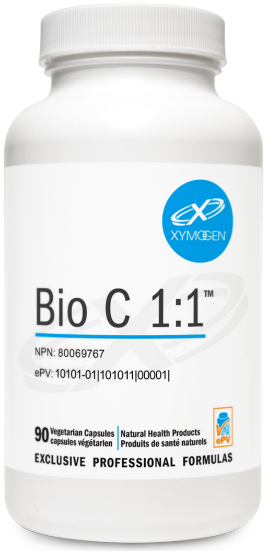
Bio C 1:1™



Available in 90 vegetarian capsules

- Source of antioxidants that help protect cells against the oxidative damage caused by free radicals
- Helps in connective tissue formation and wound healing

Discussion

Bio C 1:1 is formulated to provide antioxidant protection, enhance immune function, and support synthesis and function of collagen, carnitine, and neurotransmitters. Each capsule of Bio C 1:1 provides 500 mg of vitamin C and 500 mg of citrus bioflavonoid complex in a one-to-one ratio.*

Vitamin C (ascorbic acid) is a water-soluble antioxidant vitamin that is essential to humans. While most mammals are able to synthesize vitamin C, humans must obtain it exogenously. Stress, smoking, pollution, radiation and heavy metal exposure, immune challenge, and temperature change all increase the human requirement for vitamin C.[1] Well-known functions of this ubiquitous vitamin include antioxidant protection from free radicals and oxidative processes; synthesis of collagen, carnitine, and neurotransmitters; adrenal support; and immune stimulation and support.[2-4] Vitamin C serves as a cofactor for several metabolic enzymes, including hydroxylase and oxygenase (hydroxylation reactions).*[5]

Vitamin C has long been recognized for its contribution to immune support.[3] Immune cells absorb and concentrate vitamin C. Immune cell activity, particularly T-cell function and phagocytosis, is found to be enhanced by this essential vitamin.[6-7] In early 1972, a randomized, double-blind, placebo-controlled study of 1000 subjects taking 1000 mg of vitamin C per day provided support for the use of vitamin C supplementation for common immune challenges. The study results revealed that the supplementation group missed significantly fewer days from work/activities and had fewer days per episode of immune challenge; in addition, significantly more subjects taking vitamin C remained symptom free throughout the study.[8] Optimal intake of vitamin C for humans continues to be debated, though normal vitamin C synthesis in mammals such as the rat is calculated to be 26-58 mg/kg/day. Dr. Linus Pauling, in his 1970 article on evolution and vitamin C requirements, recommended a minimum intake of 2300 mg per 2500 kilocalorie intake per day for humans.*[9]

Vitamin C has far-reaching effects on a number of tissues in the body because it is required for the synthesis of collagen.[4] Collagen is a fundamental component of bones, tendons, ligaments, blood vessels, skin, gums, and joints. Ultimately, the health of these tissues depends on vitamin C. Energy generation from fatty acids is vitamin C-dependent as well since synthesis of carnitine (the molecule that shuttles long-chain fatty acids into the mitochondria) requires this versatile vitamin. Vitamin C is maintained in relatively high concentrations in the brain; it is essential to maintaining healthy mood and brain function because it facilitates conversion of dopamine to norepinephrine and enhances interneuronal communication.*[10]

Bioflavonoids (also known as flavonoids) are phytochemicals that are often found together with vitamin C in nature and are generally considered to be among the most important and interesting classes of biologically active compounds in contemporary research. More than 4000 bioflavonoids have been identified. Intake of flavonoids is associated with healthy cardiovascular status, the body's normal response to inflammation, and positive microbial balance.*[11,12]

Citrus bioflavonoids are commonly used in Europe for blood vessel and lymph system support. US practitioners utilize bioflavonoids in protocols to support tissue and joint comfort and the body's normal response to inflammation,[13-15] respiratory [16,17] and eye health,[18] and maintenance of cardiovascular health.[19-21] Citrus bioflavonoids are able to cross the blood-brain barrier and have been recognized for their neuroprotective effects.[22] As cell-signaling agents, bioflavonoids are believed to support healthy cell growth and normal cell-life regulation, stimulate detoxification enzymes, decrease vascular cell adhesion molecules, increase vasodilation, and support healthy platelet function.*[23]

The combination of vitamin C and citrus bioflavonoids in Bio C 1:1 ensures that a wide range of metabolic functions will be supported.*

Bio C 1:1™

Medicinal Ingredients (per vegetarian capsule)

Vitamin C ..... 500 mg

Citrus aurantium dulcis (50% bioflavonoids) ..... 500 mg

Non-Medicinal Ingredients

HPMC (capsule), stearic acid, magnesium stearate, medium-chain triglycerides, silicon dioxide.

Recommended Dose

Adults: Take one capsule daily or as directed by your healthcare practitioner.

If you are taking prescription medication, consult a healthcare practitioner prior to use as citrus bioflavonoids may alter the effectiveness of these medications.

VEGETARIAN CAPS

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Additional references available upon request

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