

Ester-C® Plus

Vitamin C as Calcium Ascorbate with additional antioxidants

DESCRIPTION

Ester-C® Plus capsules, provided by Douglas Laboratories®, contain a non-acidic, calcium ascorbate form of vitamin C combined with potent antioxidants to support the healthy functioning of the entire body. Ester-C® is a unique form of vitamin C that is created through a patented, water-based process that combines vitamin C and calcium. Ester-C® is non-acidic and should be well-tolerated by those who are sensitive to the acidic nature of ascorbic acid.

FUNCTIONS

Vitamin C (ascorbic acid) has numerous biological functions. It is essential for the synthesis of collagen and glycosaminoglycans, which are the building materials of all connective tissues, such as skin, blood vessels, tendons, joint cartilage and bone. Vitamin C is the required coenzyme for two groups of enzymes that catalyze the crosslinking of collagen fibers - lysyl hydroxylases and prolyl hydroxylases. As such, vitamin C is essential for normal wound healing and capillary health. † Vitamin C participates in the biosynthesis of carnitine, serotonin, and certain neurotransmitters, including norepinephrine. Vitamin C is among the most powerful antioxidants in humans and animals. It is a water-soluble, chain-breaking antioxidant that reacts directly with superoxide, hydroxyl radicals, and singlet oxygen. Laboratory studies show that vitamin C completely protects lipids in plasma and low-density lipoprotein (LDL) against peroxidative damage. In addition, vitamin C interacts with glutathione and alpha-lipoic acid, and regenerates vitamin E.

The antioxidant functions of vitamin C appear to have clinical significance in providing protection from free radical damage to the eyes, lungs, blood and the immune system. † Bioflavonoids (also called flavonoids) are a class of phytochemicals that are potent antioxidants, which scavenge many potentially damaging free radicals. Another aspect of the antioxidant properties of bioflavonoids is their synergy with vitamin C. The bitter tasting flavanones hesperidin and naringin, from the white albedo layer of citrus peels, have been shown to extend the nutritional functions of vitamin C. Bioflavonoids are also capable of binding to metal ions, which prevents these metals from acting as catalysts in the body to enhance free radical production. Many bioflavonoids, especially rutin and quercetin, support the health of the body's circulatory system by helping maintain capillary blood flow and proper vascular permeability, integrity, and resiliency. †

INDICATIONS

Ester-C® Plus may be a useful dietary supplement for those who wish to supplement their diet with this complementary blend of a unique, non-acidic form of vitamin C and citrus bioflavonoids.

FORMULA (#7847)

Each Capsule Contains:

Vitamin C	530 mg
(from 675 mg of Ester-C® calcium ascorbate)	
Calcium	60 mg
(as Ester-C® calcium ascorbate)	
Bioflavonoids	50 mg
Pycnogenol®	3 mg
Rutin	50 mg
Proprietary Blend	6 mg
Quercetin, Echinacea (root) and Beta-Carotene.	

Pycnogenol® is a registered trademark of Horphag Research Ltd. Use of this product is protected by one or more of U.S. patents and other international patents.

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Other ingredients: Cellulose, gelatin (capsule), and vegetable stearate.

SUGGESTED USE

Adults take 1 capsule daily or as directed by a healthcare professional.

SIDE EFFECTS

No adverse side effects have been reported.

STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

REFERENCES

Frech T, Clegg D. Current Rheumatology Reports [serial online]. April 2007;9(1):25-30.

Henriksson P, Diczfalusy U, Freyschuss A. Microcirculation (New York, N.Y.: 1994) [serial online]. January 2012;19(1):86-93.

Desneves K, Todorovic B, Cassar A, Crowe T. Clinical Nutrition (Edinburgh, Scotland) [serial online]. December 2005;24(6):979-987.

Maggini S, Beveridge S, Suter M. The Journal of International Medical Research [serial online]. 2012;40(1):28-42.

Yang M, Collis C, Kelly M, Diplock A, Rice-Evans C. European Journal Of Clinical Nutrition [serial online].

Chew EY, et al. Ophthalmology. 2013 Aug;120(8):1604-11.e4.

Benavente-García O, Castillo J. Journal Of Agricultural And Food Chemistry [serial online]. August 13, 2008;56(15):6185-6205.

Vinciguerra G, Belcaro G, Cornelli U, et al. The Journal of Sports Medicine and Physical Fitness [serial online]. December 2013;53(6):644-654.

Bendich A, Langseth L. J Am Coll Nutr 1995;14:124-136.

Berkarda B, Koyuncu H, Soybir G, Baykut F. Res Exp Med (Berl) 1998 Aug;198(2):93-9.

Bush MJ, Verlangieri AJ. Res Commun Chem Pathol Pharmacol 1987;57:137-140.

Cunningham JJ, Mearkle PL, Brown RG. J Am Coll Nutr 1994;13:344-350.

Edwards DJ, Bernier SM. Life Sci 1996;59(13):1025-30.

Eriksson J, Kohvakka A. Ann Nutr Metab 1995;39:217-223.

Faruque MO, Khan MR, Rahman M, Ahmed F. Br J Nutr 1995;73:625-632.

Franke AA, Cooney RV, Custer LJ, et al. Adv Exp Med Biol 1998;439:237-48.

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Frei B. Am J Med 1994;97 Suppl. 3A:5S-13S.

Gale CR, Martyn CN, Winter PD, Cooper C. BMJ 1995;310:1563-1566.

Ghosh SK, et al. Gerontology 1994;40:268-272.

Green MHL, et al. Mutat Res DNAging Genet Instability Aging 1994;316:91-102.

Grimm T, Schafer A, Hogger P. Free Radic Biol Med. 2004 Mar 15;36(6):811-22.

Gruenwald J, Graubaum HJ, Busch R, Bentley C. Adv Ther. 2006 Jan-Feb;23(1):171-8.

Guilhou JJ, Fevrier F, Debure C, et al. Int J Microcirc Clin Exp 1997;17 Suppl 1:21-6.

Lehr H-A, Frei B, Arfors K-E. Proc Natl Acad Sci USA 1994;91:7688-7692.

Miyake Y, Yamamoto K, Tsujihara N, Osawa T. Lipids 1998 Jul;33(7):689-95.

Mukhopadhyay CK, Chatterjee IB. J Biol Chem 1994;269:30200-30205.

Paolisso G, Balbi V, Volpe C, et al. J Am Coll Nutr 1995;14:387-392.

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† 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.

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Your patients trust you.**

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