

# Immunoplex

Our immune system is comprised of a complex network of organs that are responsible for recognizing and fighting off external pathogens. The issue is that with general aging a lot of these organs become poorly functioning. For example, the thymus gland, the organ where t-cells mature, reaches its maximal efficiency in teen years and by the time one reaches 70 years of age the thymic output is approximately 10% of that seen at age 15. Another important component of our immune system are the Peyer's patches. As seen with the thymus gland, the number of Peyer's patches peak in teen years and slowly decline with time after that. If you add on the fact that high stress speeds up the degradation of the immune system, it is no wonder that immune-related disorders are as prevalent as they are.

A poorly functioning immune system can manifest in a multitude of ways. There are conditions associated with a deficient immune system:

- Frequent cold and flu's
- Infections
- Cancer

There are also conditions associated with a dysfunctional and potentially overactive immune system:

- Autoimmune conditions
- Asthma
- Allergies

Unlike other formulas on the market Immunoplex is formulated with ingredients that assist the immune system fight off infections, normalize a dysfunctional immune system and help rebuild some of the organs that degrade as a product of simple aging. This formula does so by adding components that are anti-microbial, help mature immune cells, normalize t-cell ratios, balance antibody production and optimize the bodies response to foreign invaders.

Ingredient	Mode of action
Thymus gland	Source of organ specific enzymes, structural components, minerals and nutrients necessary for the maintenance and optimal functioning of the thymus gland.
Pau d'arco	Powerful anti-neoplastic, anti-bacteria, fungal and viral that has been shown to be selective against pathogenic microbes.
<i>Thuja occidentalis</i>	Immunostimulant that has the capacity to increase the proliferation of spleen cells and t-helper cells
<i>Galium aparine</i>	This herb has a long traditional used as a lymphatic tonic, anti-tumor and anti-inflammatory. It is exceptionally good at decongesting the lymphatic system.
Zinc citrate	Zinc is important for immune cell maturation, proper NK cell functioning and improving the immunes response to endotoxins.



**Each capsule contains:**

Cleavers ( <i>Galium aparine</i> , leaves) .....	300 mg
Thymus gland ( <i>Bos Taurus</i> , 0.5 mg glycine, 1 mg glutamic acid 0.4 mg lycine) .....	120 mg
Pau d'arco ( <i>Tabebuia heptaphylla</i> , bark) .....	100 mg
Thuja ( <i>Thuja occidentalis</i> , leaves) .....	1 mg
Zinc (citrate) .....	1 mg

**Non-medicinal ingredients:** hydroxypropyl methylcellulose, magnesium stearate.

**Dosage (adults):** Take 2 capsules twice daily, or as directed by a health care professional. Take a few hours before or after taking other medications. Take with food.

**Recommended duration of use:** Consult a health care professional for use beyond 3 months.

**Cautions and warnings:** Diuretic and/or laxative effect may occur, reduce dose or discontinue use if you experience abdominal pain, cramps, spasms, and/or diarrhea. Consult a health care practitioner prior to use if you have: thymic, tumors, untreated hypothyroidism, are on hormonal therapy, have a urinary or renal disorder or are taking diuretics. Discontinue use and consult with a physician if symptoms of allergy, nausea, vomiting and dizziness occur. Do not use if you are pregnant or breastfeeding or if you are trying to conceive. Do not use if you have: obstructive urinary stones or edema due to impaired heart of kidney function, blood disorder, have had an organ transplant or are about to have surgery. Do not use if you are taking immunosuppressive therapy, anticoagulant or antiplatelet medications. Consult a health care practitioner prior to use if you have an auto-immune disorder.

NPN 80034808 • 90 Veg Caps

## Thymus gland extract

Glandular extracts work by providing the co-factors, nutrients and organ specific enzymes necessary to help repair, maintain and optimize the thymus gland. Thymus glandulars have been shown to have an extensive benefit for a variety of conditions such as: t-cell-related primary immunodeficiencies, autoimmune conditions, infections, bone marrow suppression, diseases of abnormal cell growth and atopic diseases (asthma and allergies). Its benefit in such conditions often has to do with its capacity mature t-cells, balance the ration of T4:T8 cells and increase key immune signals aka lymphokines.

### *Tabebuia impetiginosa* (Pau d'arco)

The two main bioactive components of *Tabebuia impetiginosa* are lapachol and  $\beta$ lapachone. They have been shown to be anti-tumour, anti-fungal, anti-parasitic, anti-viral and anti-bacterial. Most impressively these compounds have been shown to have strong activity against multidrug resistant strains of bacteria. Furthermore, when they test Pau d-arco's antimicrobial action against various gut bacteria they found that there was stronger activity against pathogenic bacteria, such as *Clostridium* spp., relative to mutualistic bacteria, such as *Lactobacillus* spp. These findings demonstrate that this herb is a powerful and selective anti-microbial that has the capacity to fight off even the most resilient of infections.

### *Thuja occidentalis* (White cedar)

This wild crafted cedar extract has a long traditional use for treating bronchial catarrh, enuresis, cystitis, psoriasis, uterine carcinomas and rheumatism. It exhibits strong anti-bacterial and fungal activity by interfering with microbe cell membrane functions. Perhaps its most impressive role in the immune system is its capacity to increase the proliferation of spleen cells and t-helper cells. It also normalizes the release of antibodies from

B-cells, lending to its implications with autoimmune diseases as well as infectious diseases.

## Galium aparine (Cleavers)

Galium's biggest benefit in this immune formula is a result of its actions on the lymphatic system. Our lymphatic system is widespread and includes organs such the spleen, thymus, bone marrow, GALT, MALT & lymph nodes. This system is crucial for the circulation of immune cells throughout the body and Galium works by improving the flow of lymph and decongesting 'clogged' lymphatic tissue. It is important to have a lymphatic tonic in an immune formula to ensure the immune cells can get to their desired location and to ensure proper filtering and disposal of old and non-functional immune cells.

## Zinc citrate

Zinc has a very important role in many components of the immune system and zinc deficiencies have been shown to result in thymus gland atrophy, immune dysfunction and more frequent infection. Zinc is required for components of both the innate and adaptive immunity. It is a necessary cofactor involved in the maturation of leukocytes, proper functioning of natural killer cells and pathways that increase the immune systems ability to recognize foreign microbes. Zinc is added to Immunoplex to ensure that the ingredients effects on the immune system are optimized and patients get the highest value possible.

This combination of anti-microbial herbs, thymus glandulars and zinc is ideal for anyone dealing with chronic immune issues. Immunoplex goes beyond providing additional anti-microbial action and it actually helps repair and optimize the endogenous immune system by laying the foundation for proper immune function moving forward.

## References:

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# Organs supported by Immunoplex

