



Immune Support

Strengthens Immune Function



Directions:

Children under 4 years, do not take. Take 1 capsule daily for those 4-8 years old. >8 years, 2 capsules daily, or as directed by your health care provider. Take with food.

Serving Size: 1-2 capsules #60

Ingredients:

Vitamin A (Vitamin A Palmitate) 1250.00 IU, Vitamin A (Beta Carotene) 1250.00 IU, Vitamin D3 (Cholecalciferol) 3750.00 IU, Vitamin C (Ascorbic Acid) 500.00 mg, Zinc (TRAACS® Zinc Bisglycinate Chelate) 20.00 mg, Quercetin (95% Flower Extract from Sophora japonica) 225.00 mg, L-Glutathione (reduced) 175.00 mg, N-Acetyl-L-Cysteine (NAC) 425.00 mg

Clinical Applications:

- Foundational formulation that supports immune health
- Aids in resilience when faced with immune challenges
- Enhances immune system function
- Promotes viral clearance and resolution through maintaining healthy mucosal surfaces
- Supports reduction of viral induced inflammation
- Promotes clearance of histamine
- Supports the innate and adaptive immune system

Description:

Immune Support contains a synergistic and evidence based blend of antioxidants, vitamins, minerals, amino acids and botanicals that support immune function. Each ingredient in this formulation was carefully chosen based on its level of scientific evidence, foundational role in supporting immune health, and clinical experience in functional medicine supporting patients through times of illness and immune challenges.

Disclaimer: These statements have not been evaluated by the Food and Drug Administration. Our products are not intended to diagnose, treat, cure, or prevent any disease.

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512.599.8851 | www.neuronutrients.com
5501 Balcones Drive, Suite A, #305 | Austin, Texas 78731

CN27346

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Store in a cool, dry place with the lid tightly closed. Keep out of reach of children.

WARNING: Consult your health care provider prior to using this product if you are pregnant, nursing, taking medication or have a medical condition.

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Manufactured for:

Neuro Nutrients
5501 Balcones Drive, Suite A, #305
Austin, Texas 78731
(512) 599-8850



Made in a GMP Compliant Facility in the U.S.

CN26977 FRESHLY MADE: FEB22



Immune Support

Strengthens Immune Function

Dietary Supplement
60 Capsules

Supplement Facts

Serving Size 2 Capsules
Servings Per Container 30

	Amount Per Serving	%DV
Vitamin A (as Beta Carotene, as Vitamin A Palmitate)	750 mcg (2500IU)	83%
Vitamin C (as Ascorbic Acid)	500 mg	556%
Vitamin D (as Cholecalciferol)	94 mcg (3750 IU)	469%
Zinc (as TRAACS® Zinc Bisglycinate)	20 mg	182%
N-Acetyl-L-Cysteine (NAC)	425 mg	†
Quercetin	225 mg	†
L-Glutathione (reduced)	175 mg	†

† Daily Value (DV) not established

Other ingredients: Vegetable Capsule (cellulose, purified water).

Wheat Free, Dairy/ Milk Free, Free of Artificial Colors/Flavors, Egg Free, Shellfish Free, Tree Nut Free, Peanut Free

Formula Ingredient And Peer Reviewed Supportive References:

Vitamin A (beta carotene and palmitate)

Vitamin A is a fat soluble vitamin most likely well known for its role in night vision, growth and development, and aging skin. However vitamin A also has potent immune enhancing and anti-inflammatory properties. Vitamin A plays a role in defense and repair of cellular processes, supporting mucosal barriers when under illness stressors (1). Research has shown that vitamin A improves the defense of the oral mucosa, increases the integrity of protective intestinal mucus, and helps maintain mucosal structure and function, all which are important in immune defense systems. When a young child is deficient in Vitamin A, they are at greater risk for lung tissue dysfunction and respiratory diseases (3). Giving Vitamin A as a treatment for the measles virus has had a positive global impact around the world. High doses of oral vitamin A (2,000IU daily), given for acute measles for two consecutive days, reduced mortality by 83% as compared to placebo (2). included in Complete Methylation Support, are essential co factors that can promote normalization and balance of neurotransmitter production (serotonin, dopamine, norepinephrine, epinephrine, and GABA) (12,13).

1. Huang Z, Liu Y, Qi G, Brand D, Zheng SG. Role of vitamin A in the immune system. J Clin Med. 2018;7(9):E258. doi:10.3390/jcm7090258
2. Huiming, Y., Chaomin, W., and Meng, M. Vitamin A for treating measles in children. Cochrane Database Syst Rev 2005;(4):CD001479.
3. Timoneda J, Rodríguez-Fernández L, Zaragoza R, Marín MP, Cabezuelo MT, Torres L, Viña JR, Barber T. Vitamin A Deficiency and the Lung. Nutrients. 2018 Aug 21;10(9):1132. doi: 10.3390/nu10091132. PMID: 30134568; PMCID: PMC6164133.

Vitamin C (Ascorbic Acid)

Vitamin C is a water soluble nutrient and antioxidant that is essential for human health. Vitamin C must be obtained from dietary or supplemental sources (such as citrus fruit), because the body does not make it otherwise. The strongest evidence to date is that taking vitamin C while in an active cold or viral infection can reduce the days a patient is sick, however taking it for its role in preventing infections is mixed (1,4,6). Vitamin C does have antihistamine effects, can reducing histamine levels, and improve allergy symptoms (3,5). Vitamin C given via intravenous infusions can reduce the chance of a patient that is septic (or has a severe blood infection) will die (2,7).

1. Douglas RM, Hemilä H, Chalker E, Treacy B. Vitamin C for preventing and treating the common cold. *Cochrane Database Syst Rev* 2007; (3):CD000980.
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3. Johnston CS. The antihistamine action of ascorbic acid. *Subcell Biochem* 1996;25:189-213.
4. Schloss J, Lauche R, Harnett J, et al. Efficacy and safety of vitamin C in the management of acute respiratory infection and disease: a rapid review. *Adv Integr Med*. 2020;7(4):187-191. doi:10.1016/j.aimed.2020.07.008
5. Vollbracht, C., Raithel, M., Krick, B., Kraft, K., & Hagel, A. F. (2018). Intravenous vitamin C in the treatment of allergies: an interim subgroup analysis of a long-term observational study. *The Journal of international medical research*, 46(9), 3640–3655. <https://doi.org/10.1177/0300060518777044>
6. Vorilhon P, Arpajou B, Vaillant Roussel H, Merlin É, Pereira B, Cabailot A. Efficacy of vitamin C for the prevention and treatment of upper respiratory tract infection. A meta-analysis in children. *Eur J Clin Pharmacol*. 2019;75(3):303-311. doi:10.1007/s00228-018-2601-7
7. Zhang M, Jativa DF. Vitamin C supplementation in the critically ill: a systematic review and meta-analysis. *SAGE Open Med*. 2018;6:2050312118807615. doi:10.1177/2050312118807615

Vitamin D

Vitamin D is perhaps the most well known vitamin for immune health. The evidence on immune support is robust; it enhances immune function, reduces the chance of respiratory infections, and reduces viral growth (2,5). Vitamin D is categorized as a steroid hormone (synthesized in humans by exposure to sunlight) and it helps play a powerful role in how inflammation is expressed, or modulated, in human health and disease (1,5). There are multiple genetic mutations that are common in the population effecting how well someone can absorb, transport, and utilize Vitamin D in their bodies (4). Due to this, even if someone is getting adequate exposure to sunlight, it does not mean that their Vitamin D levels are sufficient, and certainly not optimal. Low vitamin D levels have been associated with certain cancers, autoimmune disease, growth and developmentally delays, and brain function pathologies (3,6).

1. Hossein-nezhad A, Holick MF. Vitamin D for Health: A Global Perspective. *Mayo Clin Proc.* 2013;88(7):720-755. doi:10.1016/j.mayocp.2013.05.011
2. Martineau AR, Jolliffe DA, Greenberg L, et al. Vitamin D supplementation to prevent acute respiratory infections: individual participant data meta-analysis. *Health Technol Assess.* 2019;23(2):1-44. doi:10.3310/hta23020.
3. Mokry LE, Ross S, Morris JA, Manousaki D, Forgetta V, Richards JB. Genetically decreased vitamin D and risk of Alzheimer disease. *Neurology.* 2016;87(24):2567-2574. doi:10.1212/WNL.0000000000003430
4. Wang TJ, Zhang F, Richards JB, et al. Common genetic determinants of vitamin D insufficiency: a genome-wide association study. *Lancet.* 2010;376(9736):180-188. doi:10.1016/S0140-6736(10)60588-0
5. Zdrengea MT, Makrinioti H, Bagacean C, Bush A, Johnston SL, Stanciu LA. Vitamin D modulation of innate immune responses to respiratory viral infections. *Rev Med Virol.* 2017;27(1). doi:10.1002/rmv.1909
6. Zhang Z, Li S, Yu L, Liu J. Polymorphisms in Vitamin D Receptor Genes in Association with Childhood Autism Spectrum Disorder. *Dis Markers.* 2018;2018. doi:10.1155/2018/7862892

Zinc (TRAACS® Zinc Bisglycinate Chelate)

Zinc is an essential mineral that has a strong body of evidence to support its antiviral and immune protective function (4). Zinc can prevent, or reduce the severity and duration, of viral illnesses (1, 2). Zinc deficiency can lead to reduced immune response and increase susceptibility to infection (3). Zinc deficiency is common, especially in children that are picky eaters and the elderly population.

1. Fischer,W.C. and Black, R.E. Zinc and the risk for infectious disease .Annu Rev Nutr. 2004; 24:255-275. doi:10.1146/annurev. nutr.23.011702.073054.
2. Fraker, P.J.; King, L.E. et al.The dynamic link between the integrity of the immune system and zinc status. J Nutr. 2000; 130(5S Suppl):1399S-1406S.
3. Gao H, Dai W, Zhao L, Min J, Wang F. The Role of Zinc and Zinc Homeostasis in Macrophage Function. J Immunol Res. 2018 Dec 6;2018:6872621. doi: 10.1155/2018/6872621. PMID: 30622979; PMCID: PMC6304900.
4. Shankar,A.H. and Prasad,A.S. Zinc and immune function: the biological basis of altered resistance to infection. Am J Clin Nutr. 1998; 68(2 Suppl):447S-463S.

N-Acetyl-L-Cysteine (NAC)

NAC is an important antioxidant for respiratory health. This amino acid promotes the clearance of mucous by breaking up disulfide bonds which helps thin mucous secretions (4). Taking oral NAC can help raise tissue glutathione levels, another important antioxidant in respiratory health. The reduced form of glutathione is also included in Immune Support. NAC has been studied in patients with acute influenza, and study participants had fewer flu like episodes and less days in bed while they were ill if they were taking NAC compared to placebo (1). NAC can also prevent acute exacerbations of lung disease such as chronic bronchitis and chronic obstructive pulmonary disease (2,4). For more information on how NAC effects brain health, please see our NAC 800mg monograph (INSERT LINK TO PAGE ON NAC).

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1. De Flora S, Grassi C, Carati L. Attenuation of influenza-like symptomatology and improvement of cell-mediated immunity with long- term N-acetylcysteine treatment. Eur Respir J. 1997 Jul;10(7):1535-41. doi: 10.1183/09031936.97.10071535. PMID: 9230243.
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Quercetin

Quercetin is a bioflavonoid that has many different immune functions that support the eradication or inactivation of viral stressors such as influenza or the common cold (4,5). Quercetin has been shown to be effective against both RNA and DNA viruses (3). When quercetin was given early to patients with COVID-19, there was a reduction in frequency and length of hospitalization, reduced oxygen needs, progression to ICU, and death (1). Quercetin is also well known for its anti-inflammatory properties, especially when it comes to helping regulate mast cells and allergic inflammation (6). Quercetin can promote zinc to be absorbed within cell walls, making zinc more bioavailable to the body. Taking zinc and quercetin together can promote synergistic effects against viral induced illnesses (2).

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L-Glutathione (reduced)

Glutathione is a master antioxidant that can help decrease oxidative stress (or cellular stressors) in the body. Reduced levels of glutathione in tissues have been correlated with more severe viral respiratory diseases and greater redox stress (3). Taking oral glutathione has been proposed as an active antiviral treatment due to its role in supporting lymphocyte activity, apoptosis, and DNA repair (2). Taking the reduced form of oral glutathione (the form included in Immune Support) helps balance oxidized glutathione in the body, supporting a ratio that increases the antioxidant capacity of cells (1).

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