



Boost your IMMUNE SYSTEM

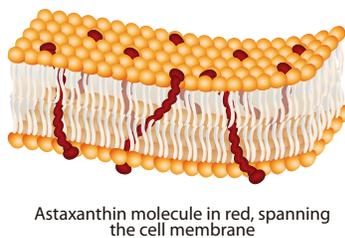
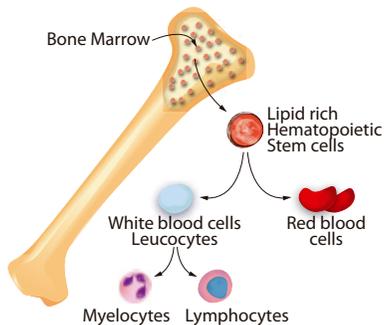
The role of Astaxanthin

Those who follow publications on antioxidants during the last decades may have read that Astaxanthin is one of the world's most potent within its kind. Astaxanthin's capacity to fight off free radicals is well recognized, but how it may support your immune system is lesser-known.

Prepares your immune system for hard work

As soon as pathogens are detected, our bone marrow is stimulated to create a high output of white blood cells. But this comes with a challenge! Reactive Oxygen Species (ROS) are simultaneously produced, causing membrane damage and tissue destruction. These ROS will, in turn, hamper the production of white blood cells. Astaxanthin sets conditions for optimal white blood cell production as it can fully span the cell membrane bilayers and thus protect them against the oxidative effect of ROS.

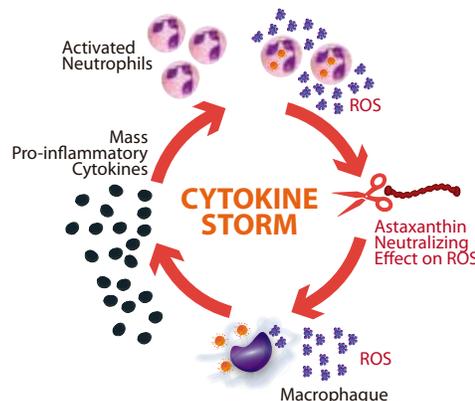
Kidd, P. Astaxanthin, cell membrane nutrient... Altern. Med. Rev. 2011; 16:355-364



Reduces inflammation during critical viral infections

During later stages of highly pathogenic viral infections, the body can overreact its immune system response. This uncontrolled release of pro-inflammatory signaling molecules is a feedback cycle called cytokine storm which can lead to systemic inflammation and even organ failure. Natural Astaxanthin exerts a powerful antioxidant action that can help combat local inflammation, as witnessed by the reduction of pro-inflammatory cytokines like TNF- α and IL-6.

Lee et al. Mol. Cells, Vol. 16, No. 1, pp. 97-105. 2003. Cai et al. Am J Transl Res 2019;11(3)

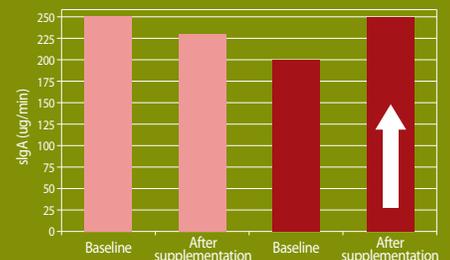


Builds more antibodies

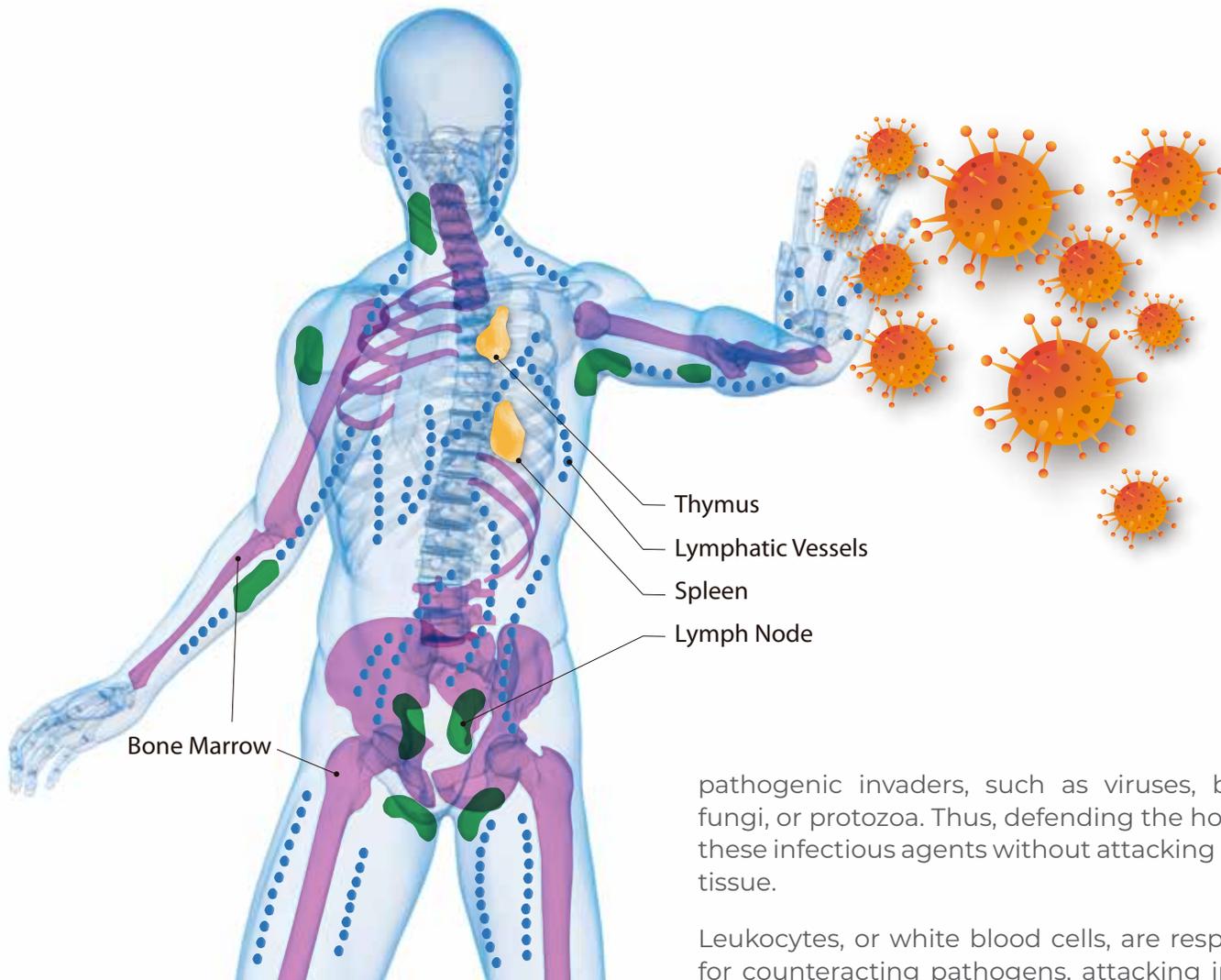
A clinical trial held in 40 trained male soccer players supplemented with 4 mg/day of Astaxanthin for 90 days, found higher levels in the supplemented group of defensive salivary antibody IgA compared to the control group.

Baralic et al. Effect of Astaxanthin on salivary IgA, Oxidative Stress, and Inflammation in Young Soccer Players. 2015

25%



■ Supplemented group
■ Control group



The immune system

The immune system is a defense shield made up of a variety of tissues, organs, and different types of cells and proteins. All interact in a complicated network formed to defend the body against the attack of pathogenic microorganisms effectively.

The key to the proper functioning of the immune system lies in distinguishing the host's cells from

pathogenic invaders, such as viruses, bacteria, fungi, or protozoa. Thus, defending the host from these infectious agents without attacking healthy tissue.

Leukocytes, or white blood cells, are responsible for counteracting pathogens, attacking infected cells, and generating immune memory in the form of antibodies. These cells are derived from multipotent cells located in the bone marrow known as hematopoietic cells. After a differentiation process, leukocytes migrate from the bone marrow. They can be found in the lymph nodes, the spleen, the thymus, or the lungs and intestine's epithelial tissue. At the same time, white blood cells patrol and circulate across the body, traveling in the blood and lymphatic vessels.

Research on Astaxanthin's role on the immune system is in active development. We believe the science shows a plausible rationale that it helps strengthen immunity. Curious to learn more about NatAxtin natural Astaxanthin? Please visit: www.nataxtin.cl or www.lusingredients.com in Europe.

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