

# Vitamin E Tocopherol

## General:

**Biochemistry:** Vitamin E belongs to the essential fat-soluble vitamins: (A,D,E,K) and consists of several isomeric forms with  $\alpha$ -tocopherol showing the highest biological activity.

**Physiology:** The function is not clarified completely, it is important as antioxidizing substance in cell membranes, it protects against DNA damage, hemolysis, cardiovascular diseases and shows coagulation inhibiting as well as stimulating effects. Vitamin E is involved in fat digestion and resorptional events. After oral intake approx. 45% reach the lymph system and are transported by LDL and HDL in the blood. Storage of several grams in muscle, liver fatty tissue, uterus, pituitary gland and adrenal gland have been described. The daily supply is approx. 10-12 mg tocopherol. Typical deficiency symptoms are impaired muscle function and vessel permeability. Occurrence: vegetables, wheat shoots, soya oil, grain, nuts, butter, liver, eggs.

## Symptoms in deficiency:

**Pediatrics:** newborns with impaired fat metabolism with biliary atresia, intrahepatic cholestasis, malabsorption syndromes, e.g. cystic fibrosis, recessively inherited A- $\beta$ -lipoproteinemia.

**Neurology:** areflexia, dystaxia.

Over-dosages are very rare, symptoms are uncharacteristic with headaches and nausea, high dosage as prophylactic anti-oxidizing substance after oxygen intoxication in premature babies.

Material: 1 ml serum

TAT: 5-7 days\*

Method: HPLC

Units: mg/L

Ref.- range: 5-20 (gender -independent)

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit <http://www.fml-dubai.com/parameter-listings/>