

## Product Technical Reports

# Immunal™

Complete Immune support in a single capsule

## THE NUMBERS

- ❑ Antibiotic resistance has been called one of the world's most pressing public health problems
- ❑ A recent study by Northwestern National Life found that 40% of American workers find their jobs to be "very" or "extremely" stressful
- ❑ The same study reports that 25% of employees view their jobs as the number one stressor in their lives
- ❑ The Journal of Occupational and Environmental Medicine reports that health care expenditures are nearly 50% greater for workers who report high levels of stress

## LIVING IN TODAY'S WORLD

Let's face it. Our modern world, with all its wonderful new technology, its amazing capacity for global communication, and its ceaseless quest to reach ever further out into the wide expanse of space, is, quite literally, a dangerous and stressful place. Work days seem to grow ever longer, traffic never ceases, and between all the types of phones and email, we stay in a constant state of connection with all this chaos we call daily life.

It all takes its toll on our bodies. Increased stress can lower our

immune system's function by as much as 50 percent. At the same time, the amount of toxins in the environment, coupled with the decreasing nutritional value of our over-managed and manipulated food supply, means the body is under its greatest attacks just at the point when its defenses are lowest.

It's a recipe for disaster, yet the solution gleams like a beautiful jewel right in the heart of the problem: bring the immune system, the body's natural ability to fend off foreign invaders, back on line. We can't easily reduce the toxins and diseases we're exposed to on a daily basis, but we can work to make sure we are fully armed against them as we go about our daily lives.

## CARBOHYDRATES AND THE IMMUNE SYSTEM

We've always known carbohydrates play an essential role in maintaining healthy body function. Historically, that role was seen as providing energy to the body. New studies, however, are increasingly revealing the key role some carbohydrates play in enhancing immune function and facilitating cellular function.

How do they do this? Basically, they get the immunity ball rolling, so to speak. They set in motion a multi-step process that works to build and strengthen the immune system. They activate macrophages (a kind of phagocyte, which is a cell that surrounds and disables foreign and dam-

aged cells in the body), stimulate T-cell formation and differentiation, and activate blood proteins that play a key role in the body's natural immunity.

"Macro-what?" you might ask. Well, they can recognize and kill tumor cells and remove debris from body tissue. They remove dead cells and release cytokines to promote health and regeneration in damaged cells and tissue. They also produce substances that stimulate the immune system and boost bone marrow production receptor sites. They can leap tall buildings in a single bound.

No, we're not talking about Superman. What we're talking about, though, is something just as powerful and amazing: macrophages. One of the oldest and most consistent cell weapons in the body's immunity arsenal, macrophages are involved in many daily body processes, from general detoxification to maintaining healthy intestinal bacteria.

## LET'S BOOST THAT IMMUNE SYSTEM

The message is clear. Now, more than ever, we need to do what we can to build up our body's own natural defenses. As the attacks on our immunity increase, the first line of defense should be a shoring up of sorts of all the elements of the system designed to work so beautifully in protecting us from all the ills that lurk about.

That's where Immunal comes in. The special combination of potent immunological revitalizers - acemannan, beta glucan, larch arabinogalactan, and astragalus -- make this one of the most powerful herbal immune enhancers in the world today. Let's take a look at what makes Immunal so special.

## **Ace Mannan**

People around the world have been using the amazing aloe vera plant for its healing capabilities for more than 5,000 years. This perennial succulent belonging to the lily family contains some 200 components ranging from polysaccharides and enzymes to vitamins and minerals. For years, it has been used topically as a remedy for minor burns and skin irritations, and internally, it is often used as a laxative. However, year by year, scientists discover more about the amazing healing powers of this lush green plant.

Most recently, studies have focused on some of the sugar compounds, or polysaccharides, in aloe vera, which show promise in the lowering of blood sugar and enhancing of the body's immune function.

One of these complex carbohydrates in particular -- acetylated mannan, or "acemannan" -- has both immune-stimulating and antiviral properties. Studies show acemannan activates several types of white blood cells, which, as we all know, are essential players in the body's proper immune system function. But acemannan also appears to play a role in increasing amounts of tumor necrosis factor, gamma interferon, and interleukin 1, which all enhance the body's natural ability to destroy viruses, bacteria, and tumor cells.

Produced in the leaf rind of aloe vera plants, acemannan is a long

polysaccharide chain that appears to keep viruses from entering and infecting healthy T-cells and thereby allowing the immune system to rebuild itself. Additionally, it activates and stimulates macrophages, monocytes, T-cells, and antibody production, further bolstering the body's capacity to fight off illness. The applications of this are quite obvious in terms of the potential of acemannan as an aid in the treatment of cancer, AIDS, and even measles.

## **Beta Glucan**

Have you ever had one of those really great jackets that functions as a raincoat, a winter coat, and a windbreaker all in one? Well, beta glucan is that kind of great jacket for the immune system. It's a long chain polysaccharide that broadly treats and stimulates the immune system itself, rather than targeting single causes of illness or dysfunction. The general immunostimulatory properties of beta glucan include macrophage activation, tumor inhibition, and decreased infection rates.

Beta glucan can be found in baker's yeast, grains like oats and barley, and certain types of mushrooms. Researchers think the beta glucan stimulates immune system activity by activating white blood cells and turning on a number of macrophage receptor sites. This action makes the body more resistant to a wide variety of bacterial, fungal, and parasitic infections, such as the common cold, sinus infections, candida, herpes, and mononucleosis. Beta glucan also modulates the proper functioning of the immune system as a whole and can help with disorders resulting from misdirected immune functions, such as allergies, chronic fatigue syndrome, lupus, fibromyalgia, arthritis, diabetes, and osteoarthritis.

But that's not all. Beta glucan can

also help in lowering LDL (or "bad") cholesterol levels. In the intestines, it binds lipids (fats), bile acids, sugars, and toxins, and clears them out of the body. It's the lipids that, if left unchecked, eventually turn into the cholesterol we're all trying so hard to keep down.

## **Larch Arabinogalactan**

The Western Larch (also known as the Mountain Larch or Western Tamarack) is more than just a pretty face. Larch arabinogalactan, a polysaccharide derived from the wood of this amazing tree, has some unusual immunological properties. The sap from the Larch has been used for centuries to heal frostbite and skin problems. And, interestingly, the Western Larch is one of the few trees that can survive after being struck by lightning.

Larch arabinogalactan is a "prebiotic" -- it promotes the growth and activity of "friendly bacteria" in the intestinal tract. These bacteria are critical players in maintaining a healthy digestive and immune system. They also detoxify our bodies, help regulate hormones, and play a key role in nutrient formation and absorption.

Arabinogalactans are found in many plants, including echinacea, for centuries widely used for its immune boosting properties. They're also found in many raw vegetables such as carrots, radishes, corn and tomatoes. But the great thing about the Western Larch is that it contains these arabinogalactans in abundance. While echinacea has about 3-5% arabinogalactan, larch extract has 95-98% arabinogalactan. What's more, the immune system enhancement effect of the larch arabinogalactan is 2-3 times stronger than that of echinacea, resulting in its nickname of "atomic echinacea."

## Astragalus

Used for centuries by Chinese herbalists to enhance the immune system, research has shown the polysaccharides in astragalus help strengthen the body, increase metabolism, promote tissue regeneration, assist in resisting the effects of stress on the body, stimulate the immune system, and increase energy. Astragalus is an organ toning and balancing herb from the pea family. It's also known as milk vetch root and huang qi.

The immunological activity of astragalus is of particular interest. Research shows it enhances T-cell activity and stimulates macrophages. Research has also shown it to have inhibiting effects on molecular changes caused by viruses and a stimulating impact on the production of antibodies. In everyday applications, astragalus appears to be useful in helping the body deal with atherosclerosis, hyperthyroidism, hypertension, insomnia, diabetes, chronic active hepatitis, genital herpes, AIDS and even the side effects of cancer chemotherapy.

## THERE'S STRENGTH IN NUMBERS

There's no magic pill out there to handle all our problems. But the old adage remains true and even more important today: there's strength in numbers. When we're confronted by an increasing number of toxins and antibiotic-resistant diseases, when we venture out everyday into a world filling up fast with stressors we never even imagined could exist, our best chance of keeping our bodies healthy and functioning optimally is to build up our immunity arsenal.

The ingredients in Immunal<sup>®</sup> not only build up various critical parts of the immune system, they also work

as a broad spectrum immune enhancer, revitalizing all the pieces simultaneously. By addressing many aspects of immune system enhancement at the same time, we increase our capacity to keep our bodies healthy.

## CAUTIONS

It is suggested that Immunal<sup>®</sup> use be cycled to keep the body from building up a tolerance to the key ingredients. The suggested cycle is to take the supplement for 20 days, then take 10 days off each month.

These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease, but rather is a dietary supplement intended solely for nutritional support.

## SOURCES

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