighia glabra, Malpighia punicifolia)*. *Natural Standard Inc.*; 2009. Accessed August 17, 2009.

Adachi Y, Suzuki Y, Ohno N, Yadao T. Adjuvant effect of grifolan on antibody production in mice. *Biol Pharm Bull*. 1998;21(9):974-977.

American Cancer Society. Shiitake Mushroom. 2008. Accessed August 25, 2009. [http://www.cancer.org/docroot/ETO/content/ETO\\_5\\_3X\\_Shiitake\\_Mushroom.asp?sitearea=ETO](http://www.cancer.org/docroot/ETO/content/ETO_5_3X_Shiitake_Mushroom.asp?sitearea=ETO).

Calforio P, De Matteo M, Brunetti A, Dammacco F, Silvestris F. Functional Expression of the calcitonin receptor by human T and B cells. *Hum Immunol*. 2009;70(9):678-685.

Dang G, Lin H, Seidman A, et al. A phase I/II trial of a polysaccharide extract from *Grifola frondosa* (Maitake mushroom) in breast cancer patients: immunological effects. *J Cancer Res Clin Oncol*. 2009.

Embria Health Sciences. EpiCor. 2009; Accessed August 12, 2009. <http://www.embriah.com/epicor.asp>.

Engelbrecht K, Volk T, Ganoderma lucidum, Reishi or Ling Zhi, a fungus used in Oriental medicine. 2005; Accessed August 25, 2009. [http://botibotany.wisc.edu/toms\\_fungi/mar2005.html](http://botibotany.wisc.edu/toms_fungi/mar2005.html).

Fisher DW. David Fischer's American Mushrooms. 2007. Accessed August 14, 2009. <http://americanmushrooms.com/basics.htm>.

Hong L, Xun M, Wutong W. Anti-diabetic effect of an alpha-glucan from fruit body of maitake (*Grifola frondosa*) on KK-Ay mice. *J Pharm Pharmacol*. 2007;59(4):575-582.

Jensen GS, Hart AN, Schauss AG. An anti-inflammatory immunogen from yeast culture induces activation and alters chemokine receptor expression on human natural killer cells and B lymphocytes in vitro. *Nutrition Research*. 2007;27(6):327-335.

Jensen GS, Patterson KM, Yoon I. Yeast culture has anti-inflammatory effects and specifically activates NK cells. *Comp Immunol Microbiol Infect Dis*. Nov 2008;31(6):487-500.

Jeong SC, Yang BK, GN K, et al. Macrophage-stimulating activity of polysaccharides extracted from fruiting bodies of *Coriolus versicolor* (Turkey Tail Mushroom). *J Med Food*. 2006;9:175-181.

Kodama N, Murata Y, Namba H. Administration of a polysaccharide from *Grifola frondosa* stimulates immune function of normal mice. *J Med Food*. 2004;7(2):141-145.

Li X, Rong J, Wu M, Zeng X. Anti-tumor effect of polysaccharide from *Grifola frondosa* and its influence on immunological function. *Zhong Yao Cai*. 2003;26(1):31-32.

Maggi S, Wintergerst E, Beveridge S, Hornig D. Selected vitamins and trace elements support immune function by strengthening epithelial barriers and cellular and humoral immune responses. *Br J Nutr*. 2007;98(Suppl 1):S29-S35.

Mizuno T, C. Z. Maitake. *Grifola frondosa*: pharmacological effects. 1995; Special Issue 11(1):pg. 135 - 149. Accessed August 14, 2009. [http://botibotany.wisc.edu/toms\\_fungi/nov2006.html](http://botibotany.wisc.edu/toms_fungi/nov2006.html).

Moyad MA, Robinson LE, Zawada ET, Jr., et al. Effects of a modified yeast supplement on cold/flu symptoms. *Urol Nurs*. Feb 2008;28(1):50-55.

National Institutes of Health. Clinical Nutrition Research Unit at the Strang Cancer Prevention Center 1980; Accessed August 26, 2009. <http://www2.niddk.nih.gov/NR/rdonlyres/BSAA04C7-E105-423D-9EE3-C93C5036A89B/0/StrangCenter.pdf>.

Ohno N, Egawa Y, Hashimoto T, Adachi Y, Yadao T. Effect of beta-glucans on the nitric oxide synthesis by peritoneal macrophage in mice. *Biol Pharm Bull*. 1996;19(4):608-612.

Robinson L, Reeves S. Summary of Human Clinical Trials on EpiCor; 2008.

Sanzon I, Imashi N, Takamatsu N, et al. Nitric oxide-mediated antitumor activity induced by the extract from *Grifola frondosa* (Maitake mushroom) in a macrophage cell line, RAW264.7. *J Exp Clin Cancer Res*. 2001;20(4):591-597.

Schauss AG, Vojdani A. Discovery of edible fermentation product with unusual immune enhancing properties in humans. *FASEB J*. 2006;20(A143).

Shen-Nong. *Ganoderma*. 2005; Accessed August 25, 2009. <http://www.shen-nong.com/eng/herbal/lingzhi.html>.

Shen-Nong Ltd. *Coriolus versicolor*. 2006; Accessed August 14, 2009. <http://www.shen-nong.com/eng/herbal/lyzhi.html>.

Suzuki I, Hashimoto K, Okawa S, Sato K, Osawa M, Yadao T. Antitumor and immunomodulating activities of a beta-glucan obtained from liquid-cultured *Grifola frondosa*. *Chem Pharm Bull (Tokyo)*. 1989;37(2):410-413.

U.S. Food and Drug Administration. Dietary Supplement Fact Sheet: Zinc. 2009; Accessed August 26, 2009. <http://ods.od.nih.gov/factsheets/zinc.asp>.

U.S. Food and Drug Administration. New Dietary Ingredients in Dietary Supplements - Background for Industry. 2009; Accessed August 26, 2009. <http://www.fda.gov/Food/DietarySupplements/ucm109764.htm>.

Volk T, Zlomek N. *Grifola frondosa*, the Hen of the Woods, a.k.a. Sheephead or Maitake November, 2006; Accessed August 14, 2009. [http://botibotany.wisc.edu/toms\\_fungi/nov2006.html](http://botibotany.wisc.edu/toms_fungi/nov2006.html).

Weaver CM, Heaney R.P. Modern Nutrition in Health and Disease. In: Shils M, Olson JA, Shike M, Ross AC, ed. 9th ed. Baltimore: Williams & Wilkins; 1999:141-155.

Yu S, Weaver V, Martin K, Cantoma M. The effects of whole mushrooms during inflammation. *BMC Immunol*. 2009;20(10).

Zinc. *Natural Standard Inc.*; 2009. Accessed August 17, 2009.