

VITAMIN C BASICS

Vitamin C, also known as ascorbic acid, is a water-soluble vitamin that is essential for humans and guinea pigs but non-essential for most other animals who can synthesize it from glucose. Vitamin C is found naturally only in fruits and vegetables.¹ Potatoes are an excellent source of vitamin C (providing 30% of the daily value) and contribute significantly to the daily vitamin C requirements for Americans.^{2,3}

KEY FACTS

- Vitamin C plays an important role in collagen formation and immune function.
- As a potent antioxidant vitamin C stabilizes or eliminates free radicals in the body, thus helping to prevent cellular damage.
- Fruits and vegetables are the best and only natural source of vitamin C.
- A medium-size (5.3 ounce) potato with skin-on is an excellent source of vitamin C, providing 30% of the recommended daily value (DV). This is more vitamin C than one medium tomato (27% DV) or a sweet potato (20% DV).
- For men ages 19 years and older, the recommended dietary allowance (RDA) for vitamin C is 90 mg per day. For women ages 19 years and older, the RDA is 75 mg per day.

FUNCTIONS OF VITAMIN C

Vitamin C is required for the synthesis of collagen, a structural protein that gives strength and elasticity to a variety of body tissues (e.g., skin, gums, tendons, ligaments and bone) and plays a vital role in wound healing. Vitamin C also functions as an antioxidant in the body, stabilizing or eliminating free radicals, thus helping to prevent cellular damage. Finally, vitamin C assists with the absorption of iron and is concentrated in a number of immune cells (e.g., T-cells and phagocytes) thereby helping to support the body's immune system.¹

VITAMIN C RECOMMENDATIONS

The current RDAs for vitamin C are based on its known physiological and antioxidant functions in white blood cells and, thus, have been set higher than the amounts needed to prevent the deficiency disease (scurvy).¹ For men ages 19 years and older, the RDA is 90 mg per day and for women ages 19 years and older the RDA is 75 mg per day. Individuals who smoke should consume an extra 35 mg per day.¹ Fruits and vegetables are the best and only natural source of vitamin C. A medium-size (5.3 ounce) potato with the skin-on provides 27 mg of vitamin C.

FOOD	VITAMIN C (MG)	% DV
Broccoli (1 med stalk; 140 g)	132	146%
Orange (1 med; 154 g)	78	87%
Potato (1 med; 148 g)	27	30%
Sweet Potato (1 med; 130 g)	18	20%
Banana (1 med; 126 g)	9	10%
Carrot (1 med; 78 g)	6	6%
Corn (1 med ear; 90 g)	6	6%
Apple (1 lg; 242 g)	5	5%

REFERENCES

1. Institute of Medicine (US) Panel on Dietary Antioxidants and Related Compounds. Dietary Reference Intakes for Vitamin C, Vitamin E, Selenium, and Carotenoids. 2000. Washington (DC): National Academies Press (US).
2. Cotton PA, Subar AF, Friday JE, Cook A. Dietary sources of nutrients among US adults, 1994-1996. J Am Diet Assoc. 2004;104:921-930.
3. O'Neil CE, Keast DR, Fulgoni VL, Nicklas TA. Food sources of energy and nutrients among adults in the US: NHANES 2003-2006. Nutrients. 2012 Dec 19;4(12):2097-120.
4. USDA standard reference 28, based on Reference Amounts Customarily Consumed (RACC)