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ESSENTIALS

BIO C COMPLEX

Supports immune and skin health, allergy response and blood vessel function.

Nutritional Information

One Tablet provides:

		*%NRV
Vitamin C	500 mg	625
Citrus Bioflavonoids Complex	500 mg	

*NRV = Nutrient Reference Values

Take one to three tablets daily with food. Swallow with water.



SUMMARY

- 500 mg vitamin C & 500 mg bioflavonoids
- Medium strength

DESCRIPTION

Bio C Complex provides a 50:50 ratio of vitamin C and bioflavonoids. Vitamin C is an essential water-soluble vitamin and antioxidant that should be consumed daily. Citrus bioflavonoids work with vitamin C to increase the body's antioxidant defences against free radicals and increase the absorption of vitamin C synergistically¹.

Vitamin C is needed for the immune system to function effectively and contributes towards antioxidant protection. Vitamin C is also required for the adrenal glands to function optimally², and quickly becomes used up in periods of stress, decreasing immune system capacity and increasing the incidences of infections. Low levels of vitamin C are associated with increased risk of cardiovascular disease. Vitamin C contributes to collagen production and is needed for the main structural tissues in the body such as skin, gums, bones, teeth and cartilage found in joints. Vitamin C helps with the absorption of iron, needed for haemoglobin and oxygen transportation around the body.

WHAT ARE CITRUS BIOFLAVONOIDS AND WHAT DO THEY DO?

Citrus bioflavonoids are a group of polyphenolic compounds found in plant pigments. Citrus bioflavonoids exhibit several biological benefits such as anti-inflammatory, anti-hepatotoxic and anti-allergy¹¹. Bioflavonoids also provide some protection against cardiovascular disease. One study compared different forms of vitamin C with and without bioflavonoids, or a placebo and studied the absorption rates. Ascorbic acid with bioflavonoids had the greatest absorption rates¹³.

HOW DOES BIOFLAVONOIDS AND VITAMIN C AFFECT HEALTH?

Stress

Released alongside stress hormones: Vitamin C is needed in times of stress. Some vitamin C is stored in the adrenal glands and is released as part of the stress response². In times of chronic stress, these stores may quickly become depleted, and need to be replaced.

Stress recovery: Chronically elevated cortisol suppresses the function of the immune system which decreases resistance to infections. Vitamin C decreases symptoms associated with stress. In one placebo-controlled trial subjects who took vitamin C had quicker saliva cortisol recovery compared to the placebo group¹⁰. Vitamin C should be considered essential in the management of stress.

Immunity and cell protection

Immune cell function: Vitamin C is required for the proper function of Natural Killer T and B cells. One study showed that vitamin C was able to increase Natural Killer T and B cell function by 10 fold in patients who had their immune cells suppressed by toxins. Vitamin C completely restored immune function³. Immune cells accumulate vitamin C, with phagocytes storing the most vitamin C. Vitamin C is also a powerful antioxidant that protects the DNA of immune cells.

Antioxidant: Another mode of action of vitamin C is its electron donation and powerful antioxidant status⁵. It is essential for the immune system that our oxidants are kept in check to prevent an excessive amount of reactive oxygen species (ROS) from damaging the immune cells⁵. One study reported that vitamin C enhances glutathione recovery after an oxidative challenge⁷, protecting the body from oxidative damage even further. Citrus bioflavonoids also have antioxidant properties and enhances the action of vitamin C even further.

Cardiovascular health

Atherosclerosis: Vitamin C works in multiple ways to help protect cardiovascular health. Its powerful antioxidant action helps to prevent the oxidation of cholesterol and moderately lowers cholesterol. This helps to prevent and slow the progression of atherosclerosis⁸ and improves endothelial function.⁴

Blood pressure: Vitamin C is required for the maintenance of collagen, a large structural part of the blood vessel walls. Collagen is required to maintain the flexibility of blood vessels which is essential for normal blood pressure. Some short-term trials have concluded that vitamin C supplementation reduced both systolic and diastolic blood pressure.^{8,9}

Capillary fragility: Bioflavonoids are beneficial for the treatment of capillary fragility and exert a positive effect on strengthening the blood vessels and have been used to treat haemorrhoids and as a therapeutic agent in patients who bruise easily¹².

Collagen

Creation of collagen: Vitamin C is required to hydroxylate proline and lysine which creates procollagen. Procollagen is converted into collagen by 3 enzymes. Collagen is the main structural component in the body. Collagen is particularly important for the health of the bones, teeth, skin, gums and blood vessels.

Bones and teeth: Vitamin C helps to maintain structure and flexibility in bones and teeth. Collagen holds the minerals in place creating strength and resistance to breaking.

Periodontal health: Vitamin C deficiency is a major contributor to bleeding and inflamed gums and can eventually lead to tooth loss. One of the symptoms of scurvy is bleeding gums. This is due to the loss of collagen.

Skin: Collagen creates elasticity in the skin and protects against wrinkling and sagging. Decreased intakes of vitamin C lead to premature wrinkling.

HOW SHOULD BIO C COMPLEX BE TAKEN?

Take one to three tablets daily with food. Swallow with water.

ARE THERE ANY PRECAUTIONS BEFORE OR WHILE TAKING BIO C COMPLEX?

Bio C Complex is intended exclusively for use by adults. Seek professional advice before using while pregnant and breastfeeding.

Not recommended for use by individuals with kidney disease.

HEALTH NEEDS



IMMUNITY



ENERGY



STRESS & HECTIC
LIFESTYLE



HEART &
CIRCULATION

SCIENTIFIC REFERENCES

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