VALENS®

VALENS LIPOVIT C

Liposomal vitamin C with royal jelly

VALENS LIPOVIT C

- **Lemon-flavored liquid food supplement with 500 mg of liposomal vitamin C enriched with royal jelly.**
- **Indication:**
  - Immune system support.
  - Reduction of tiredness and fatigue.
  - Protection of cells from oxidative stress (antioxidant).
- **Soy lecithin-derived liposomal delivery system, which enables optimal absorption, even at higher dosages.**

INGREDIENTS AND DOSING

- Vitamin C: 500 mg (625 % NRV)
- Royal jelly: 10 mg

- **Recommended daily dose:**
  - 1 teaspoon (5 ml).
  - Suitable for adults.
  - Packing does not include plastic dosing spoon.

ADVANTAGES AT A GLANCE

- High dosage of **liposomal vitamin C.**
- Added **royal jelly.**
- Contains soy lecithin, natural source of **choline.**
- Enables **optimal absorption,** even at high dosages.
- **Gentle on the stomach** and **gastrointestinal tract.**
- Pleasant **lemon taste, sugar-free, with xylitol.**
- **GMP-certified.**
- Made in EU (Slovenia).

VALENS C-NATURAL

- **Food supplement in an oral spray gel form.**
- **Rosehip extract as a natural source of vitamin C.**

- For kids from the age of 1 and adults.
- **100% natural, preservative-free.**
- Excellent sour cherry and honey taste.
- Active ingredients (for adults):
  - Vitamin C: 80 mg (100 % NRV)

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MORE INFORMATION

VITAMIN C (= ascorbic acid)

- **Water-soluble** vitamin, essential for normal functioning of the human body.
- Most animals are able to synthesize it, but certain animals and humans must acquire it from **dietary sources** → it is naturally found in fruit and vegetables.
- **Roles is the human body:**
  - Growth and **repair of tissue.**
  - **Antioxidant** – protects cells from oxidative stress.
  - Important for **immune system function.**
  - Important for normal **collagen synthesis.**
  - Enhances **iron absorption.**

DEFICIENCY and SCURVY

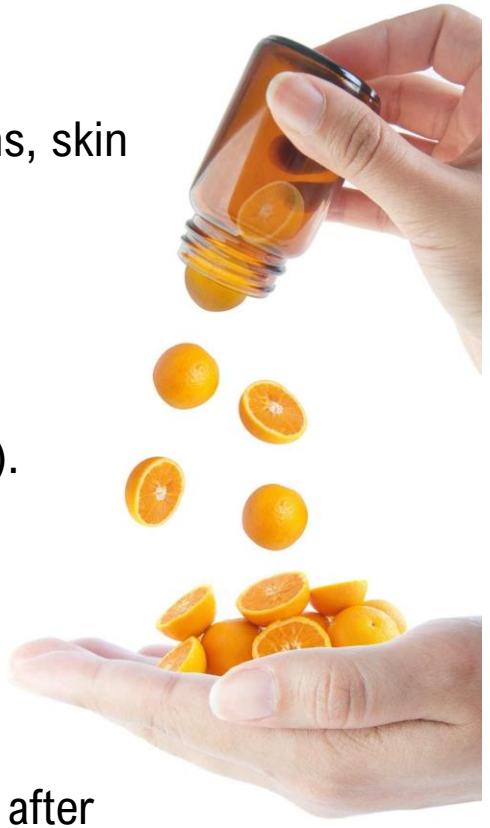
- Early symptoms of vitamin C deficiency:
  - Weak immune system.
  - Tiredness and fatigue.
- **Scurvy = severe vitamin C deficiency.**
  - Disease caused by **a lack of vitamin** C (less than 10 mg/day for at least 3 months).
  - Symptoms include tiredness, fatigue, sore muscles, poor wound healing, personality changes, gum disease, changes to hair, bleeding from the skin, high fever, loss of teeth and when left untreaded even death from infection or bleeding.
  - Very **rare today,** especially compared to other nutritional deficiencies.
  - Occurs more often in the developing world.

VITAMIN C DOSING

- Recommended daily dose for adults is **80 mg** → minimal dose, necessary for prevention of scurvy.
  - Easily attainable with diverse diet which includes **vegetables and fruits.**
- The most common **risk factors** for vitamin C deficiency are **poor diet, alcoholism, smoking, several chronic diseases, intense physical activity** etc. → **people with risk factors require higher daily doses of vitamin C,** mostly for its antioxidative activity.
- Upper limit for adults is **2000 mg** per day[1].
- High dosages are **not** known to be toxic or to cause serious adverse effects.
  - Most common side effects are **diarrhea, nausea and abdominal pain**.
- Regular consumption of high dosage vitamin C supplements could increase the risk for **kidney stones.**

VITAMIN C SUPPLEMENTATION

- Vitamin C contributes to:
  - normal function of the **immune system** (even during and after intense physical exercise).
  - normal **collagen synthesis** for the normal function of blood vessels, bones, cartilage, gums, skin and teeth.
  - normal energy-yielding metabolism and **reduction of tiredness and fatigue.**
  - normal functioning of the **nervous system** and psychological function.
  - protection of cells from **oxidative stress** and regeneration of other antioxidants (vitamin E).
  - **increases iron absorption.**
- Clinical studies suggest vitamin C also:
  - may produce small reduction of high blood pressure[2].
  - may boost effectiveness of cancer treatments, reduce its side effects and boost immunity after treatment (mostly IV administration)[3].

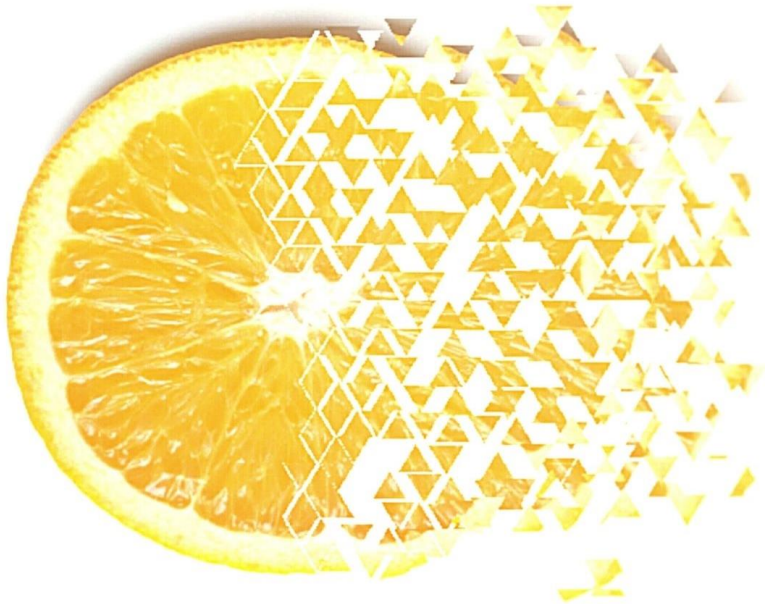


ABSORPTION OF VITAMIN C

- Approximately **70-90%** of vitamin C is absorbed at moderate intakes up to 400 mg at a time.
  - Plasma concentration of vitamin C rises steeply at intakes between 30 and 100 mg per day and reaches peak at intakes between 200 and 400 mg per day.
- At high doses **above 1000 mg** per day, absorption falls to less than **50%.**
  - The rest is excreted in the urine (vitamin C is water-soluble and the body doesn‘t store it).
  - Oral administration of large doses does not raise blood levels additionally.
- Lower absorption rate is a result of:
  1. Breakdown of vitamin C in the gastrointestinal tract.
  2. Intestinal absorption of vitamin C is a **saturable process → intestine has a limited ability to absorb vitamin C.**

LIPOSOMAL VITAMIN C

- Higher blood concentration of vitamin C is linked to several health benefits.
  - It can be attained with other routes of administration, which bypass absorptive control in the intestine – IV.
  - Higher blood levels of vitamin C doesn‘t necessary mean high tissue concentration.
- One of possible solutions for absorption issues is **liposomal form** of vitamin C, which **enables optimal absorption, even at dosages beyond 1000 mg[4].**



LIPOSOME

- A liposome is a small artificial vesicle, spherical in shape.
- It consist of liquid core and **phospholipid* bilayer,** which closely resembles the structure of cell membrane → it **mimics natural cell membranes.**
- Both in their liquid center and within their fat-soluble double membrane, liposomes can enclose and transport different substances (**drugs and nutrients**).
  - Used for substances with low bioavailability.
- **Liposomal encapsulation enables optimal absorption:**
  - Liposomes protect **the nutrient** from the GI tract‘s harsh environment and **prevent degradation.**
  - Liposomes can fuse directly with human cell membranes because they have the same structure → they **avoid saturable absorption mechanism** in absorption cells (enterocytes).

***Phospholipid** is a lipid molecule that is the main component of the cell membrane.

Liposomes can fuse directly with human cell membranes because they have the same structure.

LECITHIN

- Lecithin is a natural substance (mixture of **different phospholipids),** part of the human diet and component of the human cell → source of the most common phospholipid **phosphatidylcholine (PC).**
- Natural source of **choline,** which contributes to normal homocysteine metabolism, normal lipid metabolism and normal liver function.
- **Health benefits of lecithin:**
  - Prevents and alleviates symptoms of some inflammatory diseases (e.g. ulcerative colitis)[5].
  - It has a positive effect on heart and liver health[6, 7].

- Valens Lipovit C contains soy-derived (non GMO) **phosphatidylcholine.**

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Thank you for your attention!