

Immune Supportive Botanicals and Nutraceuticals

In addition to direct therapies used for the reduction of viral loads and improvement of immune deficiency syndromes, there are numerous botanical and nutritional therapies that can be used to support secondary conditions and symptoms that are common among those with immunodeficiency syndromes. Following is a review of some of these therapies including an overview of primary categories of nutrients that are key to maintaining health. It is important to remember that herbal medicines are used within the context of a comprehensive healing program and, when used by experts, are typically formulated according to the specific needs of the patients. *For expert advice regarding herbal medicines, consumers and patients should seek the assistance of a qualified herbal health care practitioner (see referring organizations on pp. xx).*

There are numerous botanical therapies that are specific for enhancing immune function. These botanicals can be used alone to enhance immune resistance as well as be used in conjunction with conventional anti-HIV therapies. Many of these botanicals are also used to enhance immune resistance in those undergoing conventional therapies for cancer. Most have specific antitumor and antiviral activity as well as general and broad ranging immune enhancing effects such as restoration of hematopoiesis, enhancement of macrophage count and activity, increase in CD4s, and improved ratios of CD4s/CD8s. Most also have liver supportive effects in those with chronic hepatitis.

Note that some of these may be immune stimulatory. Like use of interleukin 2 (IL-2), this may NOT be good if you have low T cells and/or a detectable viral load. Stimulating INFECTED cells only increases viral replication. So take care with these botanicals, recognize their power and work with your physician if you choose to use them! To the extent they may stimulate a stronger immune system, help other aspects of immunity (like natural killer cell number and function or enhancing naïve T cell production), such immune modulation could be helpful to thwarting the progression of HIV disease.

Astragalus Root (*Astragalus membranaceus*): Astragalus has broad spectrum immune modulating activity and is the primary immune supportive botanical used in Chinese medicine. Numerous immune-related mechanisms of action have been reported including: improved T-cell activity, generation of blood cells (hematopoiesis), increased macrophage and natural killer cell activity, induction of interferon, and induction of tumor necrosis factor. Clinically it is used to support immune resistance in subjects undergoing conventional cancer and HIV therapies. It is specifically used in the restoration of immunocompetence after conventional chemotherapies. Astragalus has also been shown to have hepatoprotective and antioxidant activity (increases glutathione) and is widely used in the treatment of chronic hepatitis. In healthy individuals, it is the most specific botanical used in the prevention of infections. It is best used in conjunction with other immunomodulating botanicals such as *atractylodes* and *ligustrum*.

Atractylodes Root (*Atractylodes spp.*): *Atractylodes* has been reported to increase phagocytic action of the reticuloendothelial system, increase white blood cell count, and enhance cellular immunity. It is one of the primary botanicals for increasing immune resistance. It is best combined with other tonics such as *astragalus* and *ligustrum*.

Echinacea (*Echinacea spp.*): Echinacea is the primary immune stimulating botanicals used in western herbalism. It has a specific action of enhancing macrophage activity, acting as an anti-inflammatory, through the inhibition of hyaluronidase (an enzyme associated with inflammation), and exhibiting antiviral activity against numerous viruses. It is most widely used for the prevention and treatment of colds, influenzas (flu), and systemic infections, though clinical data regarding its efficacy is mixed. Three primary species are used: *E. angustifolia*, *E. pallida*, and *E. purpurea*. Each are used equally in modern practice. Most herbalists prefer liquid hydro-alcohol extracts for rapid absorption and prolonged shelf life.

IP 6 (Inositol hexaphosphate , a.k.a. phytic acid) A substance found in soybeans and rice bran that appears to enhance natural killer cell (NK) activity and may be protective against cancer and certain toxins. It also seems to be useful in lowering blood fats, including cholesterol. *IP 6 can decrease absorption of iron, zinc, manganese and other minerals, so take your minerals separately – maybe even skipping a day. Since it helps get rid of excess iron, it's useful for hepatitis, but bad for iron-deficiency anemia.*

Ligustrum Fruit (*Ligustrum chinensis*): Has been shown to increase white blood cell count in those with leukopenia due to chemo and radiation therapies and increase general immune resistance. One of the primary botanicals used to support immune resistance while undergoing conventional therapies for cancer. Best used in conjunction with other immune modulating botanicals such as *astragalus*, *atractylodes*, and *schisandra*.

Maitake Mushroom (*Grifola frondosa*): Maitake is one among a number of medicinal mushrooms widely used in the treatment and prevention of cancer. The primary actions of maitake include: increased secretion of interleukin- and 2, which in turn stimulate the body's cancer fighting mechanisms; and increased macrophage, natural killer cell, and CD4 activity. These activities are reportedly due to maitake's rich concentration of the immunomodulating polysaccharide beta-glucan. According to Dr. Hiroaki Nanba, a Japanese researcher who discovered this fraction in maitake, the

mushroom works in four ways to help in the treatment and prevention of cancer: 1. Protecting healthy cells from becoming cancerous; 2. Inhibiting the spread of cancer; 3. Inhibiting tumor growth; 4. Lessening side effects associated with chemotherapy.

A limited number of clinical reports showing positive effects used a variety of dosages including a low of 25 mg and a high of 150 mg of beta-glucan fraction. Some of the cases included an additional 6 g of maitake fruiting body. A standard dose has been recommended as 1 mg of beta-glucan fraction per kilo of body weight (approximately 70 mg for average male adult weight).

Schisandra Fruit (*Schisandra chinensis*): The primary importance of schisandra in supporting immune functions is its action as an adaptogen and enhancing energy production, endurance, and recovery from exertion (see Fatigue). It also exhibits anti-inflammatory and liver-protecting effects (see “Liver Support & Hepatitis”). It is best used in conjunction with other immune modulating botanicals such as astragalus, ligustrum, and atractylodes.

Cautions: May modulate cytochrome P-450 enzyme systems, and therefore, may alter the effectiveness of conventional medications affected by this system. Consult a qualified health care professional when using schisandra in conjunction with conventional medications.

Immune Supportive Nutraceuticals:

Astragalus 400mg x 100	10+/d Equivalent to 9-30 g daily as a decoction or solid extract (depending upon severity of the condition being treated).
Atractylodes Root x 100 grams	1-4 teaspoons per day dissolved in water.
Echinacea Pro 4% 250mg x 60	4 - 8/d (1-2B, 1-3L, 2-3D) The equivalent of 1 g 4 times daily; As tincture: 2-3 mL 4 times daily.
IP 6 (Inositol hexaphosphate , a.k.a. phytic acid) 500 mg x 100	2-4/d, between meals or other nutrients.
Ligustrum Fruit Extract 300mg x 90	3/d (1B, 1L, 1D)
Maitake Mushroom Extract known as ImmPower	See notes above. 1 mg of beta-glucan fraction per kilo of body weight (approximately 70 mg for average male adult weight).
Schisandra Fruit Extract Hepa No. 2	6/d (2B, 2L, 2D) Can be drunk as a tea, used as a tincture, or taken in solid dosage form.

General cautionary note: Many natural therapies that are currently freely available on the commercial market work through enhancing normal bodily processes and mechanisms, such as enhancement of cardiovascular, immune, or liver functions. Normally, such effects are highly desirable and beneficial. However, with particular emphasis on natural therapies that enhance liver function, including the modulation of the cytochrome P-450 enzyme systems that are involved in the metabolism of numerous conventional medications, caution is advised. Therapies that enhance liver function can dramatically alter the level of conventional medications that occur in the blood, thereby potentially affecting their efficacy. When starting on natural therapies, especially those affecting the liver, it is wise to consult with a qualified natural health care consultant.