

# Ascorbic acid

## General:

**Biochemistry:** The biological effect of L-ascorbic acid is based on many metabolism events due to the red-ox balance with dehydroascorbic acid as an electron donor or acceptor, e.g. in collagen synthesis, dentin formation, hydroxylation of adrenal gland steroids, dopamine und tryptophan, in enzymatic metabolization of xenobiotics, medications and amino acids.

**Physiology:** Vitamin C is water-soluble. It is resorbed in the upper area of the small intestine. 35-50 % of the daily oxalate production in urine derive from L-ascorbic acid. Daily requirement is up to 75 mg, in babies up to 30 mg. Occurrence: fruit and citrus fruit, green vegetables, peppers, tomatoes, berries, liver, potatoes and milk. Extremely sensible to heat (cooking).

## Clinical symptoms:

Follicular hyperkeratosis similar to lichen, hemorrhagia. Vitamin C deficiency over several months results in paradontitis, gingivitis and fungous inflammations of the palate which can lead to hemorrhagic necroses, bleedings and to tooth loss. In addition impaired wound healing.

**Pediatrics:** infantile scurvy (Moeller-Barlow's disease, very rare in developed countries) with subperiosteal bleedings, enamel defects, bleeding gums and tooth loss, furthermore hematoma in skin and retina, hematuria, subdural or orbital hematoma.

Indication: clarification hyperkeratosis, gum diseases

Material: 1 ml serum, **frozen**

Preanalytics: frozen and light protected dispatch is highly recommended !

TAT: 5-7 days\*

Method: HPLC

Units: mg/l

Ref.- range: 5.0 - 15.0

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit

<http://www.fml-dubai.com/parameter-listings/>