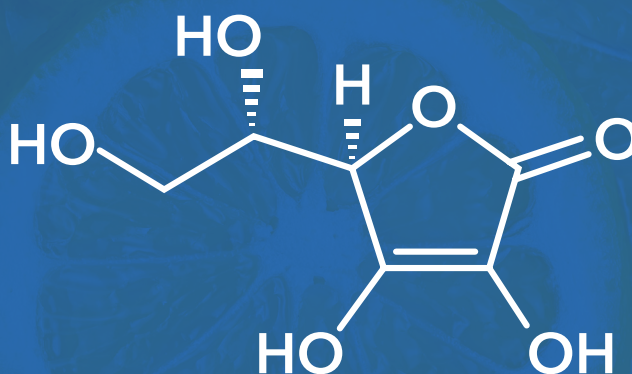


Vitamin C



Vitamin C (Ascorbic acid) is an essential nutrient (on the WHO's list of essential medicines). It is a water-soluble vitamin found in citrus and other fruits and vegetables, and also sold as a dietary supplement. The method used for determination of vitamin C is HPLC with PDA detection.

Vitamin C = Ascorbic acid



Functions/Health effect:

Vitamin C is an essential nutrient involved in the repair of tissue, the formation of collagen, and the enzymatic production of certain neurotransmitters. It is required for the functioning of several enzymes and is important for immune system function. It is used to prevent and treat scurvy.

There is interest in the antioxidant role of vitamin C, as the vitamin has been found to neutralize free radical molecules, which, in excess, can damage cells.

Sources:

Food containing vitamin C include citrus fruits (oranges, orange juice, lemon, grapefruit), kiwifruits, guava, broccoli, brussels sprouts, bell peppers, potatoes, and strawberries. Fruits and vegetables are the best sources of this vitamin.

The vitamin C is the most widely taken dietary supplement. Absorption does not differ if obtaining the vitamin from food or supplements.

Did you know that?

Vitamin C improves the absorption of non-heme iron, the type of iron found in plant foods such as leafy greens. Drinking a small glass of 100% fruit juice or including a vitamin-C-rich food with meals can help boost iron absorption.

Vitamin C can be destroyed by heat and light. Cooking can reduce the vitamin C content of vegetables by around 60%. Because it is water-soluble, the vitamin can also seep into cooking liquid and be lost if the liquids are not eaten. Quick heating methods or using as little water as possible when cooking, such as stir-frying or blanching, can preserve the vitamin. Foods at peak ripeness eaten raw contain the most vitamin C. Consuming five varied servings of fruits and vegetables a day can provide more than 200 mg of vitamin C.

The Recommended Dietary Allowance (RDA) for adults 19 years and older is 90 mg daily for men and 75 mg for women. For pregnancy and lactation, the amount increases to 85 mg and 120 mg daily, respectively. As smoking can deplete vitamin C levels in the body, an additional 35 mg beyond the RDA is suggested for smokers. Studies have shown that absorption of vitamin C decreases to less than 50% when taking amounts higher than 1000 mg.

Ascorbic acid and some of its salts and esters are common additives added to various foods, such as canned fruits, mostly to slow oxidation and enzymatic browning. It may be used as a flour treatment agent used in breadmaking. As food additives, they are assigned E numbers (E300, E301, E302, E303, E304), with safety assessment and approval the responsibility of the European Food Safety Authority.

Food
division

