



Vitamin K Menaquinone

General:

Menaquinone is considered the effective K vitamin (vitamin K2). It can be partly replaced by phylloquinone, which is supplied through vegetables (intact intestinal flora!). Physiological effects are: intrahepatic formation of the prothrombin complex (factors II, VII, IX, X), activation of protein C and protein S; extra hepatic formation of osteocalcin in the osteoblasts. The daily requirement is approx. 0-1 mg/day. In deficiencies, impaired coagulation and hemorrhaging occur. In newborns of vitamin K deficient mothers, intracranial bleedings can occur by hypoprothrombinemia. Chronic intestinal disease or malabsorption can lead to vitamin-K deficiency. Overdosage symptoms are not described, however, the effect of oral anticoagulants such as coumarin can be reduced.

Indication: impairment of coagulation, bleedings

Material: 1 ml serum

Preanalytics: light protected dispatch is strictly recommended!

TAT: 7-10 days*

Method: LCMS

Units: ng/l

Ref.- range: 50 - 900 (fasting) up to 1800 (pp.)

The following test is available:

• Vitamin K2 (Menaquinone-7, MK-7)

General:

Vitamin K2 is produced by bacteria and is found in only a few foods, particularly cheese and the soja food (japanese food natto). It shows a positive impact on bone metabolism, counteracts vascular calcification and acts like coenzyme Q-10 as an electron carrier in the mitochondria. Under therapy with vitamin K antagonists, the substitution of vitamin K2 is strictly contraindicated since even small amounts ($10 \mu g / d$) significantly influence the blood coagulation.

MK-7 has a half-life time of approximately 48-72 hours and thus a significantly longer half-life time than vitamin K1 with approximately 1-4 hours. Excretion is mainly via the bile and to a lesser extent renally as side chain shortened glucuronide. Usually low MK-7 levels (< 400 ng / I) are observed in non-substituted patients. Under substitution the values rise significantly. Compared to MK-7 other K2 vitamers such as menaquinone-4, show no oral availability also in high substitutional doses (420 µg).

Page 1 of 2



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Freiburg Medical Laboratory ME LLC, P.O.Box 3068, Dubai

Tel: 04 396 2227 Fax: 04 396 2228

Material: 1.5 ml serum, **frozen** TAT: 7-10 days* Method: LCMS Units: ng/l Ref.- range: >200

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

Page 2 of 2



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