



Lipidic

**Vita**win C 

Vitamin C food supplement

with **Soy** phospholipids

the **Vitamin C** that **Wins**

**FAVOURS NORMAL IMMUNE SYSTEM FUNCTION  
AND NORMAL COLLAGEN FORMATION**

**GLUTEN-FREE  
VEG-FRIENDLY**

 **Guna**  
healthy lifestyle



## Lipidic **Vitawin C**

### **Vitamin C: when it is useful**

**Vitamin C<sup>1</sup>** is hydrophilic, photosensitive and thermolabile. The organs containing it are especially adrenals, kidney, liver, spleen and hypophysis. Vitamin C is **involved in many metabolic processes**, such as:

- the synthesis of some amino acids,
- the synthesis of some hormones,
- the synthesis of collagen

In addition, **vitamin C increases iron absorption** and, thanks to its antioxidant action, helps to **protect the cells from oxidative stress**.

Since **vitamin C is not synthesized by the body, it must be taken through food**. Foods rich in vitamin C are especially fresh fruits and vegetables, such as rosehip, broccoli, mango, kiwi and citrus fruits.

**Vitamin C** contributes to:

- normal **immune system** function
- reduction of **tiredness** and **fatigue**
- **normal collagen formation** for healthy **skin, teeth, gums, blood vessels, cartilage, and bones**
- protection of the cells against **oxidative stress**
- normal **energy metabolism**

### **Bioavailability of Vitamin C**

**Vitamin C** has some peculiar biological characteristics:

- a **short plasma half-life (approx. 30 minutes<sup>2</sup>)**, which requires a regular intake throughout the day.
- a **reduced capability of passing through the cell membranes**, which is due to its hydrophilic nature. As a matter of fact, the lipophilic structure of cell membranes does not allow an easy transportation of vitamin C without a high energy expenditure<sup>3</sup>.





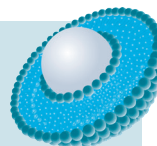
# Lipidic Vitawin C

## Why to use Lipidic Vitawin C

The limited bioavailability of vitamin C can be overcome by adopting special delivery systems.

One such **solution is to use phospholipids**.

These substances possess **special chemical and physical properties: in aqueous solutions** they spontaneously adopt a particular architecture, to form micellar structures, such as **liposomes**. Liposomes can trap hydrophilic molecules such as vitamin C, therefore facilitating its transit through the cell membrane<sup>4</sup>.



**GUNA Lipidic Vitawin C** is a food supplement containing plant-origin **Vitamin C** obtained from corn starch through certain production processes which allow to isolate its pure molecular form, and GMO-free **phospholipids from Soy**. GUNA Lipidic Vitawin C is useful for maintaining a healthy organism in cases of insufficient intake or increased need of Vitamin C.

GUNA Lipidic **Vitawin C** is packaged **in vegetable-derived capsules made from Pullulan**, a water-soluble natural polysaccharide produced by the fungus *Aureobasidium pullulans* from the natural fermentation of tapioca in aerobic conditions. **Pullulan** is a white, odorless, tasteless, starch-free, gluten-free powder. Pullulan capsules are highly **impermeable to oxygen, thus effectively protecting the product from oxidative phenomena**.

GUNA Lipidic **Vitawin C** is **suitable for vegetarians and vegans**: it does not contain animal-derived substances and is **naturally free from lactose**. GUNA Lipidic **Vitawin C** is also **gluten-free** and suitable for those affected by celiac disease and gluten intolerance.



**One pack with two different sides, for remembering Vitamin C contributes to:**

- normal **immune system** function and reduction of **tiredness**, on the one hand,
- normal **collagen** formation and protection of the cells from **oxidative stress**, on the other.

Lipidic **Vitawin C**: characteristics

**Vitamin C** of vegetable origin, obtained from GMO-free corn starch through production processes allowing the isolation of its pure molecular form



Phospholipids from GMO-free **Soy**

**Capsules** of vegetable gelatin from tapioca naturally fermented into Pullulan



Given the short plasma half-life of vitamin C, **it is recommended to take 3 capsules at different time-points throughout the day**, for example during the three main meals, to help improve its bioavailability.

Instructions for use

The recommended dose is 1 capsule 3 times a day (preferably during the main meals), to be swallowed with water or other beverage.

Ingredients

Vitamin C (L-Ascorbic acid), **Soy** phospholipids; anti-caking agents: magnesium salts of fatty acids, silicon dioxide; vegetable gelatin\*(for the capsule).\*

**Contains soy and soy derivatives**

**\*from tapioca naturally fermented into Pullulan**

Nutrition facts per daily dose (3 capsules):

	amount for 3 capsules	%NRV* for 3 capsules
Vitamin C	1000 mg	1250%
<b>Soy</b> phospholipids	138 mg	–

\*NRV: Nutrient Reference Values

Packaging

75 x 508 mg capsules - net weight 38.1 g **e**

Warnings

Keep out of the reach of children under three years of age. Do not exceed the recommended daily dose. Food supplements should not be considered a substitute for a varied and balanced diet and a healthy lifestyle. Seek medical advice before using the product if pregnant or breast-feeding. Store away from direct light, in a cool, dry place. The expiry date refers to the product correctly stored in its original packaging.

References

1. De Magistris R, Ciaramella B. Nutrienti e malattie cronico-degenerative. Vol. 1 - La funzione. Milano: Guna Editore, 2000, pp. 196-206.
2. Duconge J, Miranda-Massari JR, Gonzalez MJ, Jackson JA, Warnock W, Riordan NH. Pharmacokinetics of vitamin C: insights into the oral and intravenous administration of ascorbate. P R Health Sci J. 2008 Mar;27(1):7-19.
3. Wilson JX. Regulation of vitamin C transport. Annu Rev Nutr. 2005;25:105-25.
4. Łukawski M, Dąlek P, Borowik T, Foryś A, Langner M, Witkiewicz W, Przybyło M. New oral liposomal vitamin C formulation: properties and bioavailability. J Liposome Res. 2020 Sep;30(3):227-234.





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