



**Empowering you Organically - Season 10 – Episode 82**

**Title:** Why Boosting Your Immune System During a Pandemic Can Kill You...Do This Instead!

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**Description:** Coronavirus is forefront in all our minds right now. Tune in to find out from Jonathan and TeriAnn why BOOSTING your immune system right now may not be the way to go. We help you understand your immune system; innate and adaptive, cytokine storms, and the role of beta-glucans, or a  $\beta$ -glucans for short, play in SUPPORTING your immunity. Which leads you into the magic of mushrooms. Here's a hint...they aren't just for anti-aging!

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**Featured Product**



**Powerful Nutritional Mushrooms, Fermented For Maximum Bioavailability for Powerful Immune System Support**

- **POWERFUL IMMUNE SUPPORT:** Using centuries-old knowledge of the power of beneficial mushrooms and our breakthrough formulation process, we've created a supplement packed with immune-boosting benefits!
- **PROMOTE HEART & LIVER HEALTH:** Patented fermented mushroom extracts help keep your heart healthy and live brown seaweed extracts help support healthy liver function.
- **MAXIMUM BIOAVAILABILITY:** Through our unique fermentation process, we've created a breakthrough formulation for maximum bioavailability.
- **CERTIFIED ORGANIC:** We only use the purest ingredients found on earth and our 7M+ is made with organic ingredients that are free from artificial flavors, preservatives, colors, yeast, soy protein, sodium, starch and are non-GMO.

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“Boosting” your Immune System may be the worst thing you can do during a pandemic...

The single best thing you can do for your health and the health of your loved ones is to take steps towards *supporting* the health of your immune system.

And I chose the word “support” carefully because new research is now showing that...

Immune *SUPPORT* is better than an immune *BOOST* during a pandemic!

### Let's Look at The Immune System

The immune system protects the body from possibly harmful substances by recognizing and responding to antigens. Antigens are substances (usually proteins) on the surface of cells, viruses, fungi, or bacteria. Nonliving substances such as toxins, chemicals, drugs, and foreign particles (such as a splinter) can also be antigens. The immune system recognizes and destroys, or tries to destroy, substances that contain antigens.

Your body's cells have proteins that are antigens. These include a group of antigens called HLA antigens. Your immune system learns to see these antigens as normal and usually does not react against them.

### Important Distinctions of Your Immune System

#### Innate Immune System

The innate immune system is made of defenses against infection that can be activated immediately once a pathogen attacks. The innate immune system is essentially made up of barriers that aim to keep viruses, bacteria, parasites, and other foreign particles out of your body or limit their ability to spread and move throughout the body. The innate immune system includes:

- Physical Barriers

- such as skin, the gastrointestinal tract, the respiratory tract, the nasopharynx, cilia, eyelashes and other body hair.
- Defense Mechanisms
  - such as secretions, mucous, bile, gastric acid, saliva, tears, and sweat.
- General Immune Responses
  - such as inflammation, complement, and non-specific cellular responses. The inflammatory response actively brings immune cells to the site of an infection by increasing blood flow to the area. Complement is an immune response that marks pathogens for destruction and makes holes in the cell membrane of the pathogen.

The innate immune system is always general, or nonspecific, meaning anything that is identified as foreign or non-self is a target for the innate immune response. The innate immune system is activated by the presence of antigens and their chemical properties.

### **The Adaptive Immune System: Precision and a long memory**

If the body's first line of defense – the innate immune system – is unsuccessful in destroying the pathogens, *after about four to seven days* the specific adaptive immune response sets in. This means that the adaptive defense takes longer, but it targets the pathogen more accurately.

Another advantage: It can remember the aggressor and acts specifically against certain antigens. If there is new contact with an antigen that is already known, the defense response can then be quicker. This way the defense responses of the adaptive immune system are more efficient and faster than those of the innate defense, if the antigen is already known.

The adaptive immune system can remember the antigens because it produces memory cells. This is also the reason why there are some illnesses you can only get once in your life, because afterwards your body becomes “immune.” While after first contact with the pathogen it takes several days for the immune system to respond, a second infection often has no consequences, or at least the symptoms are weaker.

The adaptive immune system has several parts that react in different ways, depending on the place in the body where the pathogen is. Antibodies are made available for germs outside the cells (in the blood and in body fluids). To eliminate pathogens that are inside the tissue, a cell-mediated immune response is necessary.

These parts of the adaptive defense include:

- T lymphocytes
- B lymphocytes
- antibodies as soluble proteins in the blood
- cytokines in the blood and tissue as hormone-like messenger substances

## Cytokines

Cytokines form a group of proteins that participate in cell signaling, intercellular communication and in many cellular and immunological functions. They are prominently involved in inflammatory responses and defense against viral infections.

If the other parts act like soldiers protecting you, then cytokines are like Navy Seals, sent in for only the toughest missions.

These cytokines are small molecules in the body that are released by certain cells to help coordinate the battle against infection. So, you might be thinking “Great! How do I get more of these hard-working cytokines into my system?”

And that makes sense. If they’re the best of the best for fighting illness, then you’d want more of them, right?

Well, it’s not so simple and now some doctors have recently made a startling discovery...

As it turns out, “boosting” cytokines during a pandemic like this might cause what some doctors call a “cytokine storm.”

And this cytokine storm might be the explanation of why some people rapidly decline in a pandemic, while others are able to stay healthy.

Scientifically speaking, a “cytokine storm” is when, in some cases, the body's own immune system actually overreacts to an infection.

And that’s when problems can start.

While cytokines are generally a good thing for your immune system...

Too many of them at once might actually cause an overreaction.

This “overreaction” could cause more damage to the body’s own cells than to the invading disease cells it's trying to fight off.

## Your Cellular Immunity Defense System

There is one thing that almost every single medical doctor does agree on when it comes to diseases... A compromised immune system is the single biggest risk factor anyone can have.

You might be wondering... How do I build the foundation of my immune system without overloading it?

Fortunately, there is something you can do, and it has to do with what doctors and medical researchers call... your Cellular Immunity Defense System

Cellular immunity protects the body through:

- T-cell mediated immunity or T-cell immunity: activating antigen-specific cytotoxic T cells that are able to induce apoptosis in body cells displaying epitopes of foreign antigen on their surface, such as virus-infected cells, cells with intracellular bacteria, and cancer cells displaying tumor antigens;
- Macrophage and natural killer cell action: enabling the destruction of pathogens via recognition and secretion of cytotoxic granules (for natural killer cells and phagocytosis (for macrophages); and
- Stimulating cells to secrete a variety of cytokines that influence the function of other cells involved in adaptive immune responses and innate immune responses.

Cell-mediated immunity is directed primarily at microbes that survive in phagocytes and microbes that infect non-phagocytic cells. It is most effective in removing virus-infected cells, but also participates in defending against fungi, protozoans, cancers, and intracellular bacteria. It also plays a major role in transplant rejection.

## **THIS LITTLE-KNOWN NUTRIENT - Activates Your Cellular Immunity Defense System**

It's called a beta-glucan, or a  $\beta$ -glucan for short.

Outside of freshman chemistry class, you may never have heard of a beta-glucan.

But these  $\beta$ -glucans attach themselves to white blood cells and stimulate them to seek and destroy bacteria and viruses.

Your body already has natural bacteria killing cells called B cells and T cells, and dozens of research studies show that once  $\beta$ -glucans are in your system, they activate and strengthen these killer cells.

It's like sending every little immunity soldier into battle with a rocket launcher packed with an unlimited supply of bacteria-seeking missiles.

And that's not all they do...

Remember those little immunity defenders called cytokines?

We know that overloading the system with them can cause a “cytokine storm,” but striking the right balance of them can really fortify your immune system.

Well, that’s part of the magic of  $\beta$ -glucans...

$\beta$ -glucans are what trigger natural and healthy cytokine production and those little cytokines are what spring to action in an immune response.

*So, the more  $\beta$ -glucan you have in your body, the stronger your immune system.*

AND what’s more,  $\beta$ -glucans naturally regulate your cytokine production, so they won’t “overload” and cause a dangerous cytokine storm.

So, you might be asking, how do I make sure my  $\beta$ -glucans are strong and that my system has enough of them to fight off infectious bacteria?

Well, there is one superfood that contains extremely high amounts of  $\beta$ -glucan.

**The #1 Superfood That Fortifies Your Cellular Immunity Defense System:**

*NUTRITIONAL MUSHROOMS - The Cutting Edge of Natural Immune System Research*

- Just by using nutritional mushrooms regularly, researchers say you can increase your levels of  $\beta$ -glucans more than any other nutrient on earth.
- It’s like having a never-ending supply of reinforcements to send into the war against infectious diseases.
- Researchers have found that nutritional mushrooms contain 0.53 grams of  $\beta$ -glucans per 100 grams of mushrooms, which makes them far and away the most  $\beta$ -glucan-rich food you can find on the planet.

**3 Mushrooms That Act Like “Turbo Shots” To Your Immune System**

### SHITAKE

In a 2011 study, 52 healthy adults, aged 21 to 41, took home a 4-week supply of shiitake mushrooms. They were told to eat one 4-ounce serving of the mushroom every day.

Then after the 4 weeks were completed, they returned for some simple blood work.

Their results showed a decrease in inflammatory proteins which the researchers thought was a pretty good benefit in itself...

But then they looked a little harder at the data and saw that each patient's B cells, T cells, and natural bacteria-killing cells had all increased.

When they finally figured out what triggered this response, it was no surprise that it was all connected back to the  $\beta$ -glucans that came from the shiitake mushrooms they had been eating.

*"If you eat a shiitake mushroom every day, you could see changes in their immune system that are beneficial,"* said Food Science and Human Nutrition Professor Sue Percival, who was the leader of the study.

She also said that those  $\beta$ -glucans were not only able to *"Enhance the immune system,"*

... but *"also reduce the inflammation that the immune system produces."*

And the benefits of shiitake don't just stop there, because these mushrooms flood your system with other nutrients like B vitamins, vitamin D, selenium, niacin, and 7 of the 8 essential amino acids.

Plus, the enzymes packed into shiitake also make it easier for your body to absorb almost any nutrient.

Which means if you're already taking a vitamin C or D supplement for your immune system, shiitake will actually make those supplements work better!

### **REISHI**

Known as the Mushrooms of Immortality, reishi mushrooms are packed with polysaccharides, antioxidant properties, and those crucial  $\beta$ -glucans that can help with immune function.

As early as 206 BC there are writings about reishi mushrooms being used to help people live longer.

Today's researchers now know that they were living longer simply because their bodies were better equipped to fight off disease.

Simply put, they had super strong Cellular Immunity Defense Systems.

Again, it's thanks to the high content of those powerful  $\beta$ -glucans!

In fact, reishi mushrooms have been shown to have as much as 5.8% levels of  $\beta$ -glucans, higher than any other mushroom strain on earth.

## MAITAKE

Remember those important cytokines?

Well, we know it's important to strike the right balance of them in your system...

So that you have enough of them to help your immune system fight off bacteria...

But not too many to cause a dangerous "cytokine storm".

It turns out that maitake mushrooms may just be the secret to striking this delicate balance.

A 3-week study of a group of healthy young women taking Maitake mushrooms resulted in the benefits you might expect.

Similar to reishi and shiitake, they all saw improvements in their immune systems thanks to the increase in  $\beta$ -glucans...

But the study with maitake gave researchers some really exciting results with those cytokines

It turns out that maitake was able to trigger both stimulatory (IL-2) and suppressive (IL-10) cytokines.

That means they were able to increase the cytokines, but not past a certain level so they got out of control.

But here's where things really start to get interesting...

Maitake is not the only mushroom researchers have studied for the immune response...

While it was by far the strongest in supporting the immune defense reaction...

There was one way they were able to trigger an even bigger response...

**They combined it with shiitake!**

And it was that combination that was stronger than any other.

**MUSHROOM POTENCY CAN BE INCREASED EXPONENTIALLY WHEN THEY ARE USED TOGETHER!**

Just look what happened when the research team from the National Institute of Complementary Medicine, the School of Chemistry and Molecular Biosciences, and Integria Healthcare started mixing mushrooms together...

They started with nine varieties of whole mushroom extracts.

They tried them each individually with some pretty good results...

But then they tried mixing a few of them together, and as you'd expect, the results dramatically increased.

And when their work was done do you know which 3 of the 9 mushrooms worked best for the immune system?

You guess it - the magical trio of reishi, shiitake, and maitake.

When these 3 were combined, the lead researcher told the media that they came together to create an immune system "super-force."

"What we found that was surprising was that the (combination) gave three to four times the impact that what we would expect," Associate Professor Joe Tiralongo said.

### **7M+ by Organixx**

- 7M+ is a breakthrough proprietary formula that ensures you're getting the most powerful combination of those 3 crucial mushrooms packed with those  $\beta$ -glucans at a level no other mushroom supplement can offer.
- The anti-inflammatory and antioxidant properties of 7M+ give you what you need to help support your immune system like nothing else on the market.

And... It turns out there's so much more that mushrooms can do for our bodies than just immune support.

**That's why Organixx added 4 other nutritional mushrooms into this formula....**

### **CHAGA**

Chaga has been used for centuries primarily in the East. It's known for its immune support and soothing properties. Many traditional healers have used it as a soothing tea for a powerful and natural digestive support. It's also shown the potential to help maintain healthy blood pressure levels that are already within the normal range. Chaga also has very powerful antioxidant properties that make it a powerhouse on its own.

## CORDYCEPS

Cordyceps mushrooms have been shown to help regulate a healthy immune system. Cordyceps were at one time so highly valued that they were only allowed to be consumed by the Emperor of China (who lived to 100+ years old and still fathered children into his 100s). Also known for the ability to support sexual health and athletic ability, cordyceps have been the most sought after nutritional mushroom in the Orient.

## LION'S MANE

One of the more interesting mushrooms coming from the ancient east. Lion's mane is known to support brain health, support cognitive function, and aid against age-related memory loss. It also helps maintain mental focus and function, as well as promoting healthy digestive function through its powerful regulation of bacteria.

## TURKEY TAIL

Turkey tail is considered one of the best-researched mushrooms on earth. Its benefits are just as strong as other nutritional mushrooms such as reishi, cordyceps and maitake. It contains powerful antioxidant nutrients and high levels of selenium, vitamin D, and vitamin B3, which are crucial for boosting and maintaining immunity.

## **Fermentation INCREASES the Power of Nutritional Mushrooms**

Most other mushroom supplements don't take this into consideration. They simply get a basic mushroom formula and bottle it up.

That strategy does work a little better than just eating whole mushrooms...

But fermentation takes it to a whole other level of potency and that's exactly what the team at Organixx has done with 7M+ and their proprietary fermentation process.

Fermentation is simply the process of breaking something down so that the highest amount of nutrients can be extracted.

Research found that fermented mushrooms are, indeed, the best way to increase the levels of those powerful  $\beta$ -glucans.

Fermentation also extracts all the healthy and beneficial other nutrients that are packed into mushrooms. This means that those nutrients can get into your system better because they're more bioavailable.

## The Ingredients in 7M+ Are Certified Organic – Why That Matters to YOU!

- Once a nutrient like mushrooms are harvested, they are then dried and concentrated down to a very potent dose.
- This sounds like a good thing because you'll get a higher dose of the nutrients, as we discussed already...
- But if those mushrooms were not grown organically, that means pesticides and poisons were used on them.
- And when they are concentrated down, you're not only getting high amounts of nutrients.... but HIGH CONCENTRATIONS OF POISONS too!

## Why 7M+ for You and Your Family

- 7M+ is specifically formulated to give you everything you need to help support immunity and feel younger and healthier.
- This year, with the entire globe dealing with a health epidemic, maintaining your immune system might be something that makes all the difference.
- With 7M+, you get seven of the world's finest beneficial mushrooms, jam-packed with  $\beta$ -glucans – nature's powerful sickness-fighting ingredient.
- With the immune-supporting power of 7M+ working throughout your entire body, you can help increase your and your family's odds of staying well even during times like this.
- Only two capsules a day provide you with a completely safe, 100% natural, and amazingly effective formula to support immunity... and help you live a longer and healthier life!

## RESOURCES

7M+ by Organixx

<https://shop.organixx.com/a/secure/checkout/PS9gd0VOOLThuCn8OMXV?ch-tn-box=third-box&gl=5d88ec0f02e26b5443380841>

Empowering You Organically Episode 47: The Magic of Mushrooms

<https://organixx.com/empowering-you-organically/the-magic-of-mushrooms-episode-47/>

Cytokines

<https://www.sciencedirect.com/topics/neuroscience/cytokines>

Cytokine storm: An overreaction of the body's immune system

<https://www.newscientist.com/term/cytokine-storm/#ixzz6KBGrH9ZF>

Cytokine Storms May Be Fueling Some COVID Deaths

<https://www.webmd.com/lung/news/20200417/cytokine-storms-may-be-fueling-some-covid-deaths>

NCI Dictionary of Cancer Terms

<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/797584>

Into the Eye of the Cytokine Storm

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3294426/>

COVID-19: consider cytokine storm syndromes and immunosuppression

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30628-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30628-0/fulltext)

The innate and adaptive immune systems

<https://www.ncbi.nlm.nih.gov/books/NBK279396/>

Cellular Immunity

<https://www.sciencedirect.com/topics/medicine-and-dentistry/cellular-immunity>

The immune system review

<https://www.khanacademy.org/science/high-school-biology/hs-human-body-systems/hs-the-immune-system/a/hs-the-immune-system-review>

Cell-Mediated Immunity

<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/cell-mediated-immunity>

Cell-mediated immunity

[https://en.wikipedia.org/wiki/Cell-mediated\\_immunity](https://en.wikipedia.org/wiki/Cell-mediated_immunity)

Types of immune responses: Innate and adaptive, humoral vs. cell-mediated

<https://www.khanacademy.org/science/high-school-biology/hs-human-body-systems/hs-the-immune-system/v/types-of-immune-responses-innate-and-adaptive-humoral-vs-cell-mediated>

Edible Mushrooms: Improving Human Health and Promoting Quality Life

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4320875/>

Determination of Glucan Contents in the Fruiting Bodies and Mycelia of Lentinula edodes Cultivars  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4206800/>

Beta-glucans in edible mushrooms

[https://www.researchgate.net/publication/263256678\\_Beta-glucans\\_in\\_edible\\_mushrooms](https://www.researchgate.net/publication/263256678_Beta-glucans_in_edible_mushrooms)

Shaping the Innate Immune Response by Dietary Glucans: Any Role in the Control of Cancer?

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7016572/>

Consuming Lentinula edodes (Shiitake) Mushrooms Daily Improves Human Immunity: A Randomized Dietary Intervention in Healthy Young Adults.

<https://www.ncbi.nlm.nih.gov/pubmed/25866155>

Ganoderma lucidum (Lingzhi or Reishi)

<https://www.ncbi.nlm.nih.gov/books/NBK92757/>

Immune-enhancing effects of Maitake (Grifola frondosa) and Shiitake (Lentinula edodes) extracts

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4202470/>

Immune-modulating Effects of Maitake Mushroom Extract

<https://www.naturalmedicinejournal.com/journal/2009-12/immune-modulating-effects-maitake-mushroom-extract>

Synergistic immuno-modulatory activity in human macrophages of a medicinal mushroom formulation consisting of Reishi, Shiitake and Maitake

<https://journals.plos.org/plosone/article/authors?id=10.1371/journal.pone.0224740>

Researchers prove mushrooms are magic for your immune system

<https://thenewdaily.com.au/life/wellbeing/2019/11/08/mushroom-medicines-health-benefits/>

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