

BORN nutrition

Boosts Immune Response | Increases the Body's Natural Killer Cell Activity | Provides Support for Immune Challenges | Promotes Healthy Microflora in the GI Tract



NK-Boost

This product is a targeted formula specifically designed to support the body's immune response by boosting natural killer (NK) cell activity. This product includes a synergistic combination of larch arabinogalactan, oleuropein (the active ingredient found in olive leaf extract), acemannan (the immune-stimulating constituent of aloe vera concentrate) and chelated zinc. This product's unique preparation supports immune function, boosts NK cell activity, promotes healthy microflora in the gut, and helps maintain bacterial balance throughout the body. This product is the ideal preparation for those with immune challenges and gastrointestinal-related concerns.

Overview

Of all the cells that make up the immune system, NK cells are the most aggressive. They make up nearly 15% of the total circulating lymphocyte (white blood cells) population and are part of the body's innate immune system. NK cells are called natural killer cells because they do not need to recognize specific antibodies before releasing cytokines (strong intracellular signals) to destroy abnormal cells, allowing for a faster immune response. Once target cells are identified, NK cells trigger an immune response and direct other immune cells (dendritic cells, macrophages, and T cells) to take action against a potential threat to the body.¹ Enhancing NK cell activity boosts the body's targeted immune response and promotes the normal process of eliminating unhealthy cells.

Zinc[†]

Zinc is known to play a central role in boosting immune response. Zinc affects multiple aspects of immune response from maintaining the integrity of the physical barriers (skin and

mucosal barriers) to activating genes within lymphocytes.² Zinc is also crucial for the normal development of a multitude of immune cells, including neutrophils, NK cells, T lymphocytes, B lymphocytes and improving IgG antibody response.² As a key trace mineral required for immune activity and development, supplementation with zinc for a period of one to two months has been shown to stimulate a stronger immune response.³

Arabinogalactan Heartwood[†]

Arabinogalactans are a class of polysaccharides that are abundantly found in the larch tree. As a highly long and densely branched polysaccharide, arabinogalactan has been shown to increase the production of short-chain fatty acids (SCFA), including butyrate and propionate.^{4,5} Since SCFAs are the primary fuel source of beneficial bacteria found in the gut, arabinogalactan has been shown to boost beneficial microflora, including bifidobacteria and lactobacillus.^{6,7} Promoting healthy microflora in the GI tract can significantly enhance immune function. Additionally, arabinogalactan has been found to stimulate NK cell cytotoxicity, supporting the body's ability to identify and neutralize microbial threats.⁸

Aloe Vera Concentrate 200:1[†]

Aloe vera is a member of the lily family that has been used topically and orally as a traditional remedy for thousands of years. The active ingredient in aloe, acemannan, is a complex carbohydrate that has been found to be the component responsible for the immune boosting properties of aloe vera. Acemannan has been shown to stimulate a multitude of key components of the immune system including macrophage cytokine activity, nitric oxide release, surface molecule expression, and cell morphologic changes, all of which

produce a sharper, highly effective immune response.⁹ The aloe vera used in This product has had the aloin-like compounds removed. This eliminates the possibility of producing the laxative effect that is normally observed following ingestion of aloe vera concentrate.

Olive Leaf Extract†

Oleuropein is the unique polyphenol molecule in olive leaf extract, which has several health-promoting benefits. The olive tree (*Olea europaea*) produces oleuropein abundantly in its leaves, as well as in the olive fruit itself. Special processing techniques now allow for the extraction of a stable, standardized form of oleuropein. Oleuropein is a potent antioxidant and helps maintain normal inflammatory balance. Studies have indicated that oleuropein boosts host immune defense and supports a strong immune response during seasonal and respiratory challenges. It is especially helpful for individuals with immune challenges related to an imbalance of microflora in the GI tract.¹⁰

Directions

2 capsules two times per day or as recommended by your health care professional.

Does Not Contain

Does not contain gluten, corn, yeast, animal or dairy products, artificial colors, artificial flavors or preservatives.

Cautions

If you are pregnant or nursing, consult with your health care professional before taking this product.

Supplement Facts		
Serving Size 2 Capsules		
Servings Per Container 30 & 60		
2 capsules contain	Amount Per Serving	% Daily Value
Zinc (as TRAACS® Zinc Bisglycinate Chelate)	10 mg	91%
Arabinogalactan Heartwood (from Larch Tree)	610 mg	*
Olive Leaf Extract (Standardized to contain 20% Oleuropein)	400 mg	*
Aloe vera Leaf Gel Extract	130 mg	*
* Daily Value not established		

References

1. Vivier E, Ugolini. Natural killer cells: from basic research to treatments. *Front Immunol* 2011; 2:18.
2. Shankar AH, Prasad AS. Zinc and immune function: the biological basis of altered resistance to infection. *Am J Clin Nutr* 1998;68(suppl):447S-63S.
3. Ferencik M, Ebringer L. Modulatory effects of selenium and zinc on the immune system. *Folia Microbiol (Praha)* 2003;48(3):417-426.
4. Vince AJ, McNeil NI, Wager JD, Wrong OM. The effect of lactulose, pectin, arabinogalactan, and cellulose on the production of organic acids and metabolism of ammonia by intestinal bacteria in a faecal incubation system. *Br J Nutr* 1990;63:17-26.
5. Englyst HN, Hay S, Macfarlane GT. Polysaccharide breakdown by mixed populations of human faecal bacteria. *FEMS Microbiology Ecology* 1987;95:163-171.
6. Slavin J, Feirtag J, Robinson R, Casey J. Physiological effects of arabinogalactan (AG) in human subjects. Unpublished research.
7. Crociani F, Alessandrini A, Mucci MM, Biavati B. Degredation of complex carbohydrates by *Bifidobacterium spp.* *Int J Food Microbiol* 1994;24: 199-210.
8. Kelly GS. Larch arabinogalactan: clinical relevance of a novel immune-enhancing polysaccharide. *Alt Med Review* 1999;4(2): 96-103.
9. Zhang L, Tizard IR. Activation of a mouse macrophage cell line by acemannan: the major carbohydrate fraction from Aloe vera gel. *Immunopharmacology* 1996;35(2):119-128.
10. Bisignano G, Tomaino A, Lo CR, Crisafi G, Uccella N, Saija A. On the in-vitro antimicrobial activity of oleuropein and hydroxytyrosol. *J PharmPharmacol* 1999;51(8): 971-974.

† These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.