

VITAMIN C FORMULA



Vitamin C
Fast Action Formula,
1000 mg

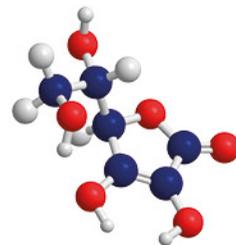


Dietary Supplement

120 tablets



Vitamin C is necessary for the synthesis of collagen, which is an essential structural element of vessels, tendons, ligaments and bones. It also plays a key role in the synthesis of norepinephrine (important neurotransmitter). It is also necessary for the synthesis of carnitine (transport of fats into the mitochondria). Recent researches have shown that it is also involved in the metabolism of cholesterol to bile acid sequestrants that influence the levels of cholesterol in the blood and are responsible for the occurrence of gallstones. **Vitamin C** also increases food iron bioavailability enhancing intestinal absorption of inorganic iron.



VITAMIN C AND ANTIOXIDATION

Vitamin C is a powerful and effective **antioxidant** that protects not only against free radicals but also against reactive oxygen species (ROS) produced during normal metabolism. It has the capacity to regenerate Vitamin E. A recent study in smokers, proved that Vitamin C regenerates Vitamin E from its oxidized form.

VITAMIN C AND THE IMMUNE SYSTEM

Vitamin C stimulates the production as well as the function of white blood cells, especially neutrophils, lymphocytes and phagocytes. **Vitamin C** protects the integrity of the cells of the immune system. Neutrophils, mononuclear cells, phagocytes and lymphocytes accumulate **Vitamin C** in high concentrations that protect these types of cells against oxidative damages. In the event of "invaders", phagocytes release superoxide radicals, hypochlorous acid, and others. These reactive oxygen species kill the "invaders", but throughout this process they also harm themselves. Due to this antioxidant property, Vitamin C protects white blood cells against autoxidation by enhancing their glutathione levels.

VITAMIN C AND CARDIOVASCULAR SYSTEM

Many randomized, double - blind, placebo-controlled studies have shown that **Vitamin C** improves vasodilation in patients with cardiovascular problems.



This formula contains **piperine**, which increases the rate of absorption of **vitamin C** in the blood in only 30 minutes. **Fast action C formula** contains the best and most absorbable forms of **Vitamin C** from **camu-camu** and **acerola**.

COMPOSITION IN ACTIVE INGREDIENTS	Per daily dose (1 tab)	% RDA
Vitamin C (as ascorbic acid, acerola extract and camu-camu extract)	950 mg	1,187,5%
Calcium (as calcium ascorbate)	9,4 mg	11,75%
Acerola (Malpighia glabra L) fruit extract (Std 50% of Vitamin C)	50 mg	
Camu - Camu (Myrciaria dubia) fruit extract (Std 50% of Vitamin C)	50 mg	
Bitter Orange (Citrus aurantium L) fruit extract (Std 50% of Flavonoids)	10 mg	
Black Pepper (Piper nigrum L) fruit extract (Std 95% of Piperine)	1,2 mg	

DOSAGE: Take 1 tablet daily.

Bibliography: 1. Carr AC, Frei B. Toward a new recommended dietary allowance for vitamin C based on antioxidant and health effects in humans. *Am J Clin Nutr.* 1999;69(6):1086-1107. (PubMed) 2. Simon JA, Hudes ES. Serum ascorbic acid and gallbladder disease prevalence among US adults: the Third National Health and Nutrition Examination Survey (NHANES III). *Arch Intern Med.* 2000;160(7):931-936. (PubMed) 3. Bruno RS, Leonard SW, Atkinson J, et al. Faster plasma vitamin E disappearance in smokers is normalized by vitamin C supplementation. *Free Radic Biol Med.* 2006;40(4):689-697. (PubMed) 4. Prinz W, Bortz R, Bregin B, Hersch M. The effect of ascorbic acid supplementation on some parameters of the human immunological defence system. *Int J Vitam Nutr Res.* 1977;47(3):248-257. (PubMed) 5. Vallance S. Relationships between ascorbic acid and serum proteins of the immune system. *Br Med J.* 1977;2(6084):437-438. (PubMed) 6. Kennes B, Dumont I, Brohee D, Hubert C, Neve P. Effect of vitamin C supplements on cell-mediated immunity in old people. *Gerontology.* 1983;29(5):305-310. (PubMed) 7. Panush RS, Delafuente JC, Katz P, Johnson J. Modulation of certain immunologic responses by vitamin C. III. Potentiation of in vitro and in vivo lymphocyte responses. *Int J Vitam Nutr Res Suppl.* 1982;23:35-47. (PubMed) 8. Jariwala RJ, Harakeh S, Arivirala and immunomodulatory activities of ascorbic acid. In: Harris JR (ed). *Subcellular Biochemistry, Vol. 25. Ascorbic Acid: Biochemistry and Biomedical Cell Biology.* New York: Plenum Press; 1994:215-231. 9. Levy R, Shriker O, Porath A, Riesenberk K, Schlaeffer F. Vitamin C for the treatment of recurrent furunculosis in patients with impaired neutrophil functions. *J Infect Dis.* 1994;173(6):1502-1505. (PubMed) 10. Haskell BE, Johnston CS. Complement component C1q activity and ascorbic acid nutrition in guinea pigs. *Am J Clin Nutr.* 1991;54(6 Suppl):1228S-1230S. (PubMed) 11. Shiloh PG, Bhat KS. Effect of mega doses of vitamin C on bactericidal activity of leukocytes. *Am J Clin Nutr.* 1977;30(7):1077-1081. (PubMed) 12. Vogel RI, Lamster IB, Wechsler SA, Macedo B, Hartley LJ, Macedo JA. The effects of megadoses of ascorbic acid on PMN chemotaxis and experimental gingivitis. *J Periodontol.* 1986;57(8):472-479. (PubMed) 13. Ludvigsson J, Hansson LO, Stendahl O. The effect of large doses of vitamin C on leukocyte function and some laboratory parameters. *Int J Vitam Nutr Res.* 1979;49(2):160-165. (PubMed) 14. Delafuente JC, Prendergast JM, Modigh A. Immunologic modulation by vitamin C in the elderly. *Int J Immunopharmacol.* 1986;8(2):205-211. (PubMed) 15. Evans RM, Currie L, Campbell A. The distribution of ascorbic acid between various cellular components of blood, in normal individuals, and its relation to the plasma concentration. *Br J Nutr.* 1982;47(3):473-482. (PubMed) 16. Alberts B, Bray D, Lewis J, Raff M, Roberts K, Watson JD. Differentiated cells and the maintenance of tissues. In: *Molecular Biology of the Cell.* 3rd ed. New York: Garland Publishing, Inc.; 1994:1139-1193. 17. Jariwala RJ, Harakeh S. Mechanisms underlying the action of vitamin C in viral and immunodeficiency disease. In: Packer L, Fuchs J, eds. *Vitamin C in Health and Disease.* New York: Marcel Dekker, Inc.; 1997:309-322. 18. Pauling L. The immune system. How to Live Longer and Feel Better. 20th Anniversary ed. Corvallis: Oregon State University Press; 2006:105-111. 19. Dahl H, Degre M. The effect of ascorbic acid on production of human interferon and the antiviral activity in vitro. *Acta Pathol Microbiol Scand B.* 1974;84B(5):280-284. (PubMed) 20. Gokke N, Keane JF, Jr, Frei B, et al. Long-term ascorbic acid administration reverses endothelial vasomotor dysfunction in patients with coronary artery disease. *Circulation.* 1999;99(25):3234-3240. (PubMed) 21. Versari D, Daghini E, Virdis A, Ghiadoni L, Taddei S. Endothelium-dependent contractions and endothelial dysfunction in human hypertension. *Br J Pharmacol.* 2009;157(4):527-536. (PubMed) 22. American College of Nutrition. Annual Meeting, October, 2009. 23. Srinivasan K. Black pepper and its pungent principle-piperine: a review of diverse physiological effects. *Crit Rev Food Sci Nutr.* 2007;47(8):735-48. 24. Selvendiran K, Senthilnathan P, Magesh V, Sakthikaran D. Modulatory effect of Piperine on mitochondrial antioxidant system in Benzo(a)pyrene-induced experimental lung carcinogenesis. *Phytomedicine.* 2004 Jan;11(1):85-9. 25. Vijayakumar RS, Nalini N. Efficacy of piperine, an alkaloidal constituent from Piper nigrum on erythrocyte antioxidant status in high fat diet and antithyroid drug induced hyperlipidemic rats. *Cell Biochem Funct.* 2006 Nov-Dec;24(6):491-8. 26. Wray DW, Nishiyama SK, Harris RA, et al. Acute reversal of endothelial dysfunction in the elderly after antioxidant consumption. *Hypertension.* 2012 Apr;59(4):818-24.

PRECAUTIONS • Do not get the product in the following cases: When there are high levels of oxalic acid in the urine when lacking G6PD, if you have sickle cell anemia, if you have hemochromatosis or if you suffer from chronic hemolytic anemia. • Do not exceed the recommended daily dose. • Dietary supplements should not be used as a substitute of a balanced diet. • Keep away from young children. • This product is not intended for the prevention, cure or treatment of a human disease. • Consult with your doctor if you are pregnant, breast-feeding, taking pharmaceutical treatment or having health problems.

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