



EPICOR[®]

Proven Immune Strength[™]

PRODUCT PROFILE

THE DISCOVERY

For over 70 years Embria Health Sciences' parent company has been manufacturing fermentation products to help animals stay healthy and be more productive. In the 1990's, the company realized its fermentation ingredients were having beneficial effects on the factory workers, as workers exposed to the fermentation product rarely used sick days. Scientific tests suggested that the factory workers had stronger immune systems compared to employees without exposure. After this discovery, more research was carried out to formulate a safe, human grade version, which was named EpiCor[®]. At that point, Embria Health Sciences was founded.

WHAT IS EPICOR?

EpiCor[®] is a whole food fermentation ingredient that can be used in dietary supplements. It's comprised of proteins, fiber, polyphenols, vitamins, amino acids, antioxidants, beta-glucans and other metabolites that work together to support a strong immune system. When taken daily, EpiCor[®] is a safe and effective way to naturally support your immune system so that people can "live more healthy days[™]".

EpiCor[®] is manufactured in the USA. It is suitable for vegans, certified OU Kosher, TSA/BSA free, Halal, organic compliant, tested GMO-free and manufactured using

current Good Manufacturing Practices (cGMP) certified by NSF.

Research highlights

Studies on EpiCor[®] include:

- Seven published human clinical trials (cold/flu symptoms, allergies and rapid response)
- Five randomized, double-blinded, placebo-controlled trials
- Three *in vitro* studies
- Published article summarizing safety studies

EpiCor[®] is a, clinically researched fermentate shown to support the immune system for better overall health.

PRODUCT ADVANTAGES

- ✓ Manufactured in USA
- ✓ Safe
- ✓ Fermented using a specialized proprietary process
- ✓ Identity & consistency verified
- ✓ Scientific data indicates that a daily 500mg results in:
 - Reduction of cold/flu symptoms
 - Reduction of congestion among allergy sufferers
 - Strengthens immune response without prolonged inflammation
 - Dual responses: rapid and extended
 - Works in the gut

EpiCor[®] has been thoroughly tested for safety, including multiple human research studies and a dedicated published safety study. More research is planned, including studies on children and gut health.



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Research summaries and full clinical studies are available on request.

Cold/flu Symptoms

The first study was a randomized double-blind placebo-controlled human clinical trial. It was performed over twelve weeks during the major cold and flu season (the middle of winter in South Dakota, which is known to have very cold winters). 116 healthy subjects participated in the study and the subjects had not been vaccinated for the influenza virus that season. Thus, these people, while healthy, were especially at risk for acquiring the influenza virus. The non-placebo group took 500 mg EpiCor® once daily. The incidence of symptoms that correlate to colds and flu were recorded for all participants and it was found that the group taking EpiCor® had a reduced incidence of cold and flu symptoms compared to the placebo group. This improvement was statistically significant as evidenced by the low p value of 0.01!

The second study was conducted by the same research group. It was also a randomized double-blind placebo-controlled human clinical trial performed over the same twelve weeks during the major cold and flu season in South Dakota. However,

for this study the 116 healthy subjects were vaccinated for that season's influenza virus. Again, the non-placebo group took 500 mg EpiCor® once daily. For this study, not only was the incidence of colds and flu for the EpiCor® group lower compared to the placebo group, but, the symptoms they exhibited had a reduced duration. In both cases, the improvements were statistically significant as evidenced by the low "p" values².

Because, both of these studies were conducted concurrently by the same group with identical protocols, the data from both studies can be combined.

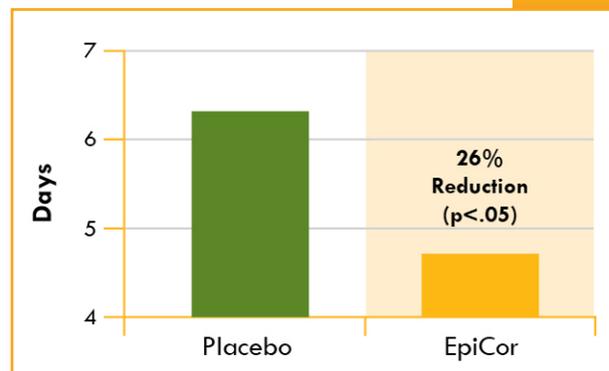


Table 1
Colds and Flu Symptoms Clinical 1 & 2
Combined results

The data shows that over the 12 week study period, there was a 26% reduction in days with cold and flu symptoms for the EpiCor® group compared to the placebo group.^{1,2}

1. Moyad, M. A.; Robinson, L. E.; Zawada, E. T.; Kittelsrud, J.; Chen, D. G.; Reeves, S. G.; Weaver, S., Immunogenic yeast-based fermentate for cold/flu-like symptoms in nonvaccinated individuals. *J Altern Complement Med* **2010**, *16* (2), 213-8.

2. Moyad, M. A.; Robinson, L. E.; Zawada, E. T., Jr.; Kittelsrud, J. M.; Chen, D. G.; Reeves, S. G.; Weaver, S. E., Effects of a modified yeast supplement on cold/flu symptoms. *Urol Nurs* **2008**, *28* (1), 50-5.



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PRODUCT PROFILE

Therefore, the subjects taking daily EpiCor® (combining the people who were vaccinated for flu and those who were not) had more healthy days during cold and flu season than those who took a placebo.

Rapid Response

Another clinical trial showed evidence that EpiCor® starts to work within two hours. This rapid response clinical trial was also a randomized, double blind, placebo-controlled human clinical trial on healthy adults. The results of this study showed that expression of the immune receptors was higher when subjects were treated with EpiCor® compared to when they were treated with placebo, indicating that Natural Killer cells had been activated within one or two hours³.

Allergy Trial

This study was a randomized placebo controlled human clinical trial. It was carried out using 96 healthy subjects over twelve weeks, during allergy season in South Dakota. Subjects who took a daily dose of 500 mg EpiCor® were compared to subjects taking a placebo. The clinical results indicated that compared to the placebo group, the EpiCor® group showed reduced

severity of nasal congestions and a reduced severity of rhinorrhea (runny nose). The EpiCor® group also showed a reduced use of medications used to treat allergy symptoms such as inhalers. These positive results were all statistically significant (low "p" values)⁴.

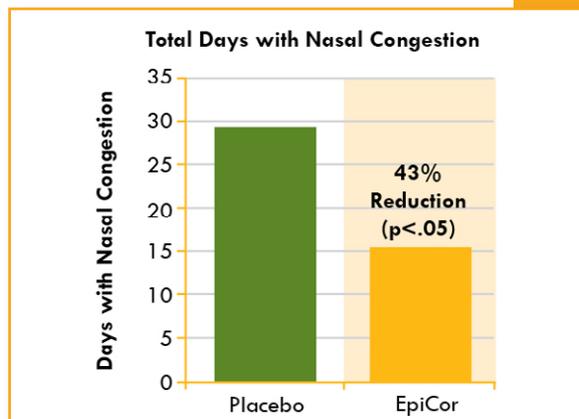


Table 2
Allergy Trial

Immune strength through balance

A balanced immune system responds well to general infections, and produces no immune response to harmless antigens such as pollen. Research on EpiCor®, shows that this can be achieved. A clinical study was performed to demonstrate that after five weeks' treatment with 500mg of EpiCor®, salivary sIgA increased while subjects on placebo had a decrease in salivary sIgA.

3. Jensen, G. S.; Redman, K. A.; Benson, K. F.; Carter, S. G.; Mitzner, M. A.; Reeves, S.; Robinson, L., Antioxidant bioavailability and rapid immune-modulating effects after consumption of a single acute dose of a high-metabolite yeast immunogen: results of a placebo-controlled double-blinded crossover pilot study. *J Med Food* **2010**, *14*, 1002-1010.

4. Moyad, M. A.; Robinson, L. E.; Kittelsrud, J. M.; Reeves, S. G.; Weaver, S. E.; Guzman, A. I.; Bubak, M. E., Immunogenic yeast-based fermentation product reduces allergic rhinitis-induced nasal congestion: a randomized, double-blind, placebo-controlled trial. *Adv Ther* **2009**, *26* (8), 795-804



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IgA bridges the adaptive and innate responses, it can help fight a variety of infections, and may also help down-regulate undesirable inflammatory responses. Conversely, serum IgE, which is involved in allergic responses, trended up in the placebo group while remaining essentially flat in the EpiCor[®] group⁵.

RECOMMENDED DAILY DOSE

All published human studies on EpiCor[®] have been carried out on healthy adults with a daily dose of 500 mg.

For children, the recommended daily dose is 7mg/kg of body weight, calculated as a fraction of the adult dose. EpiCor[®] can be also used in pet food supplements.

EpiCor[®] can be used in various applications, capsules being the most suitable. It is heat-stable, partially soluble in water and has a three-year shelf life.

about



Embria[®] Health Sciences is dedicated to the creation of science-based, natural ingredients that support human health. Embria's ultimate goal is to provide products that help people stay healthy and maintain a high quality of life so that they can continue to enjoy the things they love. Ingredients are made in America and supported by years of thorough research and development. Consumers can trust that these ingredients provide safe and effective health solutions.

5. Jensen, G. S.; Patterson, K. M.; Barnes, J.; Schauss, A. G.; Beaman, R.; Reeves, S.; Robinson, L., A double-blind placebo-controlled, randomized pilot study: consumption of a high-metabolite immunogen from yeast culture has beneficial effects on erythrocyte health and mucosal immune protection in healthy subjects. *The Open Nutrition Journal* **2008**, 2, 68-75.